12-17-16

Richard Ettelson
2826 Trout Run Road
Waiteille, WV. 24984
(304) 772-3443

Kimberly Bose, Secretary
Federal Energy Regulatory Commission
888 First St NE
Washington, DC. 20426

U.S. Forest Service Non-Compliance With Regulations Concerning Land And Resource Management Plan Amendments (LRMP),
Docket No. CP16-10
Mountain Valley Pipeline DEIS

IND 722-1

I would like to correct some mistakes I made in my previous Submissions (Submittal 20161212-0034, Doc Date 12/07/2016, Filed Date 12/09/2016, and Submittal 20161216-0008, Doc Date 12/12/16, Filed Date 12/15/16) regarding the Federal Register October 14, 2016 Notice (Vol.81, No. 199, pages 71041-71042) in which I indicated that the Environmental Protection Agency (EPA) issued the Notice of Availability (NOA) for the U.S. Forest Service (FS) and Bureau Of Land Management (BLM) LRMP Amendments in the Draft Environmental Impact Statement (DEIS). That NOA was not submitted by EPA as I stated, instead it was submitted by the FS, and BLM.

36CFR219.16 regulates the public notification process for amending the Forest Plan which is the regulation that the FS must follow. CFR219.16(c)(3) states; **"(3) When the notice is for the purpose of inviting comments on a proposed plan, plan amendment, or plan revision for which a draft EIS is prepared, the Environmental Protection Agency (EPA) FEDERAL REGISTER notice of availability of a draft EIS shall serve as the required FEDERAL REGISTER notice."** Since the EPA has not filed a NOA in the Federal Register on the proposed Plan Amendments, the FS is not in compliance with this regulation.

That regulation, if it was implemented, would have also established the 90-day comment period as beginning on the EPA NOA filing date of its publication in the Federal Register; ;**"2) To invite comments on a proposed plan, plan amendment, or plan revision, and associated environmental analysis. For a new plan, plan amendment, or a plan revision for which a draft environmental impact statement (EIS) is prepared, the comment period is at least 90 days."** (CFR219.16(a)(2).

Instead of complying with CFR219.16(c)(3) which required an EPA NOA, the FS and BLM submitted their own NOA (Federal Register / Vol. 81, No. 199 / Friday, October 14, 2016 / Notices (pages 71041 -71042): **"This NOA is specific to the BLM and the USFS and provides notice that these agencies have participated as cooperating agencies with FERC in the preparation of the "MVP**

IND722-1 See response to comment IND382-1 regarding the 90-day comment period.

IND 722-1 cont'd

Project and Equitrans Project Draft EIS." This FS, and BLM NOA deferred to FERC's NOA filing date (Federal Register / Vol. 81, No. 187 / Tuesday, September 27, 2016 / Notices, pages 66268-66271) in determining when the 90-day comment period would begin; **"To ensure consideration of your comments on the proposal in the final EIS, it is important that the Commission receive your comments on or before December 22, 2016."** which allowed **87** days (the number of days between 12-22-16 and the FERC NOA date of 9-27-16) for public comment. Not only is this not in compliance with the 90-day comment period mandated in CFR219.16(a)(2), but it also shortened the time period by an additional 17- days (the difference between the FERC NOA dated 9-27-16, and the FS, and BLM NOA dated 10-14-16) by using the FERC NOA filing date, instead of the FS and BLM NOA filing date.

Since the EPA NOA was never filed, which would have established a 90-day comment period from their NOA date, the public opportunity to submit comments was effectively shortened by a substantial amount. This is unfair to the public interest, and it is not in compliance with the regulatory requirements.

I formally request that the FS, and BLM comply with CFR219.16(c)(3) since a DEIS is being prepared for the 4 LRMP Plan Amendments, the EPA should publish a NOA in the Federal Register and the 90-day comment period should begin on that filing date.

Sincerely,
Richard Ettelson
Richard Ettelson

INDIVIDUALS

IND723 – Keara Axelrod

20161221-5316 FERC PDF (Unofficial) 12/21/2016 3:22:36 PM

Keara Axelrod, Blacksburg, VA.

IND 723-1 I am concerned about several factors regarding the Mountain Valley Pipeline in my backyard in Virginia.

The FERC DEIS failed to study the visual impact the Mountain Valley Pipeline would have on the Appalachian Trail and the surrounding area. Many iconic and widely photographed views in Virginia are likely be severely impacted, including Angels Rest, Kelly Knob, Rice Fields, Dragons Tooth and McAfee Knob, by the 500-foot "utility corridor" around the pipeline.

IND 723-2 Safety concerns also arch over the Mountain Valley Pipeline. Due to the geologic instability of the land—with the pipeline route literally crossing over a designated seismic zone--the risk of severe erosion, landslides, gas leaks, and pipeline failure are extremely high.

IND 723-3 The U.S. Forest Service agreed to lower the Jefferson National Forest Management Plan standards for water quality, visual impacts, removal of old-growth forest, and the number of simultaneous projects passing through the borders of federally protected land. This would permit the Mountain Valley Pipeline to destroy thousands of acres of pristine forest, and open the gates for future projects to cause similar destruction.

IND 723-4 These changes were made without sufficient public review or input from other partners; a dangerous change from the standards previously established through decades of cooperation.

IND 723-5 The negative impact this pipeline would have on nearby Pearisburg and Narrows, Virginia reach beyond safety concerns. These communities are staunch supporters of the A.T. and benefit from tourism dollars provided by hikers and other visitors. Pearisburg and Narrows have passed resolutions opposing the pipeline, as the health and economic wellbeing of their communities are at risk.

IND 723-6 There are thousands of pipeline accidents each year. Please don't let this beautiful part of Virginia become yet another casualty of the fossil fuel industry. Please protect what is best about America. Please.

IND723-1 A revised visual analysis of the ANST can be found in section 4.8 of the final EIS. See the response to comment FA8-1 regarding the 500-foot-wide utility corridor in the Jefferson National Forest.

IND723-2 The EIS provides a discussion of seismic activity and landslides in section 4.1 of the EIS. See the response to comment IND70-1 regarding erosion. See the response to comment IND2-1 regarding safety.

IND723-3 See the response to comment FA11-8 regarding the FMP.

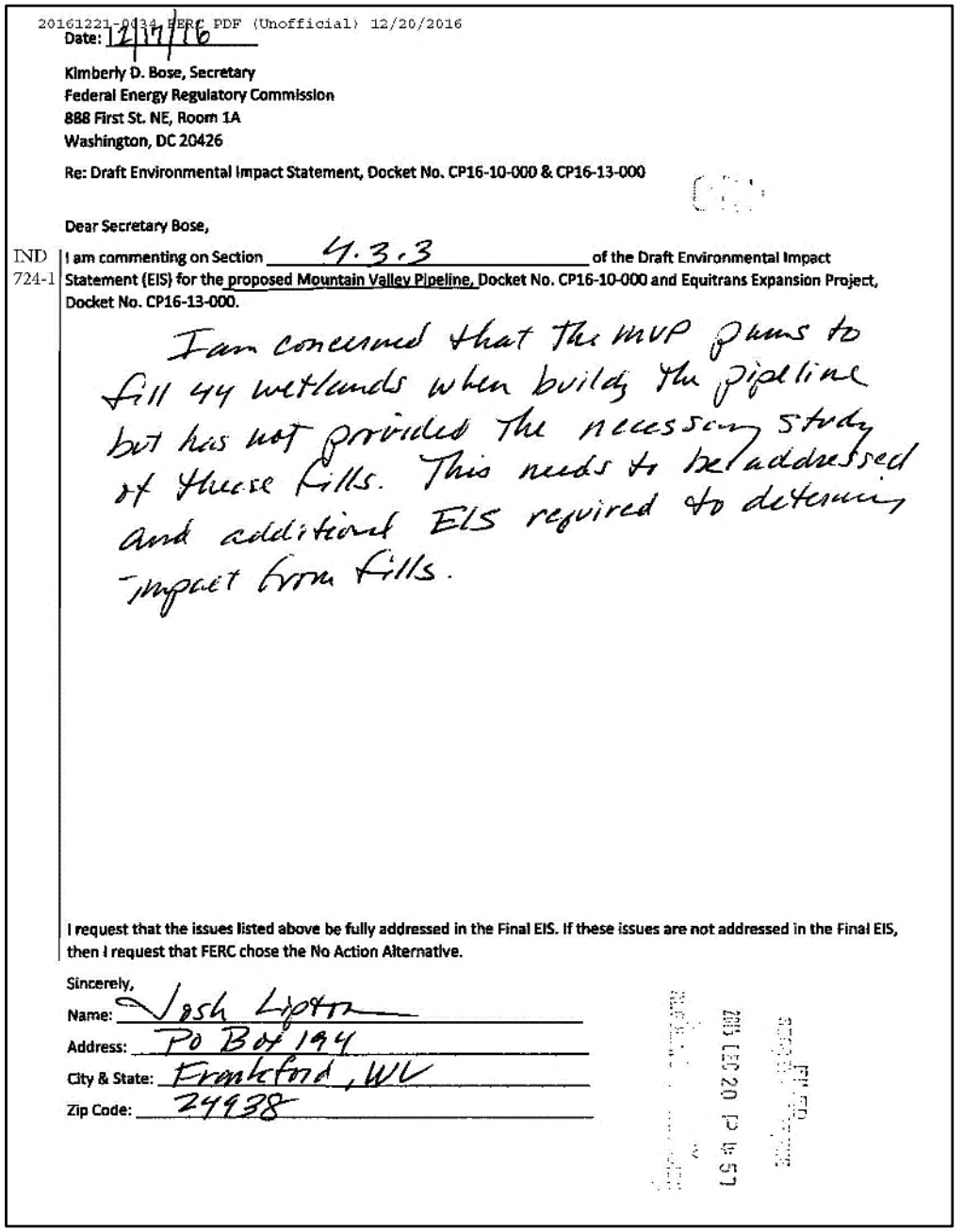
IND723-4 The LMRP amendments were identified in the draft EIS, which was available for a 90-day public comment period. Although the LRMP amendments in the final EIS are different, they address essentially the same resource concerns as in the draft EIS.

IND723-5 A revised visual analysis of the ANST can be found in section 4.8 of the final EIS. Tourism is discussed in section 4.9 of the EIS.

IND723-6 See the response to comment IND2-1 regarding safety.

INDIVIDUALS

IND724 – Josh Lipton



20161221-0034 FERC PDF (Unofficial) 12/20/2016

Date: 12/17/16

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, DC 20426

Re: Draft Environmental Impact Statement, Docket No. CP16-10-000 & CP16-13-000

Dear Secretary Bose,

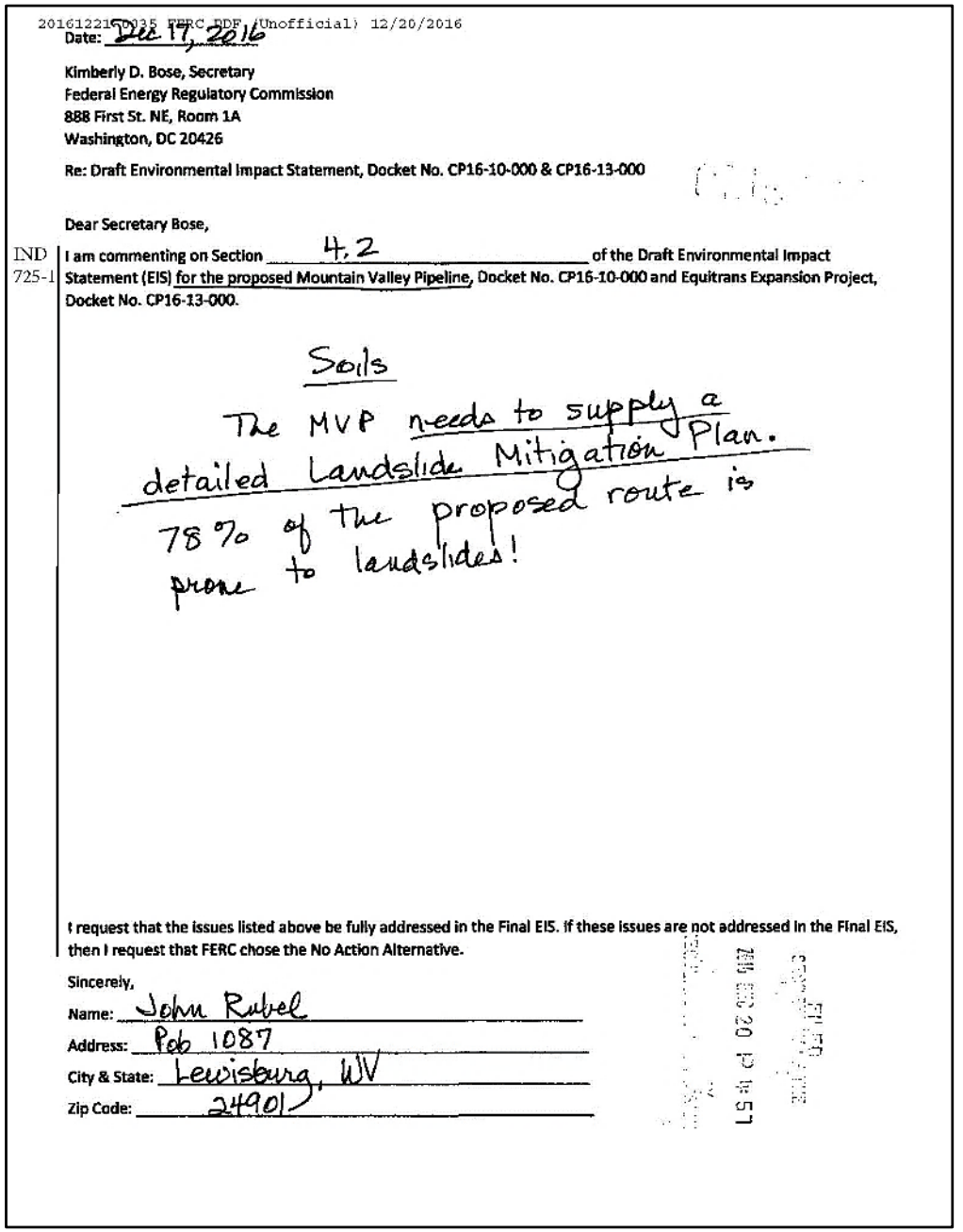
IND 724-1 I am commenting on Section 4.3.3 of the Draft Environmental Impact Statement (EIS) for the proposed Mountain Valley Pipeline, Docket No. CP16-10-000 and Equitrans Expansion Project, Docket No. CP16-13-000.

I am concerned that the MVP plans to fill 44 wetlands when build the pipeline but has not provided the necessary study of these fills. This needs to be addressed and additional EIS required to determine impact from fills.

I request that the issues listed above be fully addressed in the Final EIS. If these issues are not addressed in the Final EIS, then I request that FERC chose the No Action Alternative.

Sincerely,
Name: Josh Lipton
Address: PO Box 194
City & State: Frankford, WV
Zip Code: 24938

IND724-1 See the response to comment IND209-1 regarding the permanent fill of wetlands.



20161221-5025 FERC PDF (Unofficial) 12/20/2016

Date: Dec 17, 2016

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, DC 20426

Re: Draft Environmental Impact Statement, Docket No. CP16-10-000 & CP16-13-000

Dear Secretary Bose,

IND 725-1 I am commenting on Section 4.2 of the Draft Environmental Impact Statement (EIS) for the proposed Mountain Valley Pipeline, Docket No. CP16-10-000 and Equitrans Expansion Project, Docket No. CP16-13-000.

Soils

The MVP needs to supply a detailed Landslide Mitigation Plan.

78% of the proposed route is prone to landslides!

I request that the issues listed above be fully addressed in the Final EIS. If these issues are not addressed in the Final EIS, then I request that FERC chose the No Action Alternative.

Sincerely,

Name: John Rubel

Address: Pob 1087

City & State: Lewisburg, WV

Zip Code: 24901

FILED
2016 DEC 20 P 4:57
SECRETARY'S OFFICE
FEDERAL ENERGY REGULATORY COMMISSION

IND725-1 See the response to IND177-1 regarding landslides and Mountain Valley's revised *Landslide Mitigation Plan*.

20161221-5324 FERC PDF (Unofficial) 12/21/2016 3:32:21 PM

Jacob Zehnder, Orlando, FL.

IND 726-1 This proposed pipeline is not in the best interest of the public. It will take over beautiful preserved public lands and impact local communities. It is a health and safety risk to the many communities it passes and will severely impact the views of anyone enjoying the Appalachian National Scenic Trail.

Please stop this application and halt any development of the Mountain Valley Pipeline.

Thank you.

IND726-1 The Commission would decide if the projects are in the best interest of the public. See the response to comment IND2-1 regarding safety. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS.

December 21, 2016

Ms. Kimberly D. Bose, Secretary
Norman Bay, Chairman; Members of the Commission
Federal Energy Regulatory Commission

Re: Docket No. CP16-10-000 Mountain Valley Pipeline project
Draft Environmental Impact Statement

Significant Impacts and Adverse Effects on Forested Land:
Summers County, West Virginia

Dear Ms. Bose and Members of the Commission:

IND 727-1

We write to protest the significant adverse impacts on core forests through Summers County, West Virginia, outlined in the Draft Environmental Impact Statement for the proposed Mountain Valley Pipeline. In the section on Conclusions and Recommendations for the DEIS, FERC staff write: "…in considering the total forest affected, the quality and use of forest for wildlife habitat, and the time required for full restoration in temporary workspaces, we conclude the projects would have significant impacts on forests" (page 5—5). This conclusion follows statements that the MVP route crosses "about 245 **miles** of forest," (page 5—4) and "'would impact about 2485 acres of contiguous interior forest" (page 5—5). It is deeply worrisome that while almost every other 'conclusion' in the DEIS states that mitigation and monitoring will keep damages within acceptable limits, the discussion of forest impacts includes no conciliatory note at all. The DEIS abandons discussion of forests with the jarring admission "we conclude [that] the projects would have significant impacts on forest" and the DEIS turns to other matters.

IND 727-2

The MVP's founding consortium of energy companies have applied for—and FERC staff through the present DEIS have endorsed—undertaking a hugely damaging construction project through profoundly valuable lands. As noted by biologist George Constantz, southern and central Appalachia provide the greatest bio-diversity in eastern North America, because (in part) these regions "and their adjacent refugia have offered the longest continuously available terrestrial habitat in North America."[1] **The biological importance of the region's forests has been recognized by the US Forest Service in designating much of the area through which the MVP is proposed as "Forest Legacy areas". Through the Cooperative Forestry Assistance Act of 1978, amended in 1990, the US Forest Service established the Forest Legacy Program to protect environmentally important forest areas. In West Virginia, those four legacy areas form an Eastern corridor that includes: Cheat River, Potomac Highlands, Allegheny Mountains, and Greenbrier River.**[2]

[1] Constantz, George, **Hollows, Peepers, and Highlanders,** West Virginia University Press, 2004, page26.
[2] See http://www.wvforestry.com/images/WV%20Forest%20Legacy%20Areas.JPG

IND727-1 See the response to comment FA15-5 regarding forests.

IND727-2 The biological importance of forest is discussed in sections 4.4 and 4.5 of the EIS.

IND 727-2 cont'd

Summers County lies within the Greenbrier River legacy area. This means that the State of West Virginia has determined through a statewide Assessment of Need (AON) that private forest lands in this legacy area have been prioritized as eligible for conservation easement protection through the FLP. **The AON evaluated private forest land in the state on the basis of: "productivity, health, development pressures, level of professional forest management and citizen values."** The Information Brief on the Forest Legacy Program from the West Virginia Division of Forestry states: "The 1996 Farm Bill provided the U.S. Forest Service with authority and funds to make grants to participating States for the irrevocable purchase of lands or conservation easements on lands **in areas where there is pressure to convert environmentally important forests areas (EIFA) to other uses.**" [bold emphasis added]

The proposed route of the MVP threatens these valuable forests areas in multiple ways. The first is obvious: construction will require the removal of the mature forest trees and all understory vegetation, and will also disrupt or destroy the associated fungi communities required for the health of these forest trees.[3] In Summers County, the total area to be cleared is approximately 325 acres currently in core forest, including access road construction, temporary workspace, and the construction easement itself, which alone accounts for about 210.6 acres (assuming a width of 125').[4] However, the clearing of forest acreage is only part of the damage. "Edge effects"[5] such as increased predation and parasitism of nesting bird species, and the spread of invasive plant species into forest habitats, have been shown to extend as much as 300 feet into adjacent forested areas on either side of the right-of-way. This increases the impacted area of the ROW in Summers County to almost 1,493 areas. Another major impact of cutting an artificial canyon through the forest is 'forest fragmentation' which Constanz claims is "Throughout the world…one of the most serious causes of the present extinction crisis" (pg. 217).

IND 727-3

In addition to the adverse effects on the forest and wildlife habitat, the MVP project carries related and significant negative impacts that reinforce these major damages. For example, it has been well documented by an expert analyst (reports submitted to the CP16-10 Docket) that the construction and operation of the Mountain Valley Pipeline present serious environmental risks for the watersheds and water resources of Summers County.[6] Hydrogeological effects of construction could significantly alter groundwater movement throughout the affected areas of the county, jeopardizing the private wells of hundreds of residents, farms and small businesses, while surface water impacts could affect the Big Bend Public Service District in Talcott.

[3] For details on the symbiotic relations between trees and fungi/molds see Constanz, pages 20-21.
[4] These estimates include the areas of the county between I-64 and the watershed leading to the Greenbrier River crossing at Pence Springs—these being the watersheds most intensively covered by Core Forest coverage. Estimates can be further documented using the appendices in Docket CP16-10, Document #20160809—5230.
[5] See discussions in Constanz, page 22; also Docket CP16-10, Document #20161121—5051.
[6] See Docket CP16-10, Document #20160815—5135 for Dodds, Pamela C., "Hydrogeological Assessment of Watershed Impacts Caused by Constructing the Mountain Valley Gas Pipeline Through Summers and Monroe Counties, West Virginia."

IND727-3 See the response to CO34-1 regarding hydrogeological studies. See the response to comment IND1-3 regarding drinking water. See the response to comment IND245-7 regarding the Big Bend PSD.

IND 727-4

To put this environmental devastation in perspective, it's important to note that the core forests of Summers County are a natural resource with global significance.[7] Core forests are a critically important environmental resource with a value that extends well beyond whatever service they perform as local resources. In a period of intensified global warming, this canopy of forested land through the Appalachians is an astonishing wellspring of biodiversity and protective forest cover:

"In Appalachia lives the richest temperate forest on the planet, rivaled only by its close relatives in a few sections of Asia, all of them remnants of the mother forest. In the coves of southern Appalachia are fifteen hundred species of flowering plants, including more kinds of trees than in all of northern Europe." Here *"…plant life was able to evolve fairly steadily without catastrophic setback, for more than two hundred million years."*[8]

The value of large tracts of forested land is virtually incalculable because of the extent to which such areas are shrinking under the pressures of industrialization and development (though ecosystems economists have developed the means by which an economic value of forest land can be assigned.[9]) **These forested lands function to sustain human and other forms of life beyond their physical boundaries because they are relatively intact; the value of forested land to the human community lies in the fact that it is a living natural resource.** An industrial project such as the Mountain Valley Pipeline represents a very real threat to the core forests of Appalachia.

The Indian Creek Watershed Association Interactive Environmental Map[10] makes it possible to get an overview of the devastation the Mountain Valley Pipeline would bring to the core forests of Summers County. Using the mapping tools provided by ICWA, we can establish some of the implications of the planned route, which would traverse 17 miles of the eastern quarter Summers County through the greatest concentration of core forests in the County. The MVP would most seriously impact the eastern forested corridor of Summers County which is heavily covered in mature forest associated with the Keeney Mountain formation. Between I-64 in the north and the Greenbrier River crossing in the south, the pipeline traverses about 13 miles, 9.2 miles of which are cut through core forest areas. The other 6.8 miles are mostly through small clearings in the forest, although 2 elongated patches—each less than 2 miles long by 1/2 mile wide— are cut by the route. **The route splits several large areas of relatively continuous forest land: there are 38,000 acres between I- 64 and the Greenbrier River that are roughly cut in half. Similarly, an area of 14,500 acres is split by the route segment running along the Keeney Knob Mountain ridge. The route's proposed descent of Red Spring Mountain to Lick Creek (a tributary of the New River) divides in half an unbroken**

[7] As reported by the Indian Creek Watershed Association Interactive Environmental Map delineations of the West Virginia Department of Natural Resources evaluations of the bio-diversity of major watersheds.
[8] Bolgiano, Chris, The Appalachian Forest, Stackpole Books, 1998, page 4.
[9] See for example discussions in Docket CP16-10, Document #20160531--5236 which contains the study of MVP costs by Key-Log Economics, which includes just these sorts of estimates.
[10] http://indiancreekwatershedassociation.org/icwa-interactive-environmental-map

IND727-4

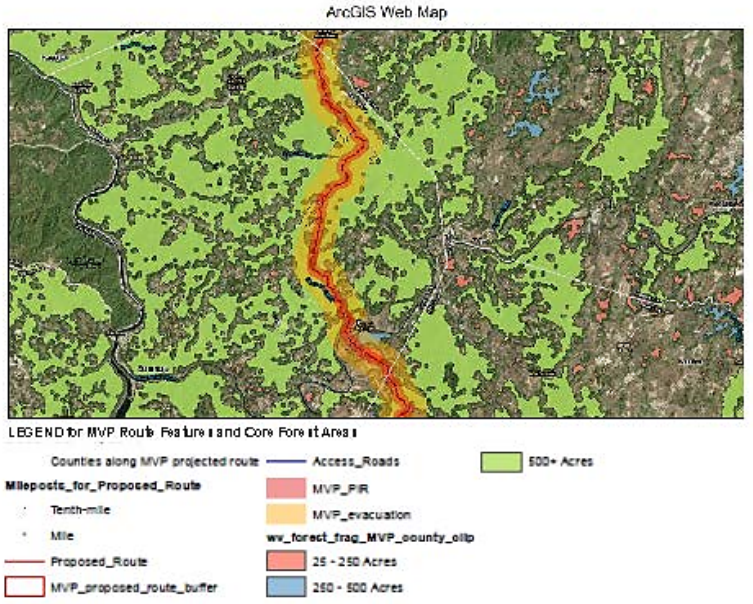
See the response to comment FA15-5 regarding forests. See the response to comment CO49-8 regarding core forest areas. The Large Core (>500 acres) Forest in Summers County, West Virginia are represented in figure 4.4.1-2 and are accounted for in the discussions throughout section 4.4. The ranking of global significance is attributed to the biodiversity of the watershed of which the forests are a component. The MVP pipeline route would cross areas of each ranking on this scale (B1- Outstanding global diversity to B6 – Local biodiversity significance).

Invasive species are discussed in section 4.4 of the EIS. Migratory birds are discussed in section 4.5 of the EIS.

IND 727-4 cont'd

segment of core forest 1,564 acres in extent between the county line and the end of County Route 4 in the Lick Creek Valley. This area also contains the three longest access roads proposed by MVP for the county (damaging about 25 acres), and about 90 acres of temporary workspace, to add to the disruption.

Below is a map of the core forests of Summers County which would be bifurcated by the Mountain Valley Pipeline, carving out treeless canyons of ecological disruption, introducing invasive species and disrupting the habitat for neo-tropical migrating birds.



4

IND 727-5

In a November 20, 2016 comment[11], Professor Carl Zipper pointed out that the DEIS "fails to clarify if 'significant impacts' to forest resources are equivalent to 'adverse effects'." He states that "the DEIS should be clear in its statements and terms that concern FERC's own policies." In concluding his comment, Professor Zipper references NEPA §102:

> "Federal agencies shall, to the fullest extent possible … Use all practicable means … to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment"

The DEIS acknowledges, but entirely without consequence, that significant impacts would necessarily occur as a result of the MVP traversing core forests. However, the DEIS provides no demonstration whatsoever that FERC has tried to quantify these impacts in any meaningful way, or to identify (or require MVP to identify) alternate routes that would have less measurable impact. The DEIS provides no evidence that the applicant or the agency has taken any specific actions to ensure that the project could be undertaken through Summers County to avoid or minimize "adverse effects upon the quality of the human environment". **Summers County provides a representative and striking example of the severity of the adverse affects the MVP project presents for core forests along the entire route. The MVP route must be revisited by FERC in light of the severity of these impacts.**

IND 727-6

We request that FERC ensure that a revised or supplemental DEIS corrects the inadequate information which appears in the current draft regarding implications for the destruction of core forests. The current DEIS should be withdrawn and replaced by a document that fully comprehends the significance of this living natural resource and of the significance of relevant NEPA concepts. The loss of core forests to an ill-conceived and ill-examined proposal is not something our nation can afford in the year 2016. It is not only Summers County that would be the poorer.

Respectfully submitted,

Susan Bouldin and Thomas Bouldin, Intervenor
Pence Springs, West Virginia

Cc: Ted Boling, Associate Director for NEPA, Council on Environmental Quality
Shawn Garvin, Regional Administrator, US EPA, Region 3
Barbara Rudnick, NEPA Team Leader, US EPA, Region 3
Ben Luckett, Staff Attorney, Appalachian Mountain Advocates

[11] See Docket CP16-10, Document #20161121—5051.

5

IND727-5 See the response to comment FA15-5 regarding forests.

IND727-6 The draft EIS will not be revised, but the FERC produced a final EIS that addresses comments on the draft.

Date: Dec 17, 2016

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, DC 20426

Re: Draft Environmental Impact Statement, Docket No. CP16-10-000 & CP16-13-000

IND 728-1

Dear Secretary Bose,

I am commenting on Section 4.3.3 Wetland Crossings of the Draft Environmental Impact Statement (EIS) for the proposed Mountain Valley Pipeline, Docket No. CP16-10-000 and Equitrans Expansion Project, Docket No. CP16-13-000.

Filling 44 Wetlands along access roads would not mean net loss of wetlands? This Sounds like nonsense!

A supplemental DEIS needs to get enough info from the MVP to correctly assess the impact of this filling.

I request that the issues listed above be fully addressed in the Final EIS. If these issues are not addressed in the Final EIS, then I request that FERC chose the No Action Alternative.

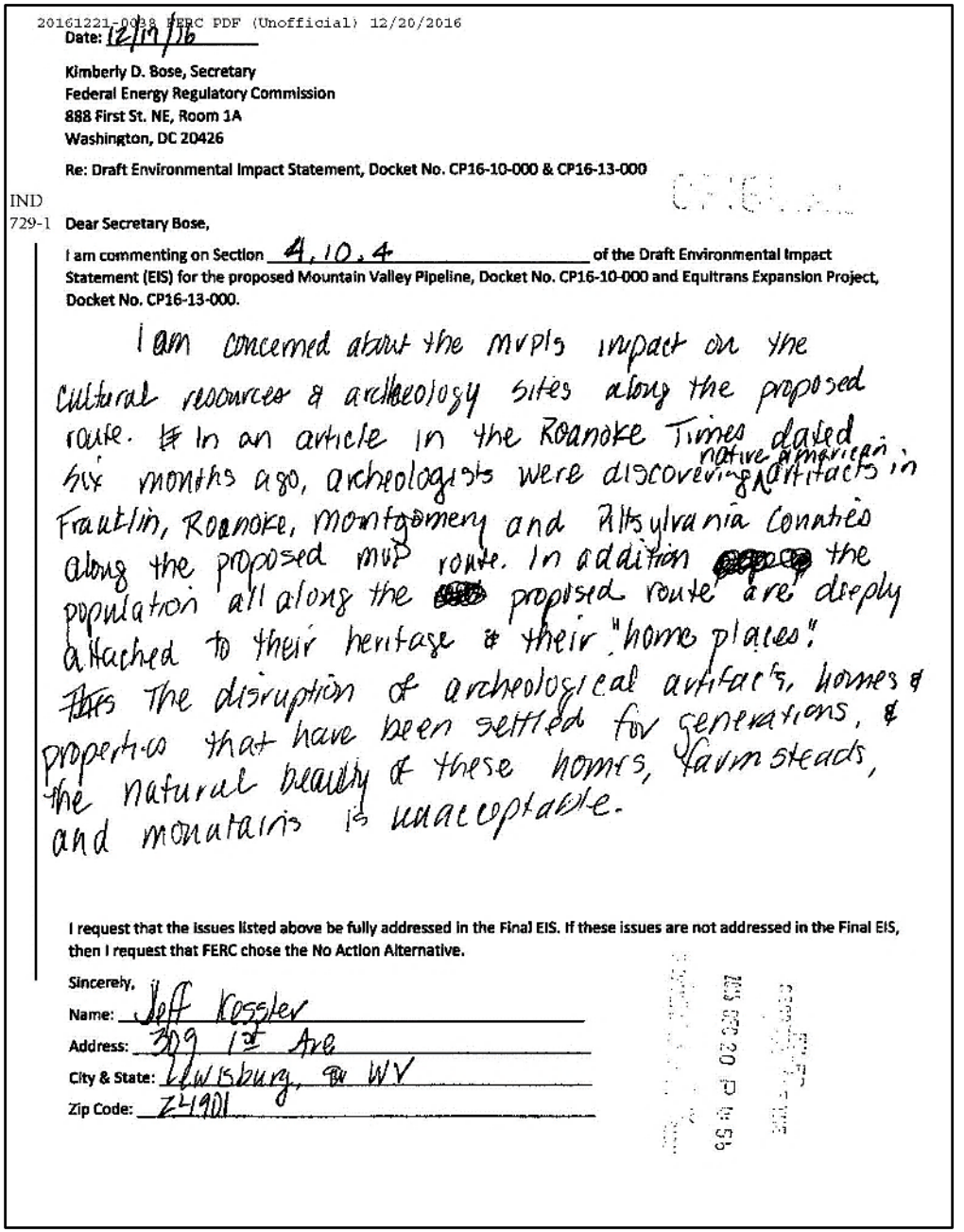
Sincerely,

Name: John Rubel
Address: POB 1087
City & State: Lewisburg, WV
Zip Code: 24901

IND728-1 See the response to comment IND209-1 regarding the permanent fill of wetlands. A supplemental draft EIS would not be produced, but this final EIS addresses comments on the draft.

INDIVIDUALS

IND729 – Jeff Kessler



20161221-0038 FERC PDF (Unofficial) 12/20/2016

Date: 12/19/16

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, DC 20426

Re: Draft Environmental Impact Statement, Docket No. CP16-10-000 & CP16-13-000

ORIGINAL

IND 729-1 Dear Secretary Bose,

I am commenting on Section 4.10.4 of the Draft Environmental Impact Statement (EIS) for the proposed Mountain Valley Pipeline, Docket No. CP16-10-000 and Equitrans Expansion Project, Docket No. CP16-13-000.

I am concerned about the MVPs impact on the cultural resources & archeology sites along the proposed route. In an article in the Roanoke Times dated six months ago, archeologists were discovering native american artifacts in Franklin, Roanoke, Montgomery and Pittsylvania Counties along the proposed MVP route. In addition the population all along the proposed route are deeply attached to their heritage & their "home places". The disruption of archeological artifacts, homes & properties that have been settled for generations, & the natural beauty of these homes, farmsteads, and mountains is unacceptable.

I request that the issues listed above be fully addressed in the Final EIS. If these issues are not addressed in the Final EIS, then I request that FERC chose the No Action Alternative.

Sincerely,

Name: Jeff Kessler

Address: 329 1st Ave

City & State: Lewisburg, WV

Zip Code: 24901

IND729-1 Cultural resources, including cultural attachment, are addressed in section 4.10 of the EIS.

INDIVIDUALS
IND730 – Aaron T. McGuire

20161221-5364 FERC PDF (Unofficial) 12/21/2016 3:52:21 PM

Aaron T McGuire, Henrico, VA.
Ms. Bose,

IND 730-1 As an avid hiker of the Appalachian Trail, the prospect of a pipeline running directly through some of my favorite unbroken forested areas (particularly the Angels Rest vista) concerns me greatly. The terrain over which the pipeline would have to run is a designated seismic zone, and the pipeline would run athwart a number of communities that would be put at risk by the pipeline's presence in the event of a seismic disturbance. From a purely visual perspective, the idea of a pipeline

IND 730-2 potentially marring the scenic beauty of the trail is downright cruel, and something I would be terribly sad to see on my favorite hiking path in the nation.

IND 730-3 I also find the U.S. Forest Service's willingness to lower the Jefferson National Forest Management Plan standards for water quality concerning; pipeline water must be held to a rigorous standard, especially if they're to be placed in areas as intensely well-commuted as the Appalachian Trail. This would not simply harm the physical attractiveness of the landscape -- it could potentially have dear human consequences if errant hikers accidentally drink contaminated water.

For these reasons, among others, I dearly hope the Federal Energy Regulatory Commission considers rejecting the Mountain Valley pipeline proposal. Thank you for reading. I hope you have an excellent day.

-- Aaron McGuire

IND730-1 A revised visual analysis of the ANST can be found in section 4.8 of the final EIS.

IND730-2 Section 4.1 of the EIS provides an assessment of seismic activity.

IND730-3 See the response to comment FA11-8 regarding the LRMP for the Jefferson National Forest.

Kate Sirota, Denver, CO.

IND 731-1 The DEIS makes no attempt to assess the impacts of this proposed pipeline on the Appalachian Trail in context with other pipelines and projects that would damage the AT's character and value. This failure violates FERC's duty to perform an adequate cumulative impact analysis under NEPA.

IND 731-2 I am also concerned that the DEIS analysis of possible cumulative impacts on water bodies, particularly on headwaters streams is superficial and incomplete.

IND731-1 Section 4.13 of the EIS provides a discussion of cumulative impacts to the ANST.

IND731-2 Cumulative impacts are addressed in section 4.13 of the EIS.

INDIVIDUALS

IND732 – Vicki L. Pierson

20161221-5370 FERC PDF (Unofficial) 12/21/2016 3:55:39 PM

Vicki L Pierson, Walkersville, WV.

IND 732-1 I am an affected landowner in northern Braxton County WV, at about milepost 69 of the proposed Mountain Valley Pipeline project. I am opposed to this pipeline for numerous reasons. Primarily, I see the taking of private land by a for-profit company as a misapplication of eminent domain. In addition, there has been no attempt by FERC to consider the combined economic and environmental impacts of all these proposed projects together, thus encouraging overdevelopment. I also have numerous safety concerns. At a recent right of way discussion with my landman, I asked about the company's plans for decommissioning the pipeline when it is no longer needed. I was dismayed to find that there are none; the company intends to abandon the pipeline in place. Furthermore, I was told that there are no regulatory requirements for a decommissioning plan. Is this true? Does FERC intend to allow MVP to simply walk away from this project without proper care to safeguard the landowners and general public from harm caused by its abandonment? This is irresponsible for both FERC and MVP. Once the pipeline is no longer in use and cathodic protection is stopped, the pipeline will begin to rust through. Over time, this will allow water to seep through the pipe and potentially contaminate streams and groundwater. Worse yet, large holes can form and small children or animals can fall through, potentially being trapped or drowned in the accumulated water. With so many proposed projects for large (over 36 inch diameter) pipelines covering hundreds if not thousands of miles, it is not a question of whether, but when, such an event will take place. When this tragedy occurs, the landowners or taxpayers will be stuck paying for the remedy. This is particularly egregious considering that the landowners are being forced to cede right of way for these projects under eminent domain. I urge FERC to require these pipelines to be removed when they are taken out of use, or at the very least, filled completely in with earth or concrete to prevent such avoidable tragedies.

Respectfully submitted,

Vicki Pierson

IND732-1 Private lands would not be "taken." Mountain Valley would compensate landowners for the easement. See section 4.9 of the EIS. Tourism is also addressed in section 4.9 of the EIS. Abandonment is addressed in section 2.7.

INDIVIDUALS

IND733 – David G. Yolton

Dec. 21, 2016

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

Re: Proposed Mountain Valley Pipeline, Docket No. CP16-10-000

Dear Ms. Bose,

IND 733-1 I am a retired Land Surveyor and property owner along the path of the proposed Mountain Valley Pipeline (MVP) in Giles County, Virginia. Our land is in the Greater Newport Historic District, a Federal and State designation. I am opposed to the current proposed route of the pipeline for the following reasons:

It bisects the Greater Newport Historical District and will do damage to the viewshed, historical context of the many well-preserved structures, and to the cultural attachment that many generations of residents need for their well-being and livelihood. Our livelihoods depend not just on farming, ranching, and forestry, but increasingly, on tourism. Giles County was among the top counties in Virginia for increase in tourism revenue in 2016. The scar that will be seen forever, parallels Route 460, the major thoroughfare through our county. In this economically depressed part of the state, just when the County is pulling itself up by its bootstraps through tourism, this destructive project will be an unmitigated economic setback.

IND 733-2 The process by which MVP determines the route of the proposed pipeline has, so far, been inadequate, and shoddy. We have had MVP surveyors on our property numerous times. We have received letters asking permission to survey, which we have not given. At least once, surveyors have come at night, past no-trespassing signs, without permission, and with no warning letter. Recently, I received a letter dated Sept. 23, 2016 asking permission to survey on Oct. 13,14,15,16,17, 2016, and Oct. 18, 2017! 2017? A bat survey of our cave near the proposed line was apparently conducted on about Oct. 15th and Oct. 16th. That time Rick Elmore, MVP Land Agent, called me prior to the survey. In our conversation, he assured me that the bat survey was the last one and surveyors would not be back. But, I received another letter dated Oct. 21, 2019, informing me MVP's intent to conduct another survey on Nov. 8 and 9, 2016. Since they had been here numerous times, and Rick Elmore had told me they were done, I called on Nov. 4 to inquire why surveyors were coming back. Mike Robinson, of MVP, told me the letter was a mistake, to ignore it. On the evening of Nov. 8, Rick Elmore called to tell me that the surveyors WERE coming the next day to check the route and that I might want to be there. I had to cancel my plans for the next day in order to be available. These are just some examples of ineptitude by MVP.

IND 733-3 In conducting the draft environmental impact statement (DEIS), MVP made numerous errors and omissions. Pertaining to the Newport Historic District, the DEIS states that the route chosen through the district will have minimal visual impact because it follows an existing powerline easement. It does not. This is so plainly obvious that it smacks of duplicity to include such erroneous details in an official report. The DEIS also incorrectly identifies buildings in the Newport Historic District and omits others. These omissions have been identified in detail to you by other citizens and organizations, but the net result of the erroneous information is a biased assessment of the impact of the pipeline.

IND733-1 The Greater Newport Rural Historic District is discussed in section 4.10 of the EIS. Tourism and other socioeconomic issues are addressed in section 4.9.

IND733-2 The statements regarding Mountain Valley land surveys are noted.

IND733-3 The draft EIS was prepared by FERC staff, not Mountain Valley. Section 4.10 of the EIS provides an assessment of the Newport Historic District. Table 4.8.1-10 indicates that where the pipeline route enters the Greater Newport Rural Historic District it is adjacent to an existing powerline. Alignment sheets also illustrate the pipeline route adjacent to powerlines in the Historic District.

INDIVIDUALS

IND733 – David G. Yolton

IND 733-4 The most egregious aspect of the DEIS is the glossing over of the threat to our drinking water. Our county is riddled with sinkholes, caves, and springs. You have been made aware of the geologic report by Dr. Ernest Kastning detailing the nature of our karst terrain. The MVP geologists and engineers do NOT KNOW where all our water comes from or where it goes. Famed Mountain Lake in Giles County is dry and no one knows exactly why. Dye traces put in caves in Clover Hollow have been found to come out of the ground miles away, but no one knows the exact route of the water through the ground. Sinking Creek sinks! We don't want it to start sinking somewhere else upstream because the rock strata has been disturbed. Earnest Kastning lists numerous reasons to be concerned and concludes that the pipeline can't be built on its current proposed route without unmitigatable damage. The DEIS, in its omissions, errors, and hubris, represents another failure of MVP to thoroughly perform its required job. The conclusion that the damage is fixable is the result of poor information gathering and self-serving analysis.

IND 733-5 Rules must not be relaxed for MVP. They have not demonstrated trustworthiness. Local soil and erosion control measures should be strictly enforced. Old growth trees in the National Forest or elsewhere should not be removed, but considered obstacles just like caves, homes, etc. A 500 foot wide utility corridor proposed by the Forest Service adjacent to the Mountain Lake Wilderness area is an obscene joke. This massive viewshed degradation will have a negative impact on the Appalachian Trail, tourism in Giles County, and by extension, property values. This type of proposed utility corridor makes adjoining landowners into caretakers of the conduit for, and subservient to the fossil fuel industry.

IND 733-6 While I believe that the proposed pipeline is a corporate grab abetted by government agencies and of questionable economic need benefitting no one locally, the current route through the heart of Giles County and the town of Newport is totally inappropriate. If the line is ultimately built, there is a less disruptive and dangerous route through the county. Hybrid Alternative 1A, crosses into Giles at Glen Lyn, and crosses New River where there are existing utility corridors. It avoids crossing Peters Mountain and the AT thereon, and avoids numerous Historic Districts. It avoids some of the most fragile karst topography, avoids downtown Newport, and lessens the miles through the National Forest.

IND 733-7 Our County Board of Supervisors, our State Senator, our local Congressman, the Newport Community and many others have expresses grave reservations to you about the prospect of this unprecedented construction project conducted by an untrustworthy conglomeration of limited liability corporations. A lot of us working class citizens feel like we're being railroaded by a rigged system. We just voted to get rid of that. We expect FERC to make a truly informed decision based on unbiased science and analysis of engineering capabilities. In an open society, we want to know the basis for any decision made, and the expected long term effect. In closing, I'm asking that you carefully consider what I and many others have said in opposition to the current route of the pipeline, to reject the DEIS an insufficient, and to deny MVP's application to build this pipeline.

Sincerely,

David G. Yolton

David G. Yolton
8165 Virginia Avenue
Newport, VA 24128
(540)626 3474
barn@pemtel.net

IND733-4 Section 4.3 of the EIS discusses impacts on drinking water supplies. Karst terrain is discussed in section 4.1. See the response to comment IND62-1 regarding Dr. Kastning's report.

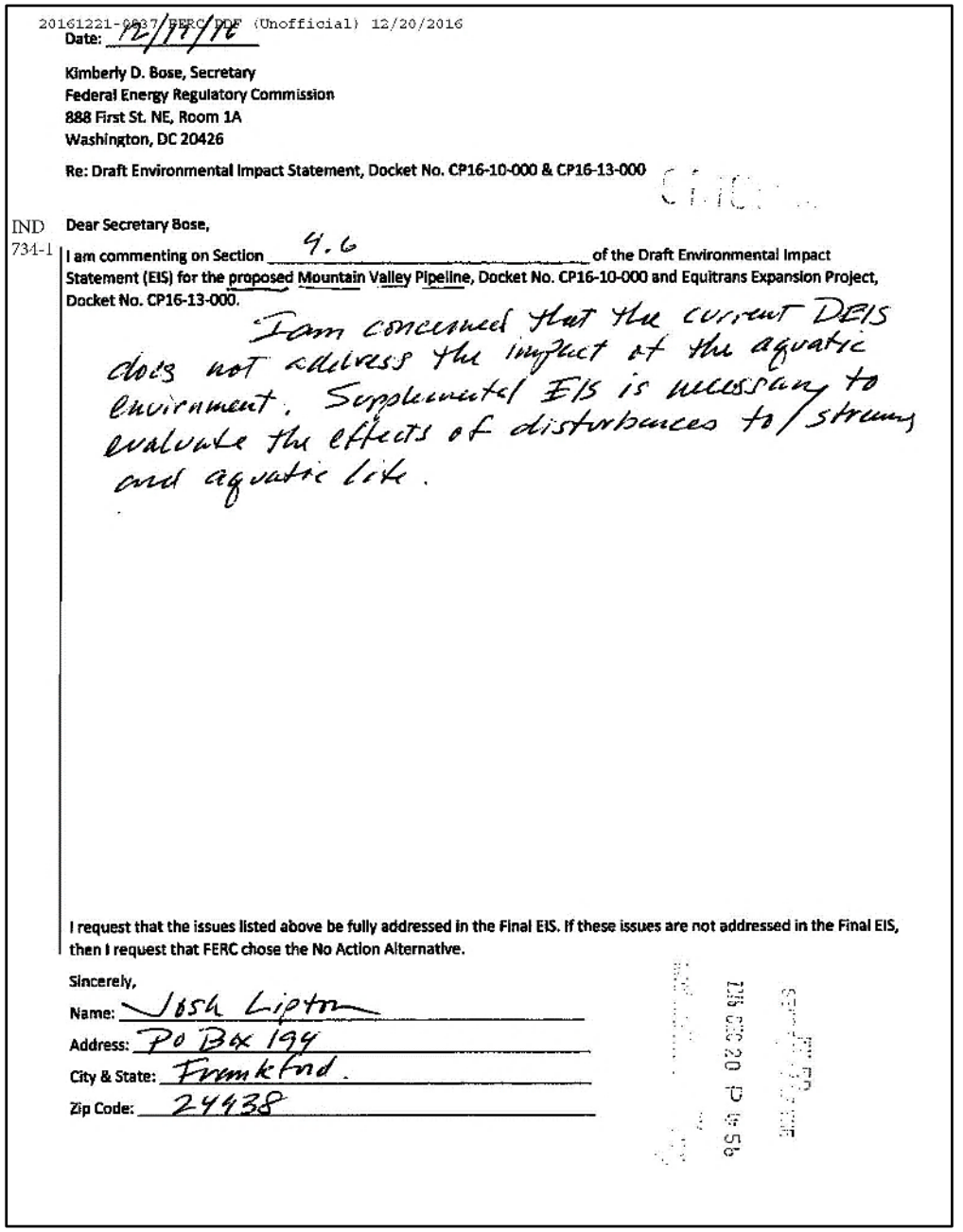
IND733-5 See the response to comment IND70-1 regarding erosion. See the response to comment FA8-1 regarding the 500-foot-wide utility corridor in the Jefferson National Forest. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS. Tourism is discussed in section 4.9 of the EIS. See the response to comment IND12-1 regarding property values.

IND733-6 Section 3 of the final EIS has been revised to discuss the Hybrid 1A Alternative.

IND733-7 The Commission would make an informed decision based on the record. Their Project Order would be a public document.

INDIVIDUALS

IND734 – Josh Lipton



20161221-0037 FERC PDF (Unofficial) 12/20/2016

Date: 12/11/16

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, DC 20426

Re: Draft Environmental Impact Statement, Docket No. CP16-10-000 & CP16-13-000

IND 734-1

Dear Secretary Bose,

I am commenting on Section 4.6 of the Draft Environmental Impact Statement (EIS) for the proposed Mountain Valley Pipeline, Docket No. CP16-10-000 and Equitrans Expansion Project, Docket No. CP16-13-000.

I am concerned that the current DEIS does not address the impact of the aquatic environment. Supplemental EIS is necessary to evaluate the effects of disturbances to streams and aquatic life.

I request that the issues listed above be fully addressed in the Final EIS. If these issues are not addressed in the Final EIS, then I request that FERC chose the No Action Alternative.

Sincerely,

Name: Josh Lipton

Address: PO Box 194

City & State: Frankford.

Zip Code: 24938

IND734-1 Impacts on aquatic resources are discussed in section 4.6 of the EIS. Instead of supplemental document, this final EIS addresses comments on the draft.

INDIVIDUALS

IND735 – Vicki L. Pierson

20161221-5374 FERC PDF (Unofficial) 12/21/2016 4:00:09 PM

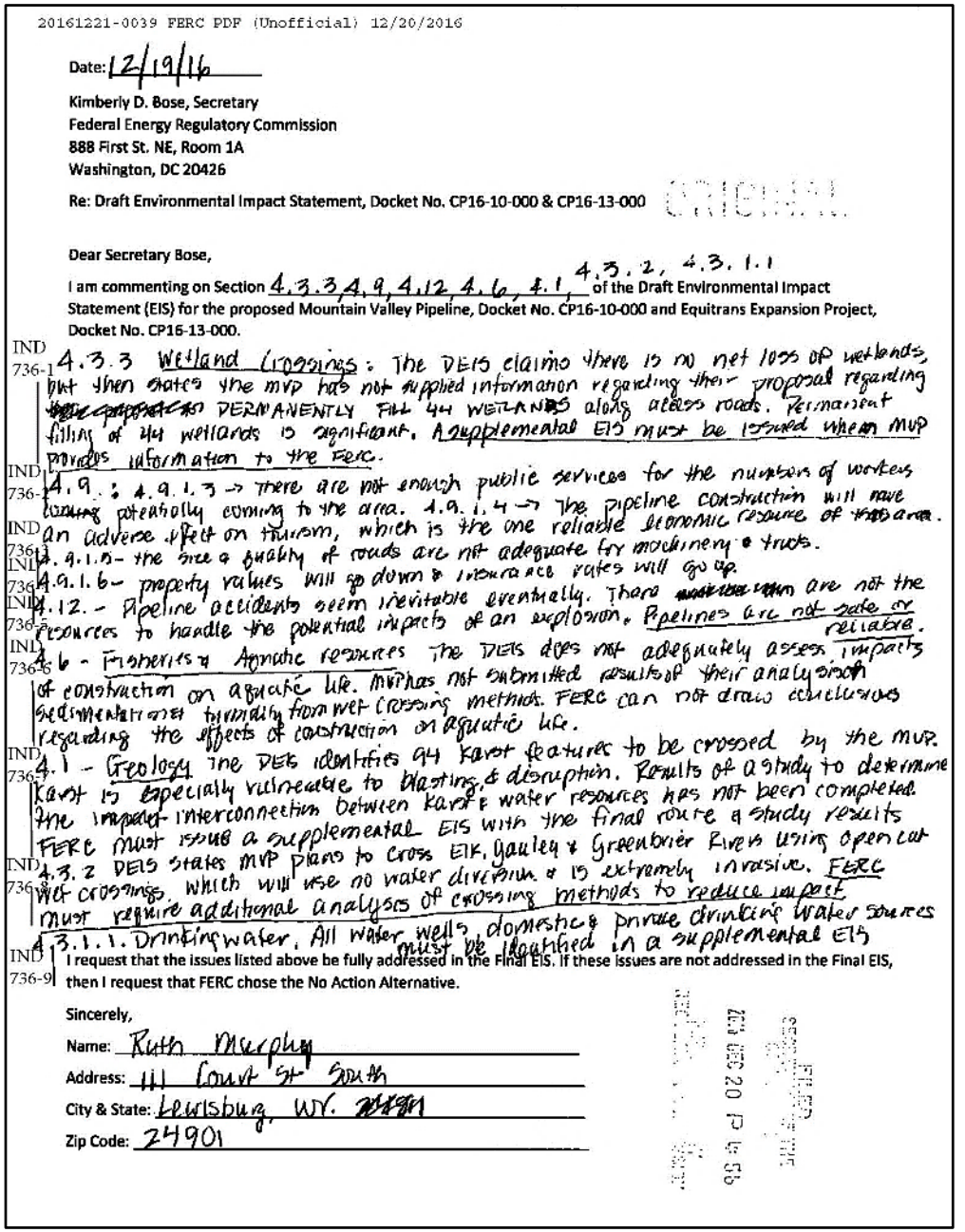
Vicki L Pierson, Walkersville, WV.

IND 735-1 I am an affected landowner in northern Braxton County WV, at about milepost 69 of the proposed Mountain Valley Pipeline project. My property borders the Burnsville Wildlife Management Area, yet MVP proposes to route their pipeline on my land instead, just a few feet from land already taken once by eminent domain. I am opposed to the use of eminent domain for this project, as it represents forced taking of private land for the benefit of a for-profit company that stands to make an enormous amount of money to the detriment of small private landowners, many of whom have been subject to several eminent domain condemnations in the recent past, for example, I-79, Burnsville Lake, Sutton Lake, Stonewall Jackson Lake and others throughout the proposed route. The repeated jeopardy of having one's private land seized for someone else's profit is intolerable and unjust, and must not be approved or condoned. Alternate routes that go through some publicly held lands was summarily dismissed in MVP's DEIS as providing no benefit. While the effort to keep our public lands unspoiled is a worthy goal that I support, I question whether it is truly preferable for private citizens to bear such a disproportionate share of the burden. The enormity of this project cannot be overstated, and it is well beyond the scope of ordinary citizens and landowners to manage such issues as emergency access of fire and ambulance services, mail delivery, and even ordinary ingress and egress. The damage to our roads alone will be devastating, and that is small compared to the erosion of delicate slopes and contamination of local waterways and aquifers. For these and many other reasons, it would serve the public better if this project, being purportedly undertaken for the public good, were routed through public lands wherever possible. This would impact the fewest roads, avoid settled areas, and reduce exposure of nearby residents to dangerous explosions. Furthermore, governmental agencies such as the Army Corps of Engineers, National Park Service, and US Forest Service have the necessary authority, expertise and resources to better insure that the construction is undertaken in an environmentally responsible manner. This is supported by an examination of the Forest Service's negotiations with MVP, which grants them conditions (such as higher grade, heavy duty pipe and better conservation of topsoil) that as a private landowner I have been unable to obtain. It is for these reasons that I urge FERC to order Mountain Valley to propose a route that makes MAXIMUM use of public and governmental lands for their proposed pipeline. I remain opposed to the Mountain Valley Pipeline regardless of route, but if it absolutely cannot be denied, it should take as little private land as possible.

Respectfully submitted,

Vicki Pierson

IND735-1 Section 3 of the EIS compares an alternative route through the Burnsville WMA with the proposed route across private lands. See the response to comment IND1-3 regarding eminent domain. See the response to comment IND288-3 regarding road repairs. See the response to comment IND70-1 regarding erosion. See the response to comment IND2-1 regarding safety.



20161221-0039 FERC PDF (Unofficial) 12/20/2016

Date: 12/19/16

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, DC 20426

Re: Draft Environmental Impact Statement, Docket No. CP16-10-000 & CP16-13-000

ORIGINAL

Dear Secretary Bose,

I am commenting on Section 4.3.3, 4.9, 4.12, 4.6, 4.1, 4.3.2, 4.3.1.1 of the Draft Environmental Impact Statement (EIS) for the proposed Mountain Valley Pipeline, Docket No. CP16-10-000 and Equitrans Expansion Project, Docket No. CP16-13-000.

IND 736-1 4.3.3 Wetland Crossings: The DEIS claims there is no net loss of wetlands, but then states the MVP has not supplied information regarding their proposal regarding ~~how they propose to~~ PERMANENTLY FILL 44 WETLANDS along access roads. Permanent filling of 44 wetlands is significant. A supplemental EIS must be issued when MVP provides information to the FERC.

IND 736-2 4.9.: 4.9.1.3 → there are not enough public services for the numbers of workers coming potentially coming to the area. 4.9.1.4 → The pipeline construction will have an adverse affect on tourism, which is the one reliable economic resource of the area.

IND 736-3 4.9.1.5 - the size & quality of roads are not adequate for machinery & trucks.

IND 736-4 4.9.1.6 - property values will go down & insurance rates will go up.

IND 736-5 4.12. - Pipeline accidents seem inevitable eventually. There are not the resources to handle the potential impacts of an explosion. Pipelines are not safe or reliable.

IND 736-6 4.6 - Fisheries & Aquatic resources The DEIS does not adequately assess impacts of construction on aquatic life. MVP has not submitted results of their analysis on sedimentation or turbidity from wet crossing methods. FERC can not draw conclusions regarding the effects of construction on aquatic life.

IND 736-7 4.1 - Geology The DEIS identifies 94 karst features to be crossed by the MVP. Karst is especially vulnerable to blasting & disruption. Results of a study to determine the impacted interconnection between karst & water resources has not been completed. FERC must issue a supplemental EIS with the final route & study results

IND 736-8 4.3.2 DEIS states MVP plans to cross Elk, Gauley & Greenbrier Rivers using open cut wet crossings, which will use no water diversion & is extremely invasive. FERC must require additional analyses of crossing methods to reduce impact

4.3.1.1. Drinking water. All water wells, domestic & private drinking water sources must be identified in a supplemental EIS

IND 736-9 I request that the issues listed above be fully addressed in the Final EIS. If these issues are not addressed in the Final EIS, then I request that FERC chose the No Action Alternative.

Sincerely,

Name: Ruth Murphy

Address: 111 Court St South

City & State: Lewisburg, WV.

Zip Code: 24901

FILED
SECRETARY OF THE COMMISSION
2016 DEC 20 P 4:35
FEDERAL ENERGY REGULATORY COMMISSION

IND736-1 See the response to comment IND209-1 regarding the permanent fill of wetlands.

IND736-2 As stated in section 4.9.2.3 of the EIS, the communities in the project area have adequate infrastructure to meet the potential needs of non-local workers who relocate temporarily. Community services would be supported by additional tax revenues generated by the project. We conclude that the MVP would not have significant adverse impacts on public services.

IND736-3 As stated in section 4.9.2.5 of the EIS, operation of the MVP would not result in significant impacts on tourist attractions, as the pipeline would be installed underground. Further, the pipeline would be collocated with existing rights-of-way for 29 percent of the route.

IND736-4 See the response to comment IND288-3 regarding road repairs.

IND736-5 See the response to comment IND12-1 and 12-2 regarding property values and insurance.

IND736-6 See the response to comment IND2-1 regarding safety.

IND736-7 A revised discussion of sedimentation and turbidity can be found in sections 4.3 and 4.6 of the final EIS and in the response to comment FA11-15. Since Mountain Valley would cross all waterbodies using dry techniques, there would be a low potential for downstream sedimentation and turbidity.

IND736-8 Section 4.1 of the final EIS has been revised to provide additional details regarding karst features in the project area.

IND736-9 See the response to comment FA11-15 regarding waterbody crossings. See the response to comment IND3-1 regarding drinking water.

Date: 12/18/16

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, DC 20426

Re: Draft Environmental Impact Statement, Docket No. CP16-10-000 & CP16-13-000

ORIGINAL

IND 737-1

Dear Secretary Bose,

I am commenting on Section 4.3.2, 4.3.3, 4.3.1.1, 4.6, 4.1, 4.2 of the Draft Environmental Impact Statement (EIS) for the proposed Mountain Valley Pipeline, Docket No. CP16-10-000 and Equitrans Expansion Project, Docket No. CP16-13-000.

I would really like to see more environmental impact studies done on every section of the proposed project. The missing facts of environmental impact are essential.

I request that the issues listed above be fully addressed in the Final EIS. If these issues are not addressed in the Final EIS, then I request that FERC chose the No Action Alternative.

Sincerely,

Name: Anne Canterbury
Address: 29276 Seneca Trail North
City & State: Renick, W.Va
Zip Code: 24966

IND737-1 We relied on many studies to support the final EIS.

C716-10

ORIGINAL

FILED
SECRETARY OF THE

12/16/16

2016 DEC 20 P 4:58

RECEIVED

To: Kimberly Bose

IND 738-1 Mtn Valley Pipeline is Proposing to Build a 42" pipeline thru our property on Iron Ridge Road Rocky Mount VA 24151 Tract #0440006500 and Tract #0440006400. The Surveyers promised to pay for Damages and have never done so Months later. I am sending News Paper articles on artifacts found where this pipeline is suppossed to be crossing. These artiofacts date back thousands of years

IND 738-2 This pipeline will cross our streams in Franklin Co 144 times causing major ecological damage here and in Smith Mtn lake that can never be repaired. It will destroy our Honey bee apiary that has been here for 56 years.

IND 738-3 And since when can a private company claim eminent domain for private gain?

Dale E. Angle

Dale E. Angle

IND738-1 See the response to comment IND28-3 regarding financial responsibility. Archaeological surveys on land owned by Dale Angle recorded four sites (44FR398, 399, 400, and 404) all evaluated as not eligible for the NRHP.

IND738-2 The EIS provides a discussion of waterbody crossings in section 4.3. We encourage the landowner to work with Mountain Valley to avoid impacts to the apiary.

IND738-3 See the response to comment IND1-3 regarding eminent domain.

SOS—Save Our Springs
RE: Mountain Valley Pipeline—Docket No. CP16-10-000
Comment:

IND 739-1

MVP DEIS 4.6

We need to know how sedimentation & turbidity from wet crossing methods will impact aquatic life. MVP needs to submit their projections so you can assess them.

Thank you.

Name: Betty Schwimmer
email: PO Box 1087
Address: Lewisburg, WV 24901

IND739-1 A revised discussion of sedimentation and turbidity can be found in sections 4.3 and 4.6 of the final EIS and in the response to comment FA11-15. Since Mountain Valley would cross all waterbodies using dry techniques, there would be a low potential for downstream sedimentation and turbidity.

INDIVIDUALS

IND740 – Laura Robinson

December 21, 2016

RE: Docket #CP16-10-000 (Mountain Valley Pipeline)

IND 740-1 Please do not allow the Mountain Valley pipeline to be permitted.

I am a member of the New River Valley Mushroom Club and New River Master Naturalist. The fungi in this area requires old forest and layers of undisturbed soil. As you know, fungi is an important decomposer and converts waste into helpful nutrients for plants, animals, and us. Pipelines and urban sprawl is reducing this, as well as disrupting the network of mycelium that can extend for miles.

IND 740-2 Additionally, I am sure you are already aware of the other impacts that this pipeline would cause:

- Loss of revenue due to reduced appeal of the Jefferson National Forest and its hiking areas.
- Multiple Forest Management Plans would have to be re-worked, costing money for revision of these plans.
- Loss of future revenue due to the lack of tourist-attraction developments, reduced outdoor-related activities, and decline in academic research for old growth forest in these areas.
- Long-term cost of the maintenance on the pipeline to prevent environmental hazards, especially in regards to water and soil quality.

Thank you for considering the long-term impact of this project.

Many thanks,

Laura Robinson
4584 Riverside Drive
Blacksburg, Virginia 24060

IND740-1 Section 4.4 of the final EIS has been revised to include a discussion of impacts on fungi.

IND740-2 See the response to comment FA11-8 regarding the LRMP for the Jefferson National Forest. Tourism is addressed in section 4.9 of the EIS. Maintenance of the pipeline would be the responsibility of the Applicants

INDIVIDUALS

IND741 – Laura Robinson

19 Dec 2016

SOS—Save Our Springs

RE: Mountain Valley Pipeline—Docket No. CP16-10-000

Comment:

IND 741-1

Dear Secretary Bose

I am commenting on Section 4.3.2, 4.3.3, 4.3.1 4.6, 4.1, 4.2. I am concerned that the MVP plans to destroy & fill in 44 wetlands when built. Please provide the necessary study for all these fills. Additional EIS should be required to determine impact of these fills. Aquatic Environment and the other sections also require Additional EIS.

Name: Jeff Kessler

email: jeff@Jeffbreaks.com

Address: PO Box 1622 Lewisburg WV 24901

IND741-1 See the response to comment IND209-1 regarding the permanent fill of wetlands.

SOS—Save Our Springs
RE: Mountain Valley Pipeline—Docket No. CP16-10-000
Comment:

IND 742-1

DEIS 4.2

A supplemental EIS is needed to deal with the 78% of the route prone to landslides. We need to see route adjustments, more info on the 78% areas & more BMPs to mitigate landslide hazards.

Thank you.

Name: Betty Schwimmer
email: Shoshanna.OK@gmail.com
Address: POB 1087, Lewisburg, WV 24901

IND742-1 See the response to IND177-1 regarding landslides and Mountain Valley's revised *Landslide Mitigation Plan*. Instead of a supplemental document, this final EIS addresses comments on the draft.

IND 743-1

SOS—Save Our Springs

RE: Mountain Valley Pipeline—Docket No. CP16-10-000

Comment: 4.2 - SOILS

The ~~DEIS~~ DEIS states that 78% of the pipeline route is HIGHLY susceptible to landslides. As well illustrated by the devastating floods which occurred last June - which caused loss of ~~the~~ human life & loss of homes - this is completely unacceptable.

A supplemental EIS is critical in evaluating the potentially dangerous consequences of landslides.

Name: Ruth Murphy

email: ruthowmurphy@gmail.com

Address: 111 Court Street South
Lewisburg, WV. 24901

IND743-1 See the response to IND177-1 regarding landslides and Mountain Valley's revised *Landslide Mitigation Plan*. A revised discussion of flash flooding is provided in section 4.3.2 of the final EIS.

INDIVIDUALS

IND744 – Betty Schwimmer

SOS—Save Our Springs

RE: Mountain Valley Pipeline—Docket No. CP16-10-000

Comment:

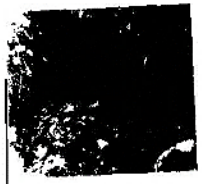
IND 744-1

I want to protest the MVP. Your DEIS, in 4.3.2., says it would cross the Elk, Gauley, & Greenbrier Rivers with the open-cut wet crossing. Horrific news for our precious rivers! There are better ways. Reduce the construction area to a minimum. Thank you,

Name: Betty Schwimmer
email: Shoshanna09@gmail.com
Address: POB 1087, Lewisburg, WV 24901

IND744-1 See the response to comment FA11-15 regarding waterbody crossings.

IND 745-1



SOS—Save Our Springs

RE: Mountain Valley Pipeline—Docket No. CP16-10-000

Comment:

DEIS 4.1 identifies 94 karst features—caves—to be affected. This is horrific!

We need to see a Supplemental EIS with final route variations. A study on the connection between completed karst & water resources. Thank you.

Name: Betty Schwimmer

email: Sheshanna09@gmail.com

Address: POB 1087, Lewisburg, WV 24901

IND745-1 Section 4.1 of the EIS has been revised to provide additional details regarding karst features in the project area. Water resources are discussed in section 4.3 of the EIS. Instead of a supplemental document, this final EIS addresses comments on the draft. This final EIS also addresses minor route modifications adopted by Mountain Valley into its proposed route after the draft EIS was issued.

SOS—Save Our Springs

RE: Mountain Valley Pipeline—Docket No. CP16-10-000

Comment:

IND 746-1

MVP [redacted] Wetland Crossings 4,3,3

Filling 44 wetlands along access roads? This would have significant impact! We need to see a supplemental EIS where MVP describes how filling 44 wetlands does not mean net loss of wetlands. What a ridiculous piece of double talk!

Name: Betty Schwimmer

email: Shoshanna09@gmail.com

Address: POB 1087, Lewisburg, WV 24901

IND746-1 See the response to comment IND209-1 regarding the permanent fill of wetlands.

IND 747-1

SOS—Save Our Springs

RE: Mountain Valley Pipeline—Docket No. CP16-10-000

Comment:

Drinking Water Resources, 4.3.1.1 in the DEIS for the MVP.

A supplemental EIS is needed to identify private & domestic drinking water wells within the route, to know the impact of blasting on them. Thank you.

Name: Betty Schwimmer

email: Shoshanna09@gmail.com

Address: PO Box 1087, Lewisburg, WV 24901

IND747-1 See the response to comment LA15-14 regarding water wells and blasting. Instead of a supplemental document, this final EIS addresses comments on the draft.

INDIVIDUALS

IND748 – Barbara N. Duerk

20161221-5412 FERC PDF (Unofficial) 12/21/2016 4:50:03 PM

Barbara N. Duerk, Roanoke, VA.

IND 748-1

Make gas accessible to the region. Low fuel cost is a valid reason businesses locate in an area.

When possible, use existing right of ways owned by other utilities.

The pipeline can be a win-win economic development project. I the pipeline CAN, and SHOULD, be an economic engine for our region. Benton McKaye was a visionary who saw people living leaving the countryside and moving to the city. This pipeline can be a provided a shared use path/corridor for walkers and bicyclists and cityfolk a non motorized access to the countryside, the U.S. forest and our National Parks.

I am a bicyclist. The economic impact of investments in bicycle facilities is substantiated. Shared use paths, like the New River Trail, is an economic engine for Southwest Virginia. Using the I know that this gas line can be located adjacent to a multiuse trail because I use the Roanoke Valley Greenway system. There are already multiple pipelines beside the Roanoke Valley Greenway. People are not frantic about these infrastructure projects located in urban rivers and adjacent to the river.

The cost/benefit ratio improves drastically when a multiuse corridor is included in the construction of the pipeline.

Add a multiuse trail to the pipeline project. Use existing right of ways. Use other utility corridors. Elevate the pipeline in mountainous, cavernous area. This would allow a "bridge" for walkers and bicyclist across large ravines. Viewshed disruption would be minimal because the project would blend into the landscape under the powerlines.

This pressurized gas line is no more a threat than the roads built to carry traffic. This is an infrastructure project that will benefit the public good.

Barbara N. Duerk
2607 Rosalind Ave., S.W.
Roanoke, VA 24014

IND748-1 Comments noted.

INDIVIDUALS

IND749 – Matthew Shattuck

20161221-0082 FERC PDF (Unofficial) 12/21/2016

Date: Dec, 8, 2016

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, DC 20426

ORIGINAL

FILED
SECRETARY OF THE
COMMISSION
2016 DEC 21 P 2:34
FEDERAL ENERGY
REGULATORY COMMISSION

Re: Draft Environmental Impact Statement, Docket No. CP16-10-000 & CP16-13-000

Dear Secretary Bose,

IND 749-1 I am commenting on Section DEIS 4.2 of the Draft Environmental Impact Statement (EIS) for the proposed Mountain Valley Pipeline, Docket No. CP16-10-000 and Equitrans Expansion Project, Docket No. CP16-13-000.

Due to the environmental impact of even constructing the pipeline's sites and then the future repercussions to the integrity of hill sides and paths, I find it hard to believe it's being considered without properly and fully considering all possibilities. The impact of soil structure and composition could cause issues that would bleed into the concerns mentioned in other sections.

Drinking water is effected by sedimentation that is released into water supplies sources, not to mention the possibility of leaks that can occur.

IND 749-2 The Geology of the area is so vastly littered with cave systems, the landslides now could greatly change ecosystems. These systems can be incredibly altered by apparently inconsiderate changes.

I request that the issues listed above be fully addressed in the Final EIS. If these issues are not addressed in the Final EIS, then I request that FERC chose the No Action Alternative.

Sincerely,

Name: Matthew Shattuck
Address: 721 Herns Mill Rd
City & State: Lewisburg, WV
Zip Code: 24901

IND749-1 See the response to comment IND3-1 regarding drinking water. Caves and landslides are addressed in section 4.1 of the EIS.

INDIVIDUALS
IND750 – Susan Molesky

20161222-5001 FERC PDF (Unofficial) 12/21/2016 5:02:13 PM

Susan Molesky, Newport, VA.
OEP/DG2E/Gas 3
Mountain Valley Pipeline LLC Docket No. CP16-10-000

Dear Sirs and Madams,

IND 750-1

I am a property owner in the Newport Historic District of Giles Count Virginia. I strongly oppose the proposed Mountain Valley Pipeline route through this community. I chose to purchase property here because of the historic designation protecting the Newport Historic District and the Greater Newport Rural Historic District. Property owners are restricted in the amount and type of building and development in this designated historic district which protects the rural and bucolic lifestyle and landscape. It is unthinkable that a corporate pipeline can then come in and devastate and destroy it.

The pipeline will destroy the Newport Historic District and the Greater Newport Rural Historic District, the Washington and Jefferson National Forests, the Appalachian Trail, especially the iconic Wind Rock, and the community of Newport in Giles County and the neighboring community of Preston Forest in Montgomery County.

A less destructive route appears to be to remove the proposed dogleg through Giles County, which would provide a straighter line between the proposed Stanford Compressor Station and the Roanoke connection. This more northerly route would cut through less populated areas than Giles and Montgomery Counties.

Please reroute the pipeline more northerly, avoiding Giles County and the Greater Newport Historic District. A more northerly route would impact far fewer people and homes than the current proposed route.

Sincerely,

Susan Molesky

IND750-1 The Newport Historic District and Greater Newport Rural Historic District are discussed in section 4.10 of the EIS. The ANST and Jefferson National Forest are discussed in section 4.8.

INDIVIDUALS
IND751 – Sean Bishop

20161222-5003 FERC PDF (Unofficial) 12/21/2016 5:16:34 PM

Sean Bishop, San Diego, CA.
To whom it may concern:

IND 751-1

I am writing to express my outrage that this project would even be considered.

It is unacceptable that a swath of previously protected forest would be cleared in order to accommodate the proposed pipeline.

The project itself is folly: expanding fossil fuel use at a time when climate change threatens the security of all Americans. U.S. energy policy should instead be concentrating on expanding renewable energy resources to the greatest extent possible; not investing more money in fossil fuels (at the expense of protected forest land).

I strongly urge you to cease all further planning and consideration for the proposed Mountain Valley Pipeline.

Respectfully,

Sean Bishop

IND751-1 Climate change is addressed in section 4.13 of the EIS. Renewable energy alternatives are discussed in section 3 of the EIS. See also the response to comment IND40-1 regarding renewable energy.

Stephen Legge, Newport, VA.
BEFORE THE UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Mountain Valley Pipeline, Inc.
Docket No. CP16-10-000
Mountain Valley Pipeline

Stephen D. Legge, et al (hereinafter referred to as "the landowners"), owns property and buildings in Giles County, Virginia through which the proposed Mountain Valley Pipeline wishes to obtain easements, right-of-ways and other such effects. The property has been surveyed and staked, with significant and fundamentally essential portions of the property and righ-of-ways subject to condemnation and loss if the application is approved and a certificate is granted.

Pursuant to Commission Rules 385.214(b) and 157.10, the landowners move to submit comments in the above captioned proceeding. These comments are timely filed.

I. CONTACT INFORMATION

All pleadings, filings and correspondence in this proceeding should be served on the following:

Stephen D. Legge
P.O. Box 291
Newport, VA 24128
Email: hilldweller73@yahoo.com

II. MOTION TO DENY CERTIFICATE

IND 752-1 The landowners move to respectfully urge the FERC, the US Forest Service, US Army Corps of Engineers, Bureau of Land Management and all other applicable federal agencies to expeditiously and with all possible dispatch, take action so as to DENY granting the Mountain Valley Pipeline certificate and application.

The DEIS and other such official filings submitted to the FERC by the Mountain Valley Pipeline have been woefully inadequate in their research, analysis, findings, documentation and overall veracity such that this alone should result in the application and certificate denial.

Below are a few significant examples that have still, to this date, not been addressed by the Mountain Valley Pipeline:

IND752-1 See the response to comment FA11-2 and LA5-1 regarding preparation of the EIS. See the response to comment IND3-1 regarding drinking water.

20161222-5004 FERC PDF (Unofficial) 12/21/2016 5:34:19 PM

IND 752-1 cont'd

1. On the proposed path of the pipeline and access roads depicted in the documents submitted to the Commission by Mountain Valley Pipeline, there are several long-standing, long-established mountain springs and streams producing a significant volume of fresh, clean, potable water, some of which is the source of the water supply for the home on the landowners property. The landowners fear that the pipeline may negatively impact the quality, flow, accessibility and availability of water on the property, resulting in significant losses for both current and future intended uses, in perpetuity.

IND 752-2

2. The landowners property has historical buildings listed and registered on the Greater Newport Rural Historic District of The National Register of Historic Places, including the one room schoolhouse known as Chesnut Grove School, a federally protected school building established over 100 years ago, lying within the path of the pipeline and its related access roads. The landowners fear that the construction of the pipeline and its myriad of access roads may result in damage to this old school building and thereby negatively impact the cultural heritage of the community, in perpetuity.

IND 752-3

3. The path of the pipeline and its myriad of related access roads are slated for portions of the property that are prime sites for economic and business development opportunities under consideration and planning by the landowners, including subdivision, agriculture, forestry and other such opportunities as seen fit by the landowners. The landowners fear that the pipeline may adversely and negatively affect the economic and business development opportunities, in perpetuity.

IND 752-4

4. Property value and liquidity have already been adversely and negatively impacted, even by the mere speculation and application process surrounding the pipeline process. If the certificate is granted, the landowners will likely suffer extreme hardship related to financial losses of their investment and current and future revenue generation, in perpetuity.

IND 752-5

5. Disturbances of the trees, understory, and soils along the side of the pipeline route and the related access roads may result in a reduction of future timber growth and subsequent harvests. The same pipeline activities may result in loss of rock, stone and minerals contained on the property.

IND 752-6

6. The Mountain Valley Pipeline company has submitted a contractual offer to the landowners that is entirely one-sided and does not even begin to consider or describe, much less address any of the concerns, impacts, liabilities, costs, burdens and suffering that would be forced upon the landowners as a result of the Mountain Valley Pipeline's actions. In a situation like this, where the granting of the application and issuance of the certificate would presumedly result in the Mountain Valley Pipeline being granted eminent domain rights from the federal government, the Mountain Valley Pipeline must be both held fully accountable and responsible for all impact as well as be required to go the extra mile and provide just compensation, all to the landowners satisfaction. It is important to note that the approval of this application and granting of

IND752-2 The Chestnut Grove School is discussed in section 4.10 of the EIS.

IND752-3 Comments noted. We encourage landowners to share these prospective businesses with the Applicants.

IND752-4 See the response to comment IND12-1 regarding property values.

IND752-5 Based on our experience with restoration and revegetation, tree regrowth is typically vigorous in the restored temporary workspaces; although it takes some time for trees to mature. Mountain Valley would restore the right-of-way to be similar to adjacent, non-disturbed areas, including density of rock.

IND752-6 As stated in the EIS, the FERC urges Mountain Valley to enter into good faith negotiations with landowners to reach mutual agreements for easements. If an agreement is not possible, and if the Commission authorizes the project, the company can use eminent domain, as allowed by the U.S. Congress. In such a case, a court would decide compensation.

IND 752-6 cont'd

this certificate cannot be allowed to burden the landowners with loss and all the while allowing the pipeline company eminent domain.

The landowners respectfully request that as a result of the United States Federal Energy Regulatory Commission (FERC) lack of success in requiring the applicant, Mountain Valley Pipeline, to adequately and fully address each of the above concerns in a timely manner, the Mountain Valley Pipeline application and certificate must be declined.

Respectfully submitted,

Stephen D. Legge
P.O. Box 291
Newport, VA 24128
hilldweller73@yahoo.com

December 21, 2016

INDIVIDUALS
IND753 – Perry Martin

20161222-5006 FERC PDF (Unofficial) 12/21/2016 5:36:59 PM

Perry Martin, Newport, VA.
Alternative Routes CP16-10-000

IND 753-1 | In response to the DEI of CP16-10-000, I am opposed to the route of the Mountain Valley Pipeline through Newport, Virginia in Giles County. The route as presented goes dead-center through the heart of the Greater Newport Rural Historic District and will adversely impact the future of this community. As those planning the Mountain Valley Pipeline have indicated a desire to avoid sensitive areas where feasible, there is no way that the current route through Newport can be considered a route that has minimal impact and this concern raised by many needs to be addressed by the Federal Energy Regulatory Commission

The distances of the pipeline to major community venues presented in the DEI is inaccurate and incomplete. This route places Newport-Mt. Olivet United Methodist Church in the blast zone, impacts private homes, and will likely have detrimental impacts to wells and springs in the area utilized by scores of families. The visual impact on this community is significant and future streetscaping efforts and utility improvements in the former downtown area of this community would be adversely impacted.

IND 753-2 | I am a lifelong resident of Newport, I am concerned that communication from those involved with the Mountain Valley Pipeline has been laden with inaccuracies and mixed messages to community members. Many local governments in southwest Virginia have raised concerns that those involved with the MVP project have not considered the significant adverse impacts on water supplies and the regional economy and environment. We look to FERC to ensure that this project does not overshadow the primary assets of our community. In the case of Newport, Virginia this pipeline would impact travelers to our historic covered bridges, the Cascades waterfall, the Appalachian Trail and Mountain Lake Lodge, all of which are major regional tourist attractions. The fact that local artists have painted scenes from where this corridor would traverse Newport further highlights the routes impact on scenic vistas unique to the Newport community.

IND 753-3 | The original proposed route for this project traversed western areas of Giles County and was not met with the level of resistance as this current route. I would suggest that a route that utilized corridors once used by the former Appalachian Power Plant in Glen Lyn, Virginia would offer less of an impact and would still put the route headed towards destinations in Roanoke and beyond if that is the desired result.

IND 753-4 | I question the need for this pipeline and I am challenged by a process that has been rushed and unfair to land owners who have been caught off guard by this project. The modifications to routes have suddenly placed some landowners squarely in the path of this route and have left them with limited voice in the process. Three minutes of comment is not much time to explain why your home should be spared.

IND 753-5 | I believe that the proposed path of Mountain Valley Pipeline have been adjusted based on perceptions of income, education, and influence among

IND753-1 The Greater Newport Rural Historic District is discussed in section 4.10 of the EIS. In the final EIS we revised distances between contributing elements in the Historic District and the October 2016 proposed pipeline route. See the response to comment IND3-1 regarding drinking water.

IND753-2 Tourism is discussed in section 4.9 of the EIS. As provided in table 4.9.1-5 in the draft EIS, Cascades Falls and Mountain Lake Park and Resort are more than 2 miles from the MVP. As stated in section 4.10 of the final EIS, the FERC staff would consult with the VADHR to determine project effects on Historic Districts, including visual impacts on rural historic landscapes.

IND753-3 See the response to comment IND750.

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IND753-4 See the response to comment FA11-12 regarding need. See the response to comment LA2-1 regarding the draft EIS comment sessions.

IND753-5 The route of a pipeline can change for a number of reasons including constructability, avoidance of sensitive wetland, waterbody, and/or cultural features, and landowner agreements.

IND 753-5 cont'd

certain neighborhoods and individuals. One local field operative on the MVP project told a resident that a pipeline path in another area where he had worked had been moved because the people "knew someone". In my view this gerrymandering of the route leads to significant questions on whether civil rights of some in this path have been violated. We need FERC ensure that this doesn't happen.

IND 753-6

Above all else, the routing of this line through Newport is unacceptable and discounts previous federal reviews that found the Newport community to be a district that is unique in its cultural qualities. These cultural assets need to be protected and our designation as a Rural Historic District nearly two decades before this project was proposed should be a major consideration in this process. The DEI assessment of minimal impact on Newport is wrong.

Newport is a vibrant community that has worked hard to build from the grassroots up. Undoubtedly the MVP project with hurt the community in a way that is inequitable when compared to other options. I urge FERC to direct MVP to consider alternative routes that avoid the Newport community in Giles County, Virginia.

I do not want the Mountain Valley Pipeline in any part of Newport, Virginia.

IND753-6 Comments noted.

INDIVIDUALS
IND754 – Guy Werner III

20161222-5011 FERC PDF (Unofficial) 12/21/2016 6:46:52 PM

Guy Werner III, Harpers Ferry, WV.
Federal Energy Regulatory Commission
Kimberly D. Bose, Secretary
888 First St. N.E. Room 1A
Washington, DC 20426

RE: Docket #CP16-10-000 (Mountain Valley Pipeline)

Ms. Bose,

IND 754-1 I live in Harpers Ferry, WV. Our little town is at the midway-point of the Appalachian Trail, and we get lots of visitors who stop and recharge as they hike along one of the most beautiful trails in the world. The AT has a way of positively affecting all the areas along which it runs, reminding us of simpler things and better ways of living. The Mountain Valley Pipeline will be detrimental to this very important cultural and environmental asset. To put this dangerous pipeline along the route, and especially to bisect the Appalachian Trail, would be tantamount to a complete destruction of the sanctity of the trail's character and the trust that the people of this country place in the hands of government institutions like the US Forestry service. I implore you not to allow the Mountain Valley Pipeline to render such damage.

IND 754-2 - The pipeline will ruin views. If money is all that is cared about by some actors involved, then please remember this will adversely affect the tourism dollars headed to areas like my hometown.

IND 754-3 - The pipeline WILL ruin water sources it would pass over. This isn't a hypothetical. They all do eventually. There are regions of seismic instability along the proposed route. To build upon these regions something as volatile as a pipeline is obviously folly.

IND 754-4 - In order to accommodate the visual and environmental damage that would be caused by the Mountain Valley Pipeline, the U.S. Forest Service agreed to lower the Jefferson National Forest Management Plan standards for water quality, visual impacts, the removal of old-growth forest, and the number of simultaneous projects passing through the borders of federally protected land. This unprecedented change is extremely reckless, as it would open the gates for future infrastructure projects to cause similar destruction.

IND 754-5 - Fossil fuels are bad for the environment. They are bad for people's health. They are bad for sustainable business models we need to build now in order to provide for our children. Yet here we are, debating investing in the wrong technologies and further entrenching us in systems we are supposed to be getting away from, all so a small handful of people can make money. People such as myself will be there in the future, pointing at those responsible.

IND 754-6 I urge FERC to protect the Appalachian Trail and its surrounding landscape and communities. Please evaluate the comprehensive need for

IND754-1 The commentor's statements regarding the ANST are noted. The ANST would be crossed by a bore. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS.

IND754-2 Visual impacts are addressed in section 4.8 of the EIS. Tourism is discussed in section 4.9 of the EIS.

IND754-3 Seismic activity was analyzed in section 4.1 of the EIS. See the response to comment IND3-1 regarding drinking water.

IND754-4 See the response to comments FA8-1 and FA10-1 regarding the LRMP for the Jefferson National Forest.

IND754-5 Comments noted.

IND754-6 See the response to comment FA11-12 regarding need. The reasons the FERC did not prepare a programmatic NEPA document are explained in section 1.3 of the EIS.

IND 754-6 cont'd

pipeline development to transport natural gas from the same Marcellus shale plays in a single Programmatic Environmental Impact Statement so that this infrastructure can be appropriately sited and the cumulative impacts to our National Parks, National Forests, and private lands can be understood before moving forward. It is FERC's responsibility to do the right thing – the alternative will be a turning point for the worse in an area that offers recreation and inspiration for millions of people.

Sincerely,
Guy Werner
34 Taylor Ct.
Harpers Ferry, WV
410-961-7082

Christopher Loomis, Greenville, SC.

IND 755-1 I am writing in regards to the proposed Mountain Valley pipeline route. As it stands, the pipeline traverses both the Gauley and Meadow River. This is a dangerous proposal that threatens not only the aesthetics of a National Recreation Area, but poses severe environmental hazards and potential loss of much needed economic benefit.

As one of the thousands of whitewater paddlers that descend upon the Gauley River area every year, I contribute to the over $100,000 that is spent in Nicholas County every September by whitewater paddlers. And this figure does not even factor in the commercial money brought in by professional river outfitters in the area. I would hate to have to spend my money elsewhere because the pipeline has negatively affected the Gauley and Meadow River experience.

IND 755-2 Additionally, I would hate to learn that the pipeline would fail (as 30 did in North America this year alone) and toxic compounds would enter what is universally regarded as one of the more pristine waterways in West Virginia. The environmental and economic consequences of the proposed pipeline make it too dangerous to consider traversing the Gauley and Meadow Rivers, and I hope that you will find it prudent to reroute it elsewhere.

Respectfully,

Chris Loomis

IND755-1 Section 4.8 of the final EIS has been revised to include a discussion of impacts and mitigation to recreation on the Gauley River.

IND755-2 See the response to comment IND92-1 regarding leaks. See the response to comment IND2-1 regarding safety.

INDIVIDUALS

IND756 – Blaine M. Bittinger

20161222-5014 FERC PDF (Unofficial) 12/21/2016 7:51:35 PM

Blaine M. Bittinger, Bent Mountain, VA.

IND 756-1 I am contacting you to express my strong opposition to the proposed Mountain Valley Pipeline route through Virginia. I am a resident of Bent Mountain, Va. and am very familiar with the Blue Ridge Mountains. The following highlights my objections to the route.

1. The beauty of the mountains will be severely scared and degraded. Cutting thru the Jefferson National Forrest, mountain sides and rural farm land, the cost of the pipeline is very real. Tourism is one of the major industries of the Blue Ridge region. Outdoor recreation is king. I suggest the economic benefit our region receives from these activities by far exceeds any benefits the MVP may create and in fact the MVP will suppress our tourist industry. Although I am sure they can provide studies to the contrary, common sense dictates otherwise.

IND 756-2 2.Community-In the Bent Mountain community, as I believe in all mountain communities along the path of the pipeline, there is a tight cohesiveness in our opposition to the planned route. Local governments express the same sentiments. When community after community are objecting to the pipeline route I hope our government will stand up and take notice, that it will represent the people it is designed to serve. That responsibility rests with you. Let me point out that the West Virginia Supreme Court upheld a lower court's ruling that the MVP did not represent a public benefit and thus does not fall under Eminent Domain laws.

IND 756-3 3. Terrain-The mountain side slopes are prohibitively steep along the proposed path. Any attempt to move equipment in this topography would be an engineering nightmare, and once accomplished the devastation to the landscape would be unimaginable. With the ever growing number of proposed pipelines, would it not make more sense to plan for a pipeline corridor through thought out terrain and populations.

IND 756-4 4.Wells and water-Our water table is high and our wells are shallow. Construction of the pipeline will require blasting, lots of blasting. Think of what this will do to our wells. Who will be liable? The wetlands and the streams that feed the water supply down the mountain will be at risk. MVP might offer reassurances but even the local governments whose jurisdictions will be impacted are dubious of such claims.

In conclusion, this is a bad, poorly chosen route. Considering the impact to communities, the environment, the water supply, much more thought needs to go into choosing a route. Please consider this carefully.

Respectfully

Michael Bittinger

IND756-1 We conclude that with mitigation, the project is not likely to have significant impacts on most environmental resources (except forest). The right-of-way would be restored and revegetated following construction (see section 2.4.2 of the EIS). Tourism is addressed in section 4.9 of the EIS.

IND756-2 The commentor's statements are noted. See the response to comment IND1-3 regarding eminent domain.

IND756-3 Steep slopes are discussed in section 4.1 of the EIS.

IND756-4 See the response to comment CO14-1 regarding blasting. See the response to comment IND3-1 regarding drinking water.

INDIVIDUALS

IND757 – Karen Kovick

20161222-5016 FERC PDF (Unofficial) 12/21/2016 8:09:12 PM

Karen Kovick, Floyd, VA.

IND 757-1 The DEIS must be revised to include analysis of impacts and the ability of the applicant to avoid or mitigate resource damages in what the Forest Service has designated High Hazard areas. The combined risks of high landslide potentials, highly erodible soils, very steep slopes, sensitive species and habitats, and other factors calls into question whether the MVP can be built at all in a way that protects public resources. No concern for private landowners is being shown. Their rights should be considered over profit motivations of EQT Midstream Partners, LP; NextEra US Gas Assets, LLC; Con Edison Gas Midstream, LLC ; WGL Midstream; and RGC Midstream, LLC.

IND757-1 See the response to comment IND681-3 regarding high hazard areas. The EIS provides a discussion of landslides and steep slopes in section 4.1 and soils in section 4.2.

Anita Bevins, Newport, VA.

IND 758-1 My family and I chose to live in the historic community of Newport, Virginia for many reasons. By far, the most important to our lives is the untouched beauty of the mountains, forests, waterfalls and creeks. We chose to live in the heart of Appalachia as she had many stories and history to share. In today's society of social media, peer pressure and media barrage, the single most important escape to gain our sanity is in the woods. Having a safe haven and time for an uninterrupted conversation with our teenagers is in the quiet sanctuary of this forest. The Jefferson National Forest has become our home away from home and the trails and quiet memories hold us firm when we are otherwise being jostled by life's storms. Acres of reflective space have been preserved for the single reason has having a natural, undisturbed space that allows families to hike, talk and grow together. The rapidly increasing natural tourism industry in our old growth forests speak to new economic opportunities that do not require ripping a scar through our breathtaking mountains. Growing and expanding natural tourism through Giles County must be the future of our National Forest. Sustainable, long term growth for our region must be the primary consideration instead of allowing a company to bully our community into sacrificing public space for short term profits. Our family and community implore you to consider the devastating economic and environmental impact of the proposed MVP pipeline and respectfully ask that life, liberty and the pursuit of happiness for our community continue in these woods. Fracked gas will one day be tapped out--I beg that my grandchildren, great grandchildren and all future generations have the gift of Jefferson National Forest as a safe place to confide, explore and grow into adults who respect nature, find solace in its quiet majesty and become advocates for sustainable solutions—and most importantly, the GREATEST good.

IND758-1 We conclude that with mitigation, the project is not likely to have significant impacts on most environmental resources (except forest). The right-of-way would be restored and revegetated following construction (see section 2.4.2 of the EIS).

INDIVIDUALS
IND759 – Laura Neale

20161222-5021 FERC PDF (Unofficial) 12/21/2016 8:55:59 PM

Laura Neale, Fairfield, VA.
Dear Madame Bose,

IND 759-1 Please oppose any amendments to the George Washington Jefferson National Forest plan that would permit the proposed Mountain Valley Pipeline to be constructed across its lands. There are numerous reasons to deny the request for an amendment. Aside from the sloppy and hasty Draft EIS submitted which shows lack of integrity and commitment to the well-being and safety of neighbors, folks living downstream, and future generations of residents and visitors; there are well documented points that refute the suitability for a pipeline in the proposed Jefferson Forest lands. Additionally, permission to industrialize our public lands should be granted only when a need for the good of the American populace is clearly shown and obvious to all. Many question the need for the proposed Mountain Valley Pipeline, and are greatly concerned and aggravated that the permitting federal agency is not looking at the applications for gas pipelines at a regional level in order to evaluate need. In fact, independent consultants have shown that current pipeline capacity is adequate for gas transport for a number of years, and possibly long enough to allow our country to develop renewable energy resources.

IND 759-2

IND 759-3 Negative impacts to the National Forest include forest fragmentation of the Brush Mountain Roadless Area. Forest fragmentation has well documented negative impacts to wildlife. As our Southern Appalachians, and our whole country, gets more and more chopped up by development, these large tracts of forest become more critical for species requiring deep forest habitat. Additionally, fragmentation encourages entry and colonization by invasive plants and animals who outcompete native organisms, and generally degrade the special character of mountainous habitats.

IND 759-4 The pipeline is proposed to cross steep mountainsides where construction and maintenance are sure to create erosion and sedimentation of pristine waterways. Between sedimentation and potential accidents creating spills, the quality of the water would be destroyed for the life within, around, and downstream. Water is a natural resource for which no monetary value can be placed, and for which there is no mitigating strategy. Please do not risk ruining our water, and thus destroying dependent non-human and human lives.

IND 759-5 Yet another irreplaceable national asset would be reduced in value by the proposed pipeline. The Appalachian Trail offers an outdoor experience for which thousands of people have volunteered years of effort and energy to preserve for future generations. As a National Park, it is a national treasure. As a hiker and maintainer I have talked to hundreds of hikers who have been transformed by their time on the trail, and who have expressed appreciation and awe for this opportunity. Where the AT travels through the Jefferson National Forest in Southwestern Virginia is the best, and it is due to the efforts of thousands of people who strive to protect this outdoor experience. We do not want another slash of industrial corridor across the mountain landscape.

Our public lands should not be opened for industrial development. Increasing development and population pressures make these forests critical purifiers for drinking water, reservoirs for wildlife, and for people seeking escape from an industrialized landscape.

IND759-1 See the response to comment FA11-2 and LA5-1 regarding preparation of the EIS.

IND759-2 See the response to comment FA11-12 regarding need. Renewable energy alternatives are discussed in section 3 of the EIS. See also the response to comment IND40-1 regarding renewable energy.

IND759-3 The Roadless Area Conservation Rule and impacts to roadless areas under this regulation are discussed in section 4.8 of the EIS. Invasive species are discussed in section 4.4 of the EIS.

IND759-4 See the response to comment IND3-1 regarding drinking water. See the response to comment IND70-1 regarding erosion. A revised discussion of sedimentation and turbidity can be found in section 4.3 of the EIS and in the response to comment FA11-15. See the response to comment CO14-3 regarding spills

IND759-5 The ANST would be crossed by a bore. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS.

INDIVIDUALS

IND759 – Laura Neale

Thank you for considering my concerns,
Laura Neale

INDIVIDUALS
IND760 – Sandi Webster

20161222-5022 FERC PDF (Unofficial) 12/21/2016 9:04:31 PM

Sandi Webster, Newport, VA.

IND 760-1 I am a resident of the Newport, Virginia area and am writing to express my concerns about the proposed Mountain Valley Pipeline. This proposal would do serious and unavoidable damage to the immediate area near my home. The proposed location of the pipeline crosses scenic views and would degrade many miles along the Appalachian Trail which would be a significant tragedy. Our son, who hiked the trail several years ago, found the sections through this area to be some of the most scenic along the entire trail. The A.T. is a source of pleasure for millions of Americans each year; to permit the Mountain Valley Pipeline to change this national landmark for profit would be a tragedy that could never be recovered.

IND 760-2 In addition, the pipeline will travel through a designated seismic zone and over terrain that is considered extremely unstable and fragile. Multiple fresh water sources and protected forest areas would be affected. This presents a completely unnecessary and avoidable safety risk to people and the environment.

IND 760-3 I am appalled that the U.S. Forest Service has agreed to lower the Jefferson National Forest Management Plan standards for water quality, visual impacts, the removal of old-growth forest on federally protected land. This is inexcusable.

IND 760-4 Besides having significant economic impacts on our community, decreasing property values and depriving businesses of tourism dollars generated by visitors to our scenic area, the dangers imposed by such a large pipeline frighten me. Schools, homes, and historic areas would be affected.

IND 760-5 I urge FERC to protect the Newport area and its surrounding landscape, homes and farms. Please evaluate the need for pipeline development to transport natural gas from the Marcellus shale areas and the impacts to our National Parks, National Forests, and private lands. I believe it is FERC's responsibility to do the right thing. The alternative will be a change for the worse in an area that offers recreation and inspiration for millions of people.

IND760-1 The ANST would be crossed by a bore. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS.

IND760-2 The EIS provides a discussion of steep slopes (section 4.1), seismic activity (section 4.1), and water resources (section 4.3), and forests (section 4.4).

IND760-3 See the response to comments FA8-1 and FA10-1 regarding the LRMP for the Jefferson National Forest.

IND760-4 Tourism is discussed in section 4.9 of the EIS. See the response to comment IND12-1 regarding property values. See the response to comment IND2-1 regarding safety.

IND760-5 See the response to comment FA11-12 regarding need.

INDIVIDUALS

IND761 – Susan Swing

20161222-5018 FERC PDF (Unofficial) 12/21/2016 8:22:27 PM

Susan Swing, Elgin, IL.
Federal Energy Regulatory Commission
Kimberly D. Bose, Secretary
888 First St. N.E. Room 1A
Washington, DC 20426

RE: Docket #CP16-10-000 (Mountain Valley Pipeline)

Ms. Bose,

IND 761-1 I am an avid outdoors person who has spent many hours enjoying the beauty of the West Virginia and Virginia mountains. Furthermore, I believe it is my ethical duty to help ensure that both human and non-human creatures within our inter-dependent web of being have a safe and healthful environment in which to live. As such, I am concerned about the proposed Mountain Valley Pipeline which is a widely acknowledged threat to wildlife habitat, recreational lands, and the health of local Appalachia communities.

More specifically, the Federal Energy Regulatory Commission (FERC) should not allow the Mountain Valley pipeline to be permitted because:

The proposed pipeline route threatens to permanently damage iconic vistas for up to 100 miles from the Appalachian Trail. The A.T. is a source of peaceful rejuvenation for millions of Americans each year. To permit the Mountain Valley Pipeline to sully this national landmark would be a tragedy and an embarrassment to our country.

IND 761-2 The pipeline would create safety hazards since its proposed route is through a designated seismic zone and over terrain that is considered extremely unstable. This routing creates enhanced conditions for pipeline failure, which in turn could cause natural gas leaks that poison the environment and contaminate the drinking water of nearby communities.

IND 761-3 The pipeline would dissect the habitat of wildlife.

The construction of the pipeline sets a dangerous precedent, requiring the clearing of a wide corridor of forest lands protected by the Forest Service's Roadless Rule. Furthermore, to accommodate environmental damage that will be caused by this pipeline, the U.S. Forest Service agreed to lower Jefferson National Forest Management Plan standards for water quality, visual impacts, the removal of old-growth forest, and the number of simultaneous projects passing through federally protected land. This unprecedented change is extremely reckless, as it would open the gates for future infrastructure projects to cause similar destruction. The aforementioned action is the opposite of what I want and expect from government agencies that oversee public lands.

I urge FERC to protect our National Parks and Forests, the Appalachian Trail and its surrounding landscape and communities from the Mountain Valley Pipeline. Please evaluate the comprehensive need for pipeline

IND761-1 We conclude that with mitigation, the project is not likely to have significant impacts on most environmental resources (except forest). The right-of-way would be restored and revegetated following construction (see section 2.4.2 of the EIS). The ANST would be crossed by a bore as discussed in section 4.8 of the EIS. A revised visual analysis of the ANST can be found in section 4.8 of the EIS.

IND761-2 See the response to comment IND2-1 regarding safety. Seismic activity is discussed in section 4.1 of the EIS. See the response to comment IND IND92-1 regarding leaks. See the response to comment IND3-1 regarding drinking water.

IND761-3 See the response to comment IND270-1 regarding wildlife. See the response to comments FA8-1 and FA10-1 regarding the LRMP for the Jefferson National Forest.

IND 761-3 cont'd

development to transport natural gas from the same Marcellus shale plays in a single Programmatic Environmental Impact Statement. It is FERC's responsibility to do the right thing – the alternative easily could be a turning point toward widespread damage and destruction of treasured wild places.

Sincerely,

Susan Swing PhD
Elgin, IL

20161222-5029 FERC PDF (Unofficial) 12/21/2016 10:32:45 PM

Kristin Peckman, Roanoke, VA.
Evaluation of the No Action Alternative

IND 762-1

In this DEIS, the evaluation of the No Action Alternative is deficient for three reasons.

First, the purpose of the MVP is stated as follows:

"for the MVP, to alleviate some of the constraints on transporting natural gas
production by adding infrastructure to transport lower-priced natural gas from the Appalachian Basin to industrial users and power generators in the Mid-Atlantic and Southeastern United States, as well as to LDCs"

There is no guarantee that the gas being transported will go only to industrial users and power generators in the Mid-Atlantic and southeastern United States or to LDCs. A large percentage of the gas to be transported is being sold to another subsidiary of the company requesting the pipeline. That company may just as well resell it for export.

Second, the elimination of the No Action alternative is based only on speculation. Note the use of the word "may" throughout the following text.

"However, if the MVP is not authorized or not constructed, shippers may seek other means of transporting the proposed volumes of natural gas from production areas in the Appalachian Basin to markets in the Mid-Atlantic and Southeast United States. This may result in the expansion of existing natural gas transportation systems or the construction of new infrastructure; both of which may result in equal or greater environmental impacts in comparison to the MVP."

We have no way to compare the environmental impacts of the construction of other new infrastructure, since FERC has refused to study other currently proposed pipelines along with this one in a programmatic EIS. Meanwhile, the expansion of existing natural gas transportation systems likely would result in less environmental impacts, and studies have indicated that existing pipelines could meet the need for natural gas in the domestic markets.

Third, the environmental destruction that would be caused by the Mountain Valley Pipeline is so overwhelming that the only reasonable alternative is the No Action one.

IND762-1 See the response to comment IND2-3 regarding export. The reasons the FERC did not prepare a programmatic NEPA document is explained in section 1.3. The statements regarding the No Action Alternative are noted.

20161222-5025 FERC PDF (Unofficial) 12/21/2016 9:38:54 PM

Kurt Bodling, Accokeek, MD.
RE: proposed Mountain Valley Pipeline by EQT Corporation

IND 763-1

I am writing with my vehement opposition to the proposed Mountain Valley Pipeline route through or within sight of the Appalachian National Scenic Trail lands. The clear-cut swath that would be necessary to dig the pipeline into the ground would also fragment wildlife habitat. All fragmentation is detrimental.

I hiked the Appalachian Trail through Virginia and West Virginia in 2015 (and I am a Life Member of the Appalachian Trail Conservancy) and cannot believe that there is no other way to route this proposed pipeline away from the Jefferson National Forest and the beautiful vistas that would be destroyed by the route under consideration--if, indeed, the pipeline is necessary beyond possibly generating income for a corporate balance sheet.

People much smarter than I am have written scathing critiques of the proposal by EQT Corporation. You will have heard from many of them. The sum of those critiques is that the proposal is poorly written, deceptive, incomplete, and a disservice to the people through whose land the pipeline would pass.

The bottom line I leave you with is that this pipeline proposal simply cannot be allowed to move forward. The people of Virginia and of the rest of the United States will not receive enough benefit from it to justify destroying so hundreds of miles of treasured environment.

IND763-1 We conclude that with mitigation, the project is not likely to have significant impacts on most environmental resources (except forest). The right-of-way would be restored and revegetated following construction (see section 2.4.2 of the EIS). The ANST would be crossed by a bore. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS. See the response to comment FA11-2 and LA5-1 regarding preparation of the EIS. See the response to comment CO2-1 regarding benefits. See the response to comment IND281-2 regarding jobs in Virginia.

20161222-5027 FERC PDF (Unofficial) 12/21/2016 9:53:25 PM

Susan D. Robertson, Floyd, VA.

IND 764-1 The MVP pipeline project should be rejected for many reasons. A pipeline of this unprecedented size is unsuited for the fragile karst terrain, steep slopes, and possibility of seismic activity and excessive erosion in the region. There is a strong possibility of contamination for both humans and the environment. The projected lifespan of the pipeline is estimated to be about 20 years at which point the supply of fracked gas will have been exhausted.

Additionally, it is particularly egregious that eminent domain should be used to seize land for a project that is not a public utility operating in the interests of US citizens. A portion of the fracked gas is destined for shipment overseas (in one form or another) to be able to extract maximum profitability for the companies involved - this is clearly a for-profit venture and NOT a public utility.

IND 764-2 But the most compelling argument against this project is the fact that it adds to global warming. There is a very small window to attempt to prevent runaway warming and climate chaos. Each year there is less and less "old ice" in the Arctic. Each of the past couple of years has set new records for heating in the Arctic - this year it was 36 degrees Fahrenheit above normal! Heating of the planet is accelerating and ice is rapidly melting, causing increased coastal flooding and sea rise. Once Arctic ice is gone, the increase in planetary warming will accelerate even faster since the ice acts to reflect heat back into space. It's quite sad (and immoral) that projects are approved simply because they will increase profits for a few while the future of life on the planet is threatened. The migration seen in the Middle East now will be dwarfed by the climate refugees of the future and even the Pentagon acknowledges global warming poses a national security problem.

The warming of the planet has caused massive droughts, forest fires, floods, blizzards, and storms - all of which have cost loss of human and other life. Neither plants nor animals will withstand the increased extremes that will keep intensifying with global warming. We have already seen various crop failures here and abroad. Global warming has contributed to a loss of pollinators. We are in the midst of the sixth mass extinction (caused by humans) and many species are being lost daily, faster than new ones are evolving. This loss of biodiversity is alarming because we depend on many parts of the ecosystem whether most people realize it or not. Coral reefs are dying due to the warming and acidification of the oceans (from the increased carbon from fossil fuel use). Coral reefs are "the nurseries" of the oceans. Earth has lost half its wildlife over the past forty years (https://www.theguardian.com/environment/2014/sep/29/earth-lost-50-wildlife-in-40-years-wwf) and fossil fuel use is a contributing factor.

If you don't care about ecology perhaps you will care about the fact that WE ARE LOSING OXYGEN due to fossil fuel use. Humans evolved when the oxygen content of air was between 20-21%. But now it is as low as 12% in some cities. For every carbon atom burned, two atoms of oxygen are lost.

IND764-1 See the response to comment LA1-4 regarding existing 42-inch-diameter natural gas pipelines in karst terrain. The EIS provides a discussion of steep slopes, seismic activity and karst in section 4.1. See the response to comment IND70-1 regarding erosion. See the response to comment IND1-3 regarding eminent domain. See the response to comment IND2-3 regarding export. As stated in section 2.7 of the EIS, the useful life of the projects is expected to be about 50 years.

IND764-2 Climate change is discussed in section 4.13 of the EIS. Renewable energy alternatives are discussed in section 3 of the EIS. See also the response to comment IND40-1 regarding renewable energy.

IND 764-2 cont'd

This historically has been replaced by the production of oxygen by forests on land (50%) and by microorganisms in the ocean (the other 50%). But we are losing forests due to droughts, fires, and spread of pests (due to warming). And we are threatening the health of the oceans by warming, acidification, and pollution (from oil spills, plastic and other garbage, sewage, run-off from both agriculture and mining, and even radioactivity from Fukushima). So we can hardly afford the loss of more trees (such as those that will be sacrificed by this ill-advised project). To learn more about the looming oxygen crisis, please explore these links: http://www.ecology.com/2011/09/12/important-organism/
http://news.nationalgeographic.com/news/2004/06/0607_040607_phytoplankton.html
http://earthsky.org/earth/how-much-do-oceans-add-to-worlds-oxygen
http://e360.yale.edu/feature/a_looming_oxygen_crisis_and_its_impact_on_worlds_oceans/2301/
http://agreenroad.blogspot.com/2014/08/global-oxygen-levels-are-dropping-to-as.html
http://www.theguardian.com/commentisfree/2008/aug/13/carbonemissions.climatechangeÂ
http://blogcritics.org/atmospheric-oxygen-levels-fall-as-carbon/
http://ecowatch.com

It makes no sense to keep using fossil fuels when more jobs will be created by the renewable energy sector. According to Terry Tamminen from the Leonardo DiCaprio Foundation, there are about 465,000 jobs in fossil fuels and that number is decreasing every year by 1%; but there are 700,000 jobs in the renewable sector and that number is increasing by 20% per year. There are studies by various institutes and universities that have shown it is possible to be powered (in a cost effective way) almost 100% by renewable energy by 2050.

Kristin Peckman, Roanoke, VA.
Evaluation of the No Action Alternative

IND 765-1

In this DEIS, the evaluation of the No Action Alternative is deficient for two reasons.

First, the purpose of the MVP is stated as follows:

"for the MVP, to alleviate some of the constraints on transporting natural gas
production by adding infrastructure to transport lower-priced natural gas from the Appalachian Basin to industrial users and power generators in the Mid-Atlantic and Southeastern United States, as well as to LDCs"

There is no guarantee that the gas being transported will go only to industrial users and power generators in the Mid-Atlantic and southeastern United States or to LDCs. A large percentage of the gas to be transported is being sold to another subsidiary of the company requesting the pipeline. That company may just as well resell it for export.

IND 765-2

Second, the elimination of the No Action alternative is based only on speculation. Note the use of the word "may" throughout the following text.

"However, if the MVP is not authorized or not constructed, shippers may seek other means of transporting the proposed volumes of natural gas from production areas in the Appalachian Basin to markets in the Mid-Atlantic and Southeast United States. This may result in the expansion of existing natural gas transportation systems or the construction of new infrastructure; both of which may result in equal or greater environmental impacts in comparison to the MVP."

We have no way to compare the environmental impacts of the construction of other new infrastructure, since FERC has refused to study other currently proposed pipelines along with this one in a programmatic EIS. Meanwhile, the expansion of existing natural gas transportation systems likely would result in less environmental impacts, and studies have indicated that existing pipelines could meet the need for natural gas in the domestic markets.

IND765-1 See the response to comment IND2-3 regarding export.

IND765-2 The reasons the FERC did not prepare a programmatic NEPA document is explained in section 1.3. The commentor's statements regarding the No Action Alternative are noted.

INDIVIDUALS

IND766 – Emily C. Susko

20161222-5036 FERC PDF (Unofficial) 12/22/2016 12:54:34 AM

Emily C Susko, Santa Cruz, CA.
Federal Energy Regulatory Commission
Kimberly D. Bose, Secretary
888 First St. N.E. Room 1A
Washington, DC 20426

Re: Docket #CP16-10-000 (Mountain Valley Pipeline)

Ms. Bose,

IND 766-1

I am writing to express extreme concern over the proposed Mountain Valley Pipeline (MVP), which is planned to cross through incredibly special pristine forests, multiple watersheds, national protected lands, and the iconic Appalachian National Scenic Trail. More specifically, I do not feel the MVP should be allowed for the following reasons:

1. Environmental Damage to Protected Lands – The MVP is planned to traverse the Jefferson National Forest, but permitting it violates in many ways the U.S. Forest Service's Jefferson Forest Management Plan. The pipeline requires exemptions from water quality standards, soil and riparian conditions, removal of stands of increasingly rare old growth forest, and an exemption to the number of simultaneous projects within the forest. Carving out exemptions cast doubt on the usefulness of having a management plan. No doubt this land will continue to face increased stress due to climate change; cutting a damaging 500-foot corridor will surely exacerbate those challenges.

IND 766-2

2. Visual Damage to Highly Valued Recreational and Scenic Areas – The proposed project would significantly degrade some of Virginia' most iconic vistas, which I hiked to many times during the years I lived in Southwest Virginia. The Appalachian Trail Conservancy estimates that up to 100 miles of the A.T. may be impacted. The A.T. is a national treasure, and maintaining its viewshed should remain a "high," not "moderate," priority.

IND 766-3

3. Economic Impact to Historic Mountain Communities – Southwest Virginia is dotted with small, unique mountain communities which benefit both in character and in economy by their pristine forest surroundings. Many of these towns, such as Pearisburg and Narrows, VA, rely on outdoor recreational opportunities as a main economic driver, but these opportunities may be lost or diminished in light of the 500-foot pipeline corridor. Other towns, such as Newport, VA, stand to suffer damage to their historic districts, and that damage is not mitigatable.

IND 766-4

4. Unnecessary Safety Risk to Resources and Communities – The pipeline is planned to travel through a designated seismic zone and over land that is not geologically stable. The highly-erodible soils and formations with high slippage potential pose hazards to pipeline projects on steep slopes; in fact, other smaller pipeline projects in central Appalachia have already suffered slope failures that damaged downstream aquatic resources. A considerably larger pipeline poses hazards to the many nearby natural resources as well as to nearby communities.

IND766-1 See the response to comments FA8-1 and FA10-1 regarding the LRMP for the Jefferson National Forest.

IND766-2 The ANST would be crossed by a bore. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS.

IND766-3 Historic Districts are discussed in section 4.10 of the EIS. Tourism is discussed in section 4.9 and recreation is discussed in section 4.8 of the EIS.

IND766-4 Steep slopes and seismic zones are discussed in section 4.1 and soils are addressed in section 4.2 of the EIS. See the response to comment LA1-4 regarding existing 42-inch-diameter natural gas pipelines in mountainous terrain. See the response to comment IND70-1 regarding erosion.

IND 766-5

5. Energy Demand can be Met by Existing Infrastructure – The NEPA process requires that FERC's environmental impact statement assess the need for the project and include reasonable alternatives. Multiple studies have shown that we can meet our current energy demand with existing infrastructure, and that there are real risks associated with overbuilding pipelines.

Please evaluate the comprehensive need for pipeline development to transport natural gas from the same Marcellus shale plays in a single Programmatic Environmental Impact Statement so that this infrastructure can be appropriately sited and the cumulative impacts to our National Parks, National Forests, and private lands can be understood before moving forward.

Please, please consider that the risks of this pipeline to the public trust and interest outweigh the advertised benefits. Millions of people value the special region that this pipeline would irrevocably damage.

Thank you for your consideration,

Emily Susko

IND766-5 Section 3.3 of the EIS provides a discussion regarding existing systems as an alternative to the projects. The reasons the FERC did not prepare a programmatic NEPA document is explained in section 1.3. The commentor's statements regarding the No Action Alternative are noted.

INDIVIDUALS

IND767 – Gwynn Hamilton

20161222-5031 FERC PDF (Unofficial) 12/21/2016 10:37:03 PM

Gwynn Hamilton, Newport, VA.

IND 767-1 I am writing to request that the Jefferson National Forest not be asked to amend its management plan to allow the construction of the Mountain Valley Pipeline. The forest service should stand firm in its defense of our natural resources. This plan poses irreparable damage to an historic community, unmitigated damage to the Appalachian Trail, and as a result severe impact to the environment and economy of this region. We are a family farm that will be drastically impacted by the construction of the pipeline. Our clients come to this county for wedding venues that will all be severely damaged if not put out of business by construction and maintenance of this unnecessary and poorly planned project.

IND767-1 See the response to comments FA8-1 and FA10-1 regarding the LRMP for the Jefferson National Forest.

Julia Moore, Blacksburg, VA.
1712 Smithfield Dr.
Blacksburg, VA 24060
December 22, 2016

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

RE: Mountain Valley Pipeline
Docket No. CP16-10-000
Comments on Environmental Impact Statement

Dear Secretary Bose:

IND 768-1

I appreciate the time your agency has put into the draft environmental impact statement for the Mountain Valley Pipeline. However, there are still many potential implications of the pipeline that have not been adequately addressed, and the impact statement places too much faith in Mountain Valley to follow through on requests that they may not truly fulfill.

In regard to sinkholes and karst topography, the environmental impact statement indicates that prior to construction, Mountain Valley should assess constructability, identify karst features, and investigate route variations to avoid sinkholes. Implicit in these statements is the idea that once Mountain Valley checks off these tasks, they will be able to construct the pipeline. This is too risky of an approach. It is clear that we do not know enough about what will happen to pipelines this large in these types of geological settings. I do not want Mountain Valley to take this risk and find out later that their pipeline burst and caused my neighborhood to have a fire or water contamination. Mountain Valley has already had a chance to prove that the geological settings are completely safe, and they have not done so convincingly. They should not be given additional chances.

IND 768-2

Another example of an issue Mountain Valley has not researched enough is the identification of wells within 150 feet of the pipeline. First of all, it is quite possible that wells even further than this could be impacted by groundwater contamination because groundwater flows downstream due to changes in elevation. Additionally, the impact statement indicates that further investigation of wells will occur before construction, but there are so many things that are supposed to occur before construction, it seems inevitable that some things will fall through the cracks or not be done thoroughly. Do you really think checking off most of these tasks will make the pipeline project "good enough?" I certainly do not. The impact statement also indicates that Mountain Valley would do pre-construction water tests and monitor complaints. This implies that there likely will be complaints. It is unwise to allow a company to bore through with a project even while recognizing that there will likely be complaints about water contamination after the project begins.

IND768-1 See the response to comment LA1-4 regarding existing 42-inch-diameter natural gas pipelines in karst terrain. Sinkholes are addressed in section 4.1 of the EIS.

IND768-2 See the response to comment LA15-14 regarding water wells and blasting. Pre-construction water testing is standard practice to establish a baseline. See the response to comment IND152-1 regarding the FERC's third-party monitoring program to insure compliance with measures described in the EIS.

IND 768-2 cont'd

Supposedly the pipeline workers will also conduct nest searches and collaborate with the U.S. Fish and Wildlife Service to monitor nests of migratory birds and keep them safe during pipeline construction. Do you really think the pipeline workers are going to monitor bird nests? I do not, and I worry very much that if Mountain Valley is willing to make promises such as these that are conspicuously unlikely to be kept, they are unlikely to follow through on some of the more plausible tasks they claim they will complete before, during, and after the construction of the pipeline.

IND 768-3

The environmental impact statement claims that the pipeline will have minimal impacts on local and regional air quality, but what about its contributions to global warming? Although burning natural gas emits less carbon dioxide than burning coal, it is still does emit some carbon dioxide. Furthermore, methane actually traps much more heat than carbon dioxide, so natural gas leaks could potentially contribute to global warming even more than burning coal. The risk of leaks from the Mountain Valley Pipeline is not a risk we should take. In general, it is not necessary to build new infrastructure that will be used to burn new fossil fuels. The impact statement indicates that natural gas shippers would seek alternative infrastructure to transport the natural gas if the Mountain Valley Pipeline were not built. That implies that we must use the natural gas. We do not need to use the natural gas because there are many other renewable energy options that could provide power instead. This is the type of infrastructure that should be encouraged. I urge you not to approve this project just because the natural gas "has to be transported somehow." It does not and it is past time we start believing that.

I have highlighted just some of the shortfalls of the current environmental impact statement for the Mountain Valley Pipeline. There are many other instances in which the "limited environmental impacts" hinge on whether or not Mountain Valley follows through on their promises without uncovering any significant new problems. They probably could complete the requested tasks without revealing any new problems, but I do not trust that they will reveal the full truth about the riskiness and harmfulness of their project. Given all of this uncertainty, this is a case in which I sincerely believe it is better to protect our future by being safe rather than sorry. The Mountain Valley Pipeline should not be approved.

Sincerely,
Julia Moore

IND768-3 Climate change is discussed in section 4.13 of the EIS. See the response to comment IND92-1 regarding leaks. Renewable energy alternatives are discussed in section 3 of the EIS. See also the response to comment IND40-1 regarding renewable energy.

Robert Dellinger, High Point, NC.

IND 769-1 I believe the proposed mountain valley pipeline should not be approved in its present route because of its taking of roadless National Forest areas. If such taking were allowed, it should be accompanied by requiring the pipeline company to purchase as many or more acres for contribution to the National Forest. I have not seen any such requirement described. Sincerely, Robert Dellinger

IND769-1 The Roadless Area Conservation Rule and impacts to roadless areas under this regulation are discussed in section 4.8 of the EIS. The commentor's statement regarding purchasing acreage for Jefferson National Forest impacts is noted.

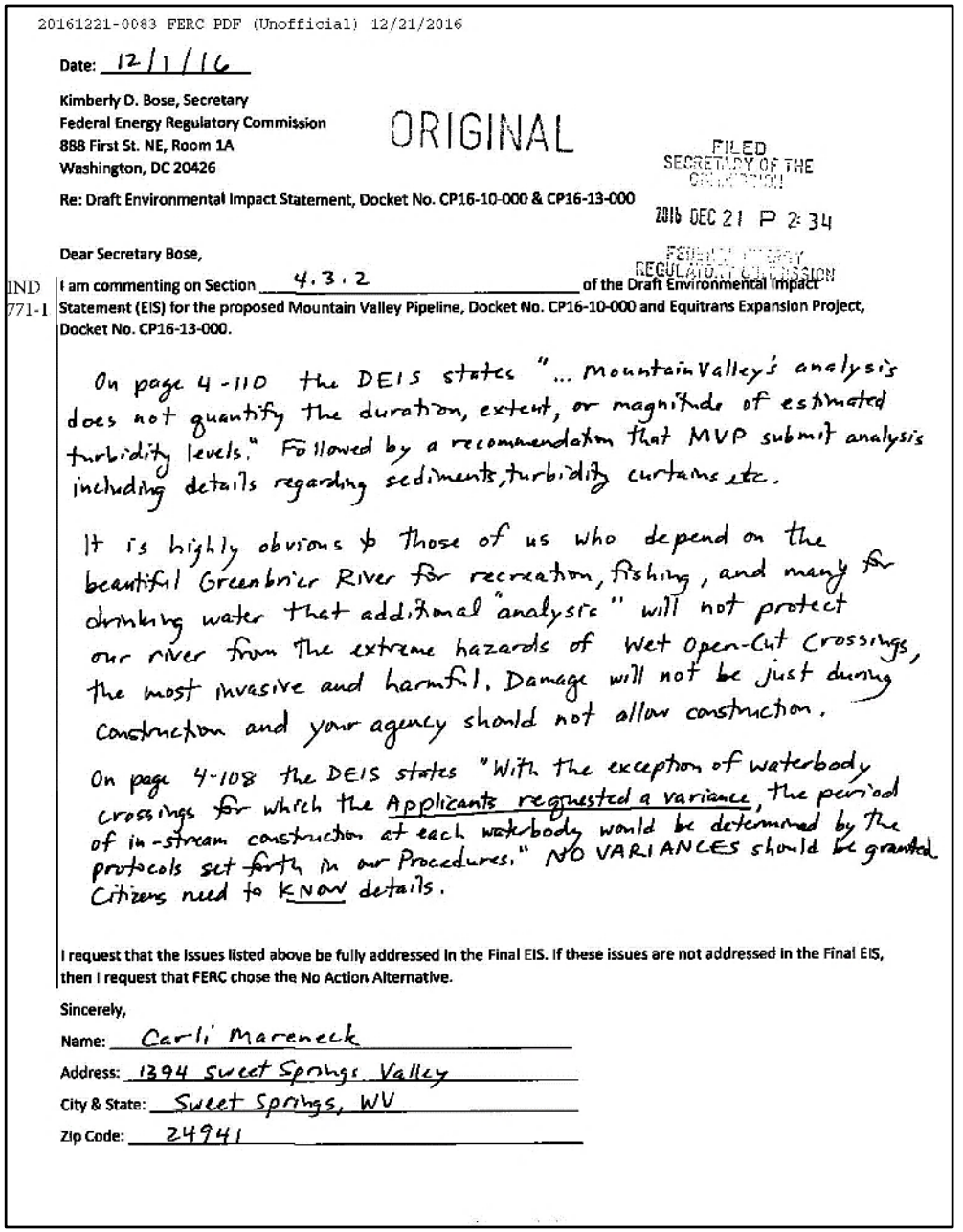
Pat Levy-Lavelle, Richmond, VA.

IND 770-1 I do not believe all of the potential environmental impacts have been adequately accounted for. I believe this project poses too much risk, and too little reward, to reasonably go forward. I oppose the pipeline. Thank you.

IND770-1 We conclude that with mitigation, the project is not likely to have significant impacts on most environmental resources (except forest). The right-of-way would be restored and revegetated following construction (see section 2.4.2 of the EIS).

INDIVIDUALS

IND771 – Carli Mareneck



20161221-0083 FERC PDF (Unofficial) 12/21/2016

Date: 12/1/16

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, DC 20426

ORIGINAL

FILED
SECRETARY OF THE
COMMISSION
2016 DEC 21 P 2:34
FEDERAL ENERGY
REGULATORY COMMISSION

Re: Draft Environmental Impact Statement, Docket No. CP16-10-000 & CP16-13-000

Dear Secretary Bose,

IND 771-1 I am commenting on Section 4.3.2 of the Draft Environmental Impact Statement (EIS) for the proposed Mountain Valley Pipeline, Docket No. CP16-10-000 and Equitrans Expansion Project, Docket No. CP16-13-000.

On page 4-110 the DEIS states "... Mountain Valley's analysis does not quantify the duration, extent, or magnitude of estimated turbidity levels." Followed by a recommendation that MVP submit analysis including details regarding sediments, turbidity curtains etc.

It is highly obvious to those of us who depend on the beautiful Greenbrier River for recreation, fishing, and many for drinking water that additional "analysis" will not protect our river from the extreme hazards of Wet Open-Cut Crossings, the most invasive and harmful. Damage will not be just during construction and your agency should not allow construction.

On page 4-108 the DEIS states "With the exception of waterbody crossings for which the Applicants requested a variance, the period of in-stream construction at each waterbody would be determined by the protocols set forth in our Procedures." NO VARIANCES should be granted Citizens need to KNOW details.

I request that the issues listed above be fully addressed in the Final EIS. If these issues are not addressed in the Final EIS, then I request that FERC chose the No Action Alternative.

Sincerely,

Name: Carli Mareneck

Address: 1394 Sweet Springs Valley

City & State: Sweet Springs, WV

Zip Code: 24941

IND771-1 A revised discussion of sedimentation and turbidity can be found in section 4.3 of the final EIS and in the response to comment FA11-15. Since Mountain Valley would cross all waterbodies using dry techniques, there would be a low potential for downstream sedimentation and turbidity. The sentence on page 4-108 was incorrect. It has been revised in the final EIS to read: "the period of in-stream construction at each waterbody would be determined by the protocols set forth in our Procedures."

INDIVIDUALS

IND772 – G. Besa

GHG Emissions Associated with Two Proposed Natural Gas Transmission Lines in Virginia[i]

Summary of GHG Emission Estimates

IND 772-1

The primary purpose of this white paper is to estimate possible greenhouse gas (GHG) emissions associated with several proposed new interstate natural gas transmission lines that would run through parts of Virginia. By "associated" emissions we mean the major GHG emissions that are estimated to occur (a) from operation of the transmission pipelines, (b) from the upstream stages of production and processing of the natural gas that is intended to go into to those transmission pipelines, and (c) from combustion of the transported natural gas. (The analysis excludes leaks from local distribution lines, which we assume would be avoided if the gas will be combusted in large plants connected closely to the transmission lines; however, local distribution lines are a major source of methane emissions and would need to be accounted for—in addition to combustion emissions—if deliveries are first made to local gas distributors.)

The four major interstate natural gas transmission lines and their daily throughputs of gas proposed in Virginia are the Atlantic Coast (ACP, 1.5 bcf/day), the Mountain Valley (MVP, 2.0 bcf/day), the WB Xpress Project to expand the capacity of the Columbia Gas Transmission pipeline by 1.3 bcf/day), and the Appalachian Connector (up to 2 bcf/day), for a total of 6.8 bcf/day.

Our emission estimates for the Atlantic Coast (ACP) and Mountain Valley (MVP) pipelines are summarized in Figures 1 and 2, respectively. The base case (in the first column of the Figures) is from a published analysis: that of Laurenzi and Jersey (2013), referred to here as the "ExxonMobil" analysis since the authors are employees of that Corporation and used data from drilling sites owned by it. In addition we developed three alternative cases based on different assumptions than used in the ExxonMobil results, although one of those cases is derived directly from the ExxonMobil results. In general, the four cases fall into two pairs (labeled ExxonMobil and"EX") that amount to a low and a higher estimate of upstream emissions of methane (CH_4), while estimated carbon dioxide (CO_2) remain the same for all cases. Within each pair the difference in carbon dioxide-equivalent (CO_{2eq}) total emissions is due to two different assumptions about how methane is weighted—known as the Global Warming Potential (GWP) of methane. (More detail on the quantitative contributions of CO_2 and CH_4 in the four cases is given in Tables 1 and 2 in the next section.) For comparison to those pipeline-associated GHG emissions, a seventh column in the Figures shows the total reported emissions of GHGs in Virginia in 2014 from EPA's Greenhouse Gas Reporting Program.

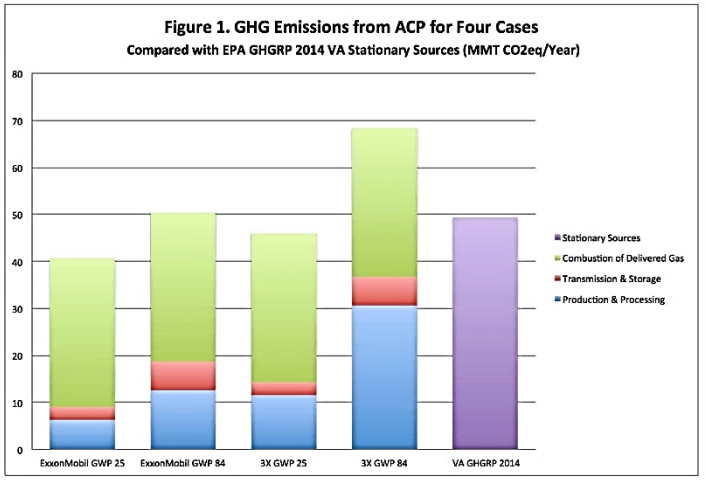
IND772-1

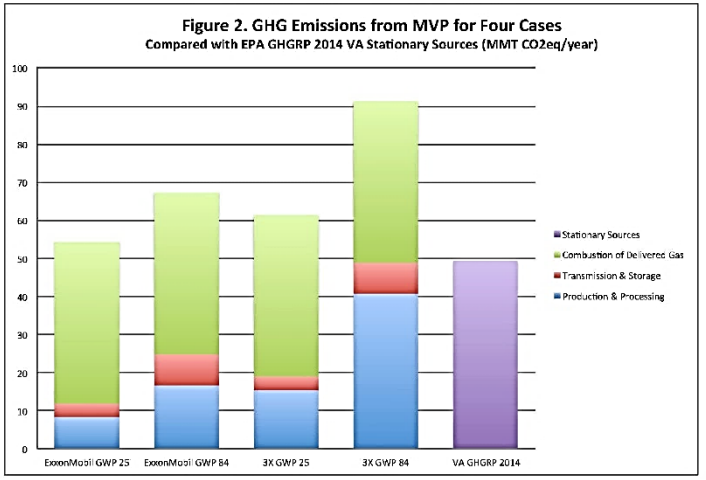
- Section 4.13.2.7 has been revised to clarify the estimated total GHG emissions from end use of the natural gas. As stated in section 4.13.1, the Commission's practice is to conduct an environmental review for each proposed project or a number of projects that are interrelated or connected. Actions are 'connected' if they: trigger other actions that may require EISs, will not proceed unless other actions are taken, or are interdependent parts of a larger action (depending on the larger action for their justification)[40 CFR 1508.25(a)(1)]. NEPA does not require speculative analyses that will not meaningfully inform the decision-making process. If we were able to identify a sufficient connection between the proposed Projects and specific upstream development (or downstream end-use), it would be difficult if not impossible to meaningfully consider these impacts as any emission estimates would be based primarily on broad or conflicting assumptions. As such, lifecycle emissions are not addressed in the EIS.

- Section 4.11 outlines the air impacts from direct and indirect emissions related to the MVP and EEP (considered interrelated and connected actions). To calculate GHG emissions, a 100-year Global Warming Potential (GWP) was used for converting the various GHG emissions into comparable CO_2-equivalents. The GWP is an index, based upon radiative properties of well mixed GHGs, measuring the radiative forcing of a unit mass of a given well mixed GHG in today's atmosphere integrated over a chosen time horizon, relative to that of carbon dioxide. The GWP represents the combined effect of the differing times these gases remain in the atmosphere and their relative effectiveness in absorbing outgoing thermal infrared radiation. The Kyoto Protocol is based on GWPs from pulse emissions over a 100-year time frame. To estimate GWP, the United States quantifies GWP emissions using the same 100-year timeframe values - as established in the Intergovernmental Panel on Climate Change Fourth Assessment Report (Intergovernmental Panel on Climate Change 2007), and in accordance with the United Nations Framework Convention on Climate Change (United Nations Framework Convention on Climate Change 2014) reporting procedures. The 100 year timeframe is not arbitrary, but is both a national and international standard.

IND772-1 The Greenhouse Gas Reporting Program (codified at 40 CFR Part 98) requires reporting of GHG emissions and other relevant information from the various segments of the oil and gas industry. The proposed transmission compression facilities and transmission pipelines would be required to comply with the monitoring and reporting requirements of Part 98 as administered by US EPA, which includes proving an annual inventory of GHGs including leaks and releases. There would be no benefit to a redundant program administered by FERC.

IND 772-1 cont'd





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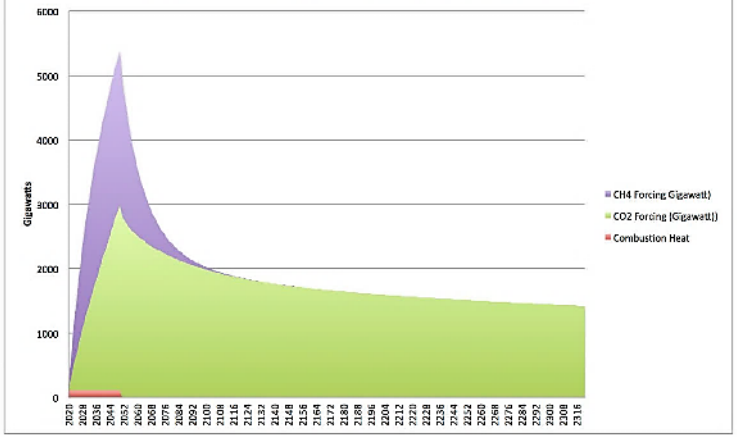
The issue of which GWP to choose can be bypassed by computing the time-dependent radiative forcing due separately to CO_2 and CH_4. Figure 3 shows the results of calculations of radiative forcing computed by a simple model. However, instead of showing radiative forcing in conventional units of watts/meter^2 we show the total thermal heating effect on the planet of GHG emissions from all four pipeline projects, consisting of the radiative forcing multiplied by the total surface area of the Earth plus, for comparison, the much smaller generation of heat generated by combustion of the natural gas delivered by the pipelines. Note that the thermal effect of CO2 persists long after operations cease (we show it for 300 years), and will last for centuries after that. The basis for this graph is explained in more detail in the Discussion section below.

Fig. 3 Total Planetary Heating Rate from 4 Pipeline Projects in VA Operating from 2020 through 2050 (Gigawatts Thermal)



A more detailed explanation of the results is given in the next section. A subsequent section, Discussion of Assumptions and Results, describes the underlying basis and compares our results to other studies from the recent literature. Following that section we present some recommendations based on the results and lessons learned in analyzing the literature on emissions from the natural gas fuel cycle.

Detailed Description of Results

The ExxonMobil analysis produced results based on emission values per unit output of a hypothetical natural gas electric power plant (Kg CO_{2eq}/MWh), and we scaled their GHG emissions values to correspond to the potential maximum natural gas throughput of the respective pipelines (1.5 Bcf/day for ACP and 2.0 Bcf/day for the MVP). We chose this

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study because it was a partial LCA analysis (of the production at the well head stage), provided detailed results for process steps separately for carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) emissions, and pertained to conditions specific to natural gas from hydraulic fracturing production in the Marcellus shale region, which is identified as the source for the two pipelines in question, including some measurements made on the Corporation's own well operations.

However, while these ExxonMobil estimates are useful as a starting point, they may not be representative of all fracking operations in the Marcellus or other shale regions. In fact, other estimates of overall emissions from that region suggest much higher fugitive emissions of methane, and it is clear that some operators are responsible for much more emissions per unit of production than others. For that reason we also present an alternative set of estimates for methane emissions from the overall production and processing stage, as discussed below. Note that neither of these estimates appears to consider the problem of post-production leaks, which, as documented by Schlumberger, may emerge many years after a well has been capped and taken out of operations.

Figure 1 and Table 1 show results applicable to the ACP pipeline, while Figure 2 and Table 2 show similar results for the MVP pipeline. For simplicity, we aggregated the original authors' more detailed process level results into three major fuel cycle stages:[1] Production and Processing (i.e., operations upstream of the transmission line), Transmission and Storage, and Combustion of the delivered pipeline gas (assuming no local distribution). (CO_{2eq} emissions of N_2O are neglected in Tables 1 & 2 as relatively small compared to the GHG impacts of methane and CO_2 emissions.) We believe that assessing GHG emissions from all three major fuel cycle stages, not just the transmission pipeline stage, is important because these new pipelines are intended to collect the produced gases and transport them to new or expanded markets in Virginia and North Carolina, and possibly even to foreign export terminals. Hence, the pipelines will tend to generate or at least support additional uses of natural gas that arguably will result in greater gas production and combustion and their associated emissions. Some of the uses may include new industrial plants owned by foreign companies that are attracted to the region by the availability of cheaper natural gas supplies than available abroad. Pipeline proponents have been touting such economic development as a benefit of their pipelines.

The two principle issues in making methane leakage estimates are: 1) what is the actual leakage rate of methane from various stages of the natural gas fuel cycle? and 2) what is the appropriate choice of *global warming potential* (GWP) (or other method) to apply when comparing emissions of CO_2 to other GHGs, especially to methane? The reason

[1] The *fuel cycle* approach means analysis of operational impacts of all relevant stages from extraction through use and disposition of wastes; a *life cycle analysis* (LCA) approach extends the analysis to consideration of the indirect impacts of manufacturing and transporting the equipment and the raw materials that go into the stages and is evaluated over the estimated lifetime of the capital facilities.

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there are four columns in the two tables and first two figures is because we made alternative choices for both of those issues. In Tables 1 and 2 the first column is from the generic estimates given by Laurenzi and Jersey (except for the scaling up to each pipeline). Note that the scale-up assumes the pipelines operate at full capacity 24/7/365 because we have no estimates from the proponents about their planned operating schedule. The second column adjusts the methane CO_{2eq} emission values (the first column was based on EPA's 100-year GWP assumption of 25) to the 20-year GWP of 84 from IPCC AR5 when summing to obtain total CO_{2eq} emissions from each stage. The third and fourth columns (3X) increase the methane emissions from Production and Processing (but not the transmission or combustion stage emissions) by multiplying Columns 1 and 2, respectively, by a factor of three to reflect results typical of *top-down* higher methane emission measurements in the Marcellus and other shale basins. The reason for this choice is explained below in the Discussion section. Those two adjustments increase the upstream production and processing emissions in Column 4 by a factor of 4.9 and the total system emission by a factor of 1.7 relative to column 1. (Note that the CH_4 emission values shown in the Tables are in million metric tonnes (MMT) of methane, not CO_{2eq}.) The CO_{2eq} values from the four columns in the tales are also shown graphically in the bar charts of Figures 1 and 2.

For comparison, Virginia's two largest sources of CO_{2eq} GHG emissions in 2014 were the Chesterfield (7.22 MMT) and Clover (5.67 MMT) coal-fired power plants. The Column 1 total in Table 1 from the ACP pipeline (40.7) is comparable to the total contribution from the 177 GHG sources in Virginia (49.4 MMT CO_{2eq}) from EPA's Greenhouse Gas Reporting Program (GHGRP) in 2014, while the total in Table 2 from the MVP pipeline considerably exceeds it.[2] (However, only part of the emissions in Tables 1 and 2 would occur in Virginia.) These Virginia GHGRP values also are compared against the pipeline values in Figures 1 and 2. Obviously the comparable totals for the higher methane emissions assumed in Columns 3 and 4 of the two tables would be even higher, but only Columns 1 and 3 should be compared with EPA's GHG values since the latter also assume a GWP of 25. Emissions from the other two proposed pipelines would nearly double the total emissions from the ACP and MVP for a total of 185 MMT CO_{2eq} at a GWP of 25 in the base case, the ExxonMobil rates, or 3.7 times the EPA GHGRP total for Virginia.

[2] This is based on EPA's "Flight database" from their Greenhouse Gas Reporting system, but that database excludes GHG emissions from onshore oil and gas production at the state level, hence it does not include the emissions from coal bed methane extraction operations in Virginia, for example. Also, the list of 177 large sources includes some that reported zero emissions in 2014 compared with substantial emissions in prior years and EPA generally assumes the GHGRP reported emissions underestimate actual totals somewhat. Only large sources are required to report, and the database does not include transportation and many small sources

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TABLE 1. Generic GHG Emission Estimates for the ACP Pipeline

GHG Emissions by gas and fuel cycle stage	ExxonMobil* (w/CH_4 GWP=25 over 100 years)	Adjusted ExxonMobil* (w/CH_4 GWP=84 over 20 years)	Top-Down Higher CH4 Leakage Estimate** (w/CH_4 GWP=25)	Top-Down Higher CH4 Leakage Estimate** (w/CH_4 GWP=84)
Production & Processing				
CO_2 (MMT CO_2/year)	3.60	3.60	3.60	3.60
CH_4 Losses (MMT CH_4/year)	0.107	0.107	0.321	0.321
Total CO_{2eq} Emissions (MMT/year)	6.3	12.6	11.6	30.6
Transmission & Storage				
CO_2 (MMT CO_2/year)	1.27	1.27	1.27	1.27
CH_4 Losses (MMT CH_4/year)	0.058	0.058	0.058	0.058
Total CO_{2eq} Emissions (MMT/year)	2.7	6.1	2.7	6.1
Combustion of Delivered Gas				
CO_2 (MMT/year)	31.7	31.7	31.7	31.7
Grand Total GHG Emissions (MMT CO_{2eq} /year)	40.7	50.4	46.0	68.4

* ExxonMobil means the ANALYSIS analysis of Laurenzi & Jersey (2013); note that this was a generic analysis, not specific to the ACP pipeline. The values here represent a conversion from their numbers in terms of emissions/MWh into emissions/SCF, which are multiplied times the ACP capacity of 1.5 Bcf/day to get the MMT/year values shown here. These values assume full-time operation 24/7/365.

** Assumes 3 X ExxonMobil CH_4 Production & Processing emissions (see discussion)

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TABLE 2. Generic GHG Emission Estimates for the MVP Pipeline

GHG Emissions by gas and fuel cycle stage	Exxon-Mobil* (w/CH_4 GWP=25 over 100 years)	Adjusted Exxon-Mobil* (w/CH_4 GWP=84 over years)	Top-Down Higher CH4 Leakage Estimate** (w/CH_4 GWP=25)	Top-Down Higher CH4 Leakage Estimate** (w/CH_4 GWP=84)
Production & Processing				
CO_2 (MMT CO_2/year)	4.8	4.8	4.8	4.8
CH_4 Losses (MMT CH_4/year)	0.143	0.143	0.428	0.428
Total CO_{2eq} Emissions (MMT/year)	8.4	16.8	15.5	40.8
Transmission & Storage				
CO_2 (MMT CO_2/year)	1.7	1.7	1.7	1.7
CH_4 Losses (MMT CH_4/year)	0.077	0.077	0.077	0.077
Total CO_{2eq} Emissions (MMT/year)	3.6	8.1	3.6	8.1
Combustion of Delivered Gas CO_2 (MMT/year)	42.3	42.3	42.3	42.3
Grand Total GHG Emissions (MMT CO_{2eq} /year)	54.3	67.2	61.3	91.2

* ExxonMobil means the ANALYSIS analysis of Laurenzi & Jersey (2013); note that this was a generic analysis, not specific to the MVP pipeline. The values here represent a conversion from their numbers in terms of emissions/MWh into emissions/SCF, which are multiplied times the MVP capacity of 2.0 Bcf/day to get the MMT/year values shown here. These values assume full-time operation 24/7/365.
** Assumes 3 X ExxonMobil CH_4 Production & Processing emissions (see discussion)

Discussion of Assumptions and Results

The two principle issues in making these estimates are: 1) what is the actual leakage rate of methane from various stages of the natural gas fuel cycle, and 2) what is the appropriate choice of *global warming potential* (GWP) (or other method) to apply when comparing emissions of CO_2 to other GHGs, especially to methane? Both of those questions have been issues for several decades. Neither is completely settled today. We have approached it in our estimates by choosing a lower and higher value for each factor, and also produced a separate analysis that obviates the GWP issue.

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The issue of leakage rates remains unresolved and a very controversial topic. The way chosen here to represent a range of opinion on leakage rates from the upstream production and processing stages is to show a lower estimate (the so-called ExxonMobil values, which are similar to EPA's emission factors) vs. a higher estimate (the "3 X" or "Top-Down Higher" values in Columns 3 &4) as explained further below.

Choice of GWP. The GWP issue is now quite well understood scientifically but remains controversial in the policy and political arenas. The issue with a GWP selection is that the UN adopted a 100-year GWP as part of the Kyoto Protocol. EPA also adopted it because of the need to have a specific way to weight various GHGs and value emission tradeoffs and to be consistent with International reporting requirements. However, for other purposes such as evaluating mitigation strategies and longer-term tradeoffs, many climate scientists and policy analysts, including the latest IPCC reports, now understand its limitations. For strategic purposes there are alternative solutions for characterizing the relative impacts available in the literature (e.g., Alvarez et al. 2012) that render that choice irrelevant. However, for simplicity here we simply compute methane effects for two widely different values of the GWP to illustrate the range: EPA's value of 25 (that was based on the IPCC AR4 2007 report for a 100-year time frame) and was used by Laurenzi and Jersey, and the IPPC AR5 2013 value of 84 for a 20-year time frame. We believe that the latest scientific estimates should be applied and that there is no scientific justification for preferring a 100-year over a 20-year values, especially since many of the GHG mitigation goals of the U.S. (for example, the U.S. pledge to the UNFCCC process for 2025) will occur over much shorter periods of time, closer to a 20-year period.

We also show in Figure 3 the results of a simple model that shows the temporal evolution of planetary heating due to the emissions of CO_2 and CH_4 (separately) plus heating from combustion of the delivered gases from all four pipeline projects. For this chart we used the higher methane emission rates (columns 3 and 4 in the tables). Planetary heating from the GHG emissions means the incremental radiative forcing at the top of the atmosphere due to the emitted gases. Our simple model is similar to that described by Alvarez et al. 2012, although we use updated parameters based on the latest estimates of total greenhouse gas concentrations in the atmosphere and display our results in absolute terms as planetary heating. Our model will be described in more detail in a subsequent paper. This approach eliminates the need for using GWPs and provides more information.

Production and Processing Stages. Estimates of GHG emissions from natural gas production, processing and gathering pipeline transport operations differ widely and currently are very controversial. Briefly, there is an unresolved disconnect between two general approaches to estimating emissions: so-called *bottom-up* methods that sum up measurements and/or generic emission factor-based estimates for individual operations and equipment in the overall process, versus *top-down* methods based on measuring concentrations of methane in the atmosphere for some region in which there are natural gas and/or oil producing operations, then translating those measurements into estimates of emissions associated with natural gas and oil production, processing and

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other stages (depending on what operations are occurring in the study region). Those two approaches lead to estimated emissions that can differ by as much as an order of magnitude. Figure 4 below shows some examples of top-down compared with EPA bottom-up estimates. Note that several top-down estimates shown in Figure 4 have a median value of about 10% leakage, compared with the EPA estimate between 1 and 2%.

Tables 1 and 2 begin with one estimate (Columns 1 & 2) of a bottom-up approach, the Exxon-Mobil study, which is near the lower end of the range of such estimates, (although there are even lower ones). It amounts to about 1.12 % leakage of methane from the upstream production and processing stages of Marcellus shale fracking, in particular in the Southwestern Pennsylvania part of that region. We also give hypothetical (3X) estimates (Columns 3 & 4) (based on multiplying the Exxon Mobil results by a factor of 3) that we believe are representative of the middle of the top-down estimates and also are comparable to the higher end of bottom up estimates), which is equivalent to upstream methane emissions of about 3.4%. The ExxonMobil results for methane emission appear to be roughly in the same range as some other bottom-up estimates near the low end, including values based on EPA's Greenhouse Gas Emission Inventory. There are a number of general issues with most bottom-up studies, including the difficulty of assuring that individual measurements made to determine emission factors are representative of the broader industry operations, and that most measurements have been made by or in close association with the producing industry that has a vested industry in showing low emissions. (It is difficult to make detailed measurements at a site without the operator's cooperation, and there always is a question about whether the operator may do things differently when he knows researchers or government inspectors are present.)

The particular high-end estimate for methane leakage we use here (3.4%) is comparable to the top-down results reported in the study by Petron *et al.* (2014), *viz.* 4.1±1.5%. However, that pertained to natural gas production from a combination of oil and gas wells and supporting infrastructure. That study involved atmospheric studies using various combinations of ground-based air monitors, aircraft measurements, and other measurements of methane and VOC concentrations. There have been relatively large uncertainty bounds on top-down methods. (See bounds shown in Figure 4 below, but also the newer Zavala-Araiza *et al.*, 2015 study discussed below.) The advantage of top-down estimates is that they tend to capture all the methane emissions in a region, including natural gas industry sources that may have much higher emissions than represented by emission factors (and there is much evidence that a few large leakage sources account for a disproportionate contribution to totals). Their result was nowhere near the worst-case leakage example among top down studies, some of which found values of methane leakage on the order of 10% or more, as shown in Figure 4. A leakage rate of 3.4% is also consistent with higher estimates using bottom-up methods from the literature [for example, see Brandt et al. (2014)]. Atmospheric measurements do not measure CO_2 emissions, so we use the same CO_2 estimates from Laurenzi and Jersey in this column in Table 1. Also note that atmospheric measurements do not necessarily capture all the indirect LCA values since some of those may apply to

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operations outside the producing areas, but those tend to be the smaller part of the total emissions.

A very recent report by Zavala-Araiza *et al.* (2015) reconciles bottom-up and top-down estimates in the Barnett shale oil and gas-production region of Texas. It augments conventional bottom-up inventories, accounts for high emitters, and compares them to top-down aircraft studies in which ethane measurements are used to correct for biogenic sources. Their bottom-up inventory is 1.9 times estimated emissions based on the EPA GHGI program, and represents a methane leakage rate of 1.5% (1.2—1.9%). The Aircraft top-down measurements of fossil methane averaged about 10% higher than the bottom-up estimates, but still within the top-down uncertainty bounds. Those results for the Barnett region indicate a significantly smaller leakage rate than the Petron et al. (2014) results obtained in the Denver-Julesburg gas and oil production region.

The Zavala-Araiza results (a methane leakage rate of 1.5% for upstream production and processing stages) suggest a medium leakage case in between our base Exxon Mobil value and the "Higher 3X" leakage estimate of 3.4% in columns three and four. Of course, neither of those estimates from other basins necessarily pertains to the Marcellus shale gas production region, so we cannot say whether our assumed medium and high values in the Tables and Figures are consistent. We do not claim that the value of 3.4% used here is a valid upper estimate for the Marcellus region, but only that it illustrates the potential impact of a higher estimate that is slightly smaller than a top-down result from another region that involved particularly comprehensive measurements.

A report by Marchese *et al.* (2015) gives estimates of emissions from the gas processing and gathering pipeline stages (which stages are included in our estimates of Production and Processing). Generally they found that their measurements of 16 gas processing plants were even lower than EPA's emission factors, but measurements of 114 gathering pipeline facilities were often much higher than EPA emission factors. A few of the smaller gathering facilities appear to have leakage rates exceeding 10% of gas throughput, but most were much less than that. Marchese et al. did conclude that:

> "While there is uncertainty in determining gathering facility emissions from the EPA GHGI, the results of this study suggest that the GHGI substantially underestimates emissions from gathering facilities.

The Marchese study indicates that emissions from gathering lines may be considerably larger than estimated in the ExxonMobil analysis. However, such increased methane emissions presumably would already be accounted for in broad region top-down studies that are the basis for our medium and higher methane estimates, so there does not appear to be a need to factor that into our results in columns three through six.

A recent report, Concerned Health Professionals of New York Report (2015), found that (p. 52-57):

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"Leakage from faulty wells is an issue that the industry has identified and for which it has no solution. According to Schlumberger, one of the world's largest companies specializing in fracking, about five percent of wells leak immediately, 50 percent leak after 15 years, and 60 percent leak after 30 years. Data from Pennsylvania's Department of Environmental Protection (DEP) for 2000-2012 show over nine percent of shale gas wells drilled in the state's northeastern counties leaking within the first five years. Leaks pose serious risks including potential loss of life or property from explosions and the migration of gas or other chemicals into drinking water supplies.

"Leaks also allow methane to escape into the atmosphere, where it acts as a more powerful greenhouse gas than carbon dioxide. Indeed, over a 20-year time frame, methane is 86 times more potent a heat accumulator than carbon dioxide. There is no evidence to suggest that the problem of cement and well casing impairment is abating. Indeed, a 2014 analysis of more than 75,000 compliance reports for more than 41,000 wells in Pennsylvania found that newer wells have higher leakage rates and that unconventional shale gas wells leak more than conventional wells drilled within the same time period. Industry has no solution for rectifying the chronic problem of well casing/cement leakage."

Combustion Stage. CO_2 emissions from the natural gas-fired combustion (e.g., power plant) stage depend mainly on the amount of gas consumed, which in this case is simply the throughput of the pipeline, and slightly on the composition of natural gas (which changes the CO_2 per cubic foot). Effectively we used the latter factor from Laurenzi and Jersey since they based it on typical pipeline natural gas produced in the Marcellus shale region (rather than EPA's nominal emission factor). Any combustion use of the transmission line natural gas throughput would give the same result. However, natural gas delivered further for use through local distribution lines would have higher overall CO_{2eq} emissions because of the substantial extra leakage of methane in many distribution systems. GHG emissions published by Laurenzi and Jersey from this stage are just from combustion, are not based on a life cycle analysis, and do not account for any leakage of methane or unburned methane in the power plant exhaust or pre-combustion handling. While we could not find a definitive emission factor from EPA for methane specific to NGCC power plants, NETL (2010) gives the factor 8.56 E-06 kg/MWh for NGCC plants[3]. That would be negligible compared with the CO_2 emissions.

Transmission and Storage (T&S) Stage. Our base estimate for this stage is based on a different treatment. The ExxonMobil analysis did not base their estimate on a life-cycle analysis or a detailed calculation of emissions from pipeline facilities. Rather, it takes

[3] Methane emission factors vary with the type of combustion process; methane and N_2O emissions from simple gas turbines and other engines used to power pipeline compressors are not as small; e.g., EPA's AP-42 GHG emission factors for natural gas-fired turbines are 0.003 lb/MMBtu for N_2O and 0.0086 for CH_4, which together amount to about 1.4% of the CO_2 emissions when the AR5 20-year GWPs for those gases are applied (268 for N_2O).

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2009 EPA estimates of total T&S fugitive methane emissions and total CO2 from compressors to calculate the ratio to total natural gas withdrawals that year. That results in an average leakage rate of 0.45% of methane and an average amount of CO2 emissions of 82 Kg/MMScf of transported gas. We only have limited information about the two proposed pipelines, such as lengths, sizes, compressor horsepower, and maximum gas throughput per day. There do not appear to be any emission factors available to estimate pipeline emissions based only on those parameters. Given those limitations and the generic nature of information from the Laurenzi and Jersey (2013) paper about the assumptions and data for their emission estimates of the Transmission and Storage stage, it did not appear feasible to estimate how their generic estimates of methane should scale with various pipeline parameters, other than a direct scaling with pipeline throughput capacity. We also note that GHG emission estimates from the pipeline proponents do not yet appear to be available. That may especially be important for the direct emission values for pipeline operations. The analysis of Laurenzi and Jersey (2013) assumes a 0.45% CH_4 leak rate in transmission but they do not state specific assumptions about transmission miles, compressor HP and other factors. Rather, they assume a fraction of total EPA estimates for pipeline CH_4 leakage and compressor CO_2 emissions in 2009 based on the fraction of gross gas withdrawals. The ACP and MVP transmission pipelines, totaling 554.6 miles and 294 miles, respectively, may not be typical of the length and leakage rates implicit in the Laurenzi and Jersey analysis. It would be desirable to update those estimates when more specific information becomes available.

Subramanian *et al.* (2015) recently published an onsite study of compressor station emissions. It includes measurements of methane emissions from 47 transmission line compressor and storage sites. This is claimed to be the most comprehensive set of measurements since the 1996 joint EPA/Gas Research Institute study. However, the measured fugitive methane emission estimates vary by several orders of magnitude among stations and the study found no correlation between emissions and compressor horsepower. Those results, together with results of other studies, indicate that there are large variations in emissions among different technologies used in equipment, probably in the amount of effort companies spend on maintenance of things like seals on compressors, valves, and leaks, and perhaps also in the efforts spent on monitoring to detect leaks.[4] Because of the wide variance in these results and the lack of clear correlation to pipeline parameters such as total horsepower and size of pipeline, we were unable to use the results to replace or compare directly with those of the ExxonMobil study.

[4] An EPA background study, EPA (2014), prepared for analysis of a proposed NSPS standard, estimated the following methane emissions achievable per compressor for each of the three types of transmission compressor: 27.1 metric tonne/year for reciprocating, 126 for centrifugal with wet seals, and 15.9 for centrifugal with dry seals, but those estimates apparently do not include all the other components at a compressor station, which in practice can contribute substantial emissions due to leakage, venting and exhaust emissions.

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Zimmerle *et al.* (2015) published a recent study of the U.S. natural gas transmission line and storage system (T&S) methane emissions. This study's estimated overall US transmission and storage sector emissions for 2012 as 1503 Gg/yr, which were within their statistical uncertainty of EPA's GHGI estimated value of 2071 Gg/yr. They also found super emitter stations that appear to be due to equipment or control malfunctions. One can compare those leakage estimates with the U.S. total value that the ExxonMobil study used as the basis for their generic estimate of pipeline emissions, which was 2,115 Gg/yr for 2009, or 0.45% of total gas production. Since total gross withdrawals in 2012 were about 16.5% larger than in 2009, the Zimmerle study value of 1503 Gg/yr corresponds to a methane leakage rate of about 40% less than the ExxonMobil study, or about 0.27% of gross withdrawals (apparent range of 0.23 to 0.39%). However, both of those estimates refer to averages over a national mix of different pipelines of different sizes, ages and capacities, so it is questionable whether they can be applied directly to specific new transmission pipeline projects. The Zimmerle *et al.* study includes the results from Subramanian et al. (2015) at individual compressor station and storage sites, but apparently extends the analysis. They fit all their results to several different models in order to draw conclusions about the overall population of sites, including the U.S. total T&S emissions cited above. However, it again it is difficult for us to interpret those results in terms of specific estimates for the ACP and MVP pipelines.

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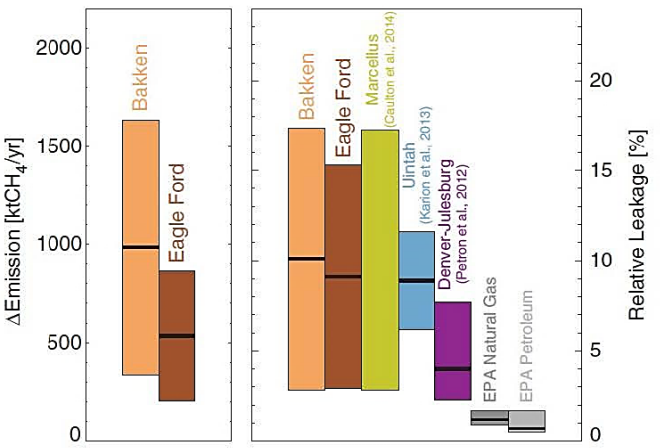

Figure 7. Estimated methane emissions are shown for the targeted regions Bakken in light brown, and Eagle Ford in dark brown. Shown are absolute emission increase (2009–2011 relative to 2006–2008) in the left panel, and the leakage rate relative to production in the right panel, in each case together with the 1σ-uncertainty ranges. For comparison, leakage estimates from previous studies in Marcellus (2012) [*Caulton et al.*, 2014], Uintah (2012) [*Karion et al.*, 2013], and Denver-Julesburg (2008) [*Pétron et al.*, 2012] (yellow, blue, and magenta) are shown together with the EPA bottom-up inventory estimates for natural gas and petroleum systems (2011) [*U.S. Environmental Protection Agency*, 2014] (grey) in the right panel.

Fig. 4. Chart from Schneising *et al.* (2014). (Figure and caption copied directly from Figure 7 of their report)

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Conclusions and Recommendations

The potential total GHG emissions associated with these two proposed new pipelines could greatly increase emissions from this region for decades into the future. Hence, in an era where climate change mitigation will require reducing GHG emissions sharply, decision makers need to consider whether approval of these projects is consistent with national and international goals for climate mitigation.

Given the observed wide variation in methane emissions and the very high total potential GHG emissions, it is important that the transmission pipeline companies and FERC provide complete life-cycle estimates of methane and CO_2 emissions from their projects for the EIS for their proposed pipeline projects, together with detailed documentation of their assumptions so that the potential GHG emissions and other environmental impacts of the pipeline stage can properly be judged. It is clear that expanding gas usage and supporting it with new pipelines and production implies substantially greater total GHG emissions than appear when agencies or advocates focus on only one stage at a time and ignore the indirect impacts of the immediate project.

FERC must recognize that the emerging world commitment to cut GHG emissions, as evidenced by the recent UNFCCC COP21 agreement in Paris, will mean that the operating lives of new natural gas investments are likely to be substantially shorter than the traditional assumption that a pipeline will operate for thirty or more years. Expanding investments based on such rosy assumptions will lead to substantial stranded investments, in addition to increased global warming from excessive GHG emissions. These are ample grounds for rejecting certificate applications for expanded natural gas pipeline capacity. At a minimum, pipeline investors should be placed at risk for under-recovery of investments as a result of overcapacity for transportation of natural gas that cannot continue to be burned at historic, let alone expanded, levels for several decades into the future.

Furthermore, if FERC decides to allow either of the proposed pipelines to proceed, it should require detailed maintenance and emission monitoring plans for new and associated existing pipelines and compressor stations adequate to prevent leaks and detect all releases of methane to the atmosphere in a timely fashion so that substantial leaks can quickly be remedied, both for public safety and to minimize the climate impacts of GHG emissions.

References

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IND 772-1 cont'd

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[i] Prepared for the Virginia Chapter Sierra Club with contributions by Richard H. Ball, Ph.D., volunteer Sustainable Energy Chair, William Penniman, Esq., volunteer Conservation Chair, and Kirk Bowers, PE, Pipelines Program Manager, Virginia Chapter.

INDIVIDUALS

IND773 – Joseph H. Fagan

Dec 19, 2016
Joseph H. Fagan
403 Franklin Drive.
Blacksburg, Virginia 24060
joseph.fagan.mvp.intervenor@gmail.com
joey_fagan@yahoo.com

RE: Draft Environmental Impact Statement Docket # CP1610-000
Dear Secretary Bose,

IND 773-1

As a scientist who has studied the karst hydrology of the Slussers Chapel Conservation Site and performed numerous dye traces to better define the associated karst basin, I am writing you today to express my concerns regarding likely environmental impacts that would likely to occur during the construction and operation of the Mountain Valley Pipeline as currently proposed. The most recent iteration of the MVP's proposed right of way bisects the Slussers Chapel Karst Basin (that substantially defines the boundary of the Slussers Chapel Conservation Site) and crosses no less than five streams flowing into the associated karst. There is considerable likelihood that sediment from the pipeline right of way would periodically wash into the cave system and associated karst aquifer during precipitation events and thereby cause significant environmental impacts.

Comments were provided to EQT Corporation, in a letter dated September 2, 2016, by the Virginia Department of Conservation and Recreation (DCR) that detailed the issues with the proposed routing and the multiple stream crossings. That same letter also put forth a workable solution to the problem by suggesting an alternate routing following along the ridge of Brush Mountain for approximately 1.5 miles to avoid crossing the streams that flow onto the karst. I am concerned that this alternate is not mentioned in the Draft Environmental Impact Statement (EIS) as submitted by the developers of the Mountain Valley Pipeline. I respectfully request that the karst avoidance alternative be studied and properly documented in a revised EIS It would be preferable, if the pipeline is to be built in spite of the strong opposition expressed by the citizens and localities along its path, for the karst avoidance alternative, as presented by DCR, to receive serious consideration and possibly be adopted as the least-impactful alternative.

Sincerely,

Joseph H. Fagan
Karst Hydrologist/Environmental Planner

IND773-1 See the response to comment LA13-19 regarding the VADCR's letter.

Robert Fener
1011 Swapping Camp Road
Amherst, Virginia 24521

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

Docket Number CP 16-10-000 December 19, 2016

Ms. Bose:

IND 774-1 This letter is to unequivocally oppose the Mountain Valley Pipeline and especially from crossing the Jefferson National Forest in Virginia. The idea that environmentalists have to go through literally in excess of a decade, to work on the Forest Plan and a private for profit entity can unilaterally demand amending that forest plan, without going through all the earlier procedural work and planning revisions, renders moot the entire process. This and other similar pipelines have no benefit to the communities and habitat they destroy in the process of running through to export terminals. Pipeline ecological damage is well established from leaks, fire, erosion, edge effect, introduction of weedy exotics, destruction of archeological and historic sites, etc. This pipeline and others, have no place in the areas put aside for outdoor recreation, water supply and flood control, habitat for threatened and endangered species, etc.

After repeated scoping letters, one would assume by now that you are well aware that fracking, the source of the gas, is associated with water pollution, earthquakes, leaks, etc. It is only now, that the new regime says that science no longer matters and agencies, that protect our environment, like the EPA, USGS, NOAA and other government agencies, like USDA, US Defense Department etc. are well in agreement that climate change, global warming, are very real threats to our planet. Just leave it in the ground, as they say. And yes, I am writing this letter on a photo-voltaic powered energy system. Science, shouldn't be determined by what idiot has his name in the White House. Lastly, it occurs to me that if we do away with all the agencies that protect the environment, then we won't need FERC, because everything will be pre-approved and your agency and job are superfluous.

Thank you and be well.

Robert Fener
1011 Swapping Camp Road
Amherst, Virginia 24521

fenerbob@hotmail.com

IND774-1 See the response to comment FA8-1 regarding the LRMP for the Jefferson National Forest. See the response to comment IND2-3 regarding export and hydraulic fracturing. The EIS provides a discussion of invasive species in section 4.4, cultural resources in section 4.10, recreation in section 4.8, threatened and endangered species in section 4.7, and water resources in section 4.3. A revised discussion of flash flooding is provided in section 4.3.2 of the final EIS. See the response to comment IND92-1 regarding leaks.

INDIVIDUALS
IND775 – Pat Curran Leonard

20161221-0087 FERC PDF (Unofficial) 12/21/2016

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

December 19, 2016

FILED
SECRETARY OF THE

2016 DEC 21 P 2:36

FERC

Docket Number: PF15-3-000,
CP16-10-000 or CP16-13-000
customer@ferc.gov

ORIG

IND 775-1

Re: Opposition to the Mountain Valley Natural Gas Pipeline – Monitoring Air for leaks

In the DEIS on page 4-466 it states: "We received comments regarding the ability to detect leaks in the pipeline system when an odorant has not been introduced into the natural gas. The Applicants would install data acquisition systems that allow monitoring of pipeline flows and pressures at various points along the system. The system would permit remote closing of MLVs in the event of an incident along the pipeline systems and would utilize a combination of radio and/or satellite communications to transmit data from the pipeline to the Applicants' pipeline control centers in Pittsburgh, Pennsylvania. In addition, a secondary back-up pipeline control center would be available in Finleyville, Pennsylvania. The data acquisition systems would be monitored by gas control technicians who are on duty 24 hours a day, 365 days a year. If unexpected pressure changes are noted that indicate the possibility of a leak, the gas controller on duty can either shut down the pipeline MLVs upstream and downstream of the apparent leak and/or dispatch field technicians to investigate the pressure change. According to information provided by Mountain Valley, the remotely controlled MLVs could be controlled both locally and remotely and would close within 2 minutes following issuance of a remote signal to close."

I wanted to bring this comment to FERC again because the above statement is not enough to ensure the detection data acquisition system would be enough to make any leak noticeable. One immediate concern is that along the route in very remote areas, the radio and/or satellite communications may or may not connect. These places do not have cellular connection and at times the satellite is not always connecting especially in ice/snow. How will communication be provided? Has the system above and back-up system been used and worked in the past? What safeguards are in place and have been thoroughly tested to ensure the 2 minutes to close metric?

Please provide more details in your responses to very important comments/issues that are brought to FERCs attention. Please do not approve this very for profit business that is not a public good/utility.

Pat Curran Leonard 4638 Dillons Mill Road Callaway, VA 24065 540-929-5184

IND775-1 Section 4.12 of the EIS has been revised to provide a discussion of backup remote sensing if cellular communications are disabled.

INDIVIDUALS

IND776 – David G. Kern, M.D.

37 Bald Mountain Road
Camden, ME04843
December 15, 2016

Federal Energy Regulatory Commission
Kimberly D. Bose, Secretary
888 First St. N.E. Room 1A
Washington, DC 20426

RE: Docket #CP16-10-000 (Mountain Valley Pipeline)

Ms. Bose,

IND 776-1 As both a Maine resident living just three hours from the terminus of the Appalachian Trail on Mt. Katadhin and as an AT section hiker who has thus far hiked from Katahdin to the Delaware Water Gap on the NJ-PA line as well as most of the trail in Virginia, I am concerned that the proposed Mountain Valley Pipeline would pose irreparable harm to this magical scenic pathway. I urge the Federal Energy Regulatory Commission to prevent the short-sighted destruction of this national treasure for the mere transport of an energy source that like the dinosaur will soon be but a relic. This spring I plan to resume hiking the AT where I left off in October on the Pennsylvania state line. I do hope that when I resume hiking I will be able to do so in the knowledge that the trail through Pennsylvania and West Virginia will be protected. Three years from now, by which time I will have completed my first section hike, I will turn 70 and my grandson will turn 10. At that time, we plan to begin section-hiking the trail together. I hope that your actions in the present will guarantee the integrity of our future hike as well as that of others far into the future.

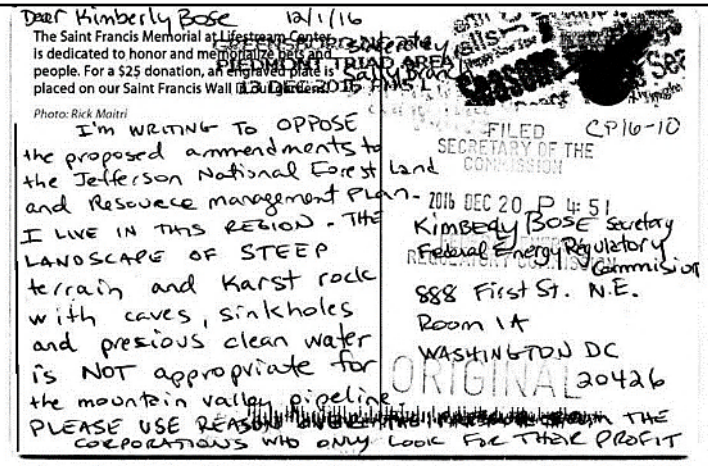
Sincerely,

David G. Kern, M.D.

IND776-1 The ANST would be crossed by a bore. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS. The MVP would not be located within Pennsylvania. The EEP would not impact the ANST.

INDIVIDUALS

IND777 – Individual



Dear Kimberly Bose 12/1/16

The Saint Francis Memorial at Lifestream Center is dedicated to honor and memorialize pets and people. For a $25 donation, an engraved plate is placed on our Saint Francis Wall

Photo: Rick Maitri

I'm WRITING TO OPPOSE the proposed ammendments to the Jefferson National Forest land and Resource management PLAN. I LIVE IN THIS REGION - THE LANDSCAPE OF STEEP terrain and karst rock with caves, sinkholes and presious clean water is NOT appropriate for the mountain valley pipeline. PLEASE USE REASON [illegible] THE CORPORATIONS WHO ONLY LOOK FOR THEIR PROFIT

FILED CP16-10
SECRETARY OF THE COMMISSION

2016 DEC 20 P 4:51

Kimberly Bose Secretary
Federal Energy Regulatory Commission
888 First St. N.E.
Room 1A
WASHINGTON DC
20426

ORIGINAL

IND 777-1

IND777-1 See the response to comments FA8-1 and FA10-1 regarding the LRMP for the Jefferson National Forest. The EIS provides a discussion of steep slopes, karst, and sinkholes in section 4.1. Water resources are addressed in section 4.3 of the EIS. See the response to comment IND3-1 regarding drinking water.

INDIVIDUALS

IND778 – Theodore Mills Kelly

December 15, 2016

Federal Energy Regulatory Commission
Kimberly D. Bose, Secretary
888 First St. N.E. Room 1A
Washington, DC 20426

ORIGINAL

RE: Docket #CP16-10-000 (Mountain Valley Pipeline)

Dear Ms. Bose,

IND 778-1

I am writing to you as a historian of the Appalachian Trail. I teach courses in the Department of History and Art History at George Mason University on the history of the AT and so am deeply immersed in not only the history of the Trail, but also its history as a unique public/private partnership designed to bring the benefits of *both* economic development *and* conservation to the mountain communities of America's Appalachian mountain chain. The proposed Mountain Valley Pipeline threatens both of these objectives of the Trail project and so I am writing to you today to oppose this energy project.

When he came up with the idea for the Appalachian Trail in the 1920s, Benton MacKaye hoped that the Trail would spur Americans of all social and economic groups to come to the mountains, breathe the fresh air, and enjoy a few hours or days of respite under the tree canopy of our mountains. He also hoped that by bringing people from the cities of the East Coast to the mountains, the Trail project would help poor mountain communities grow and prosper. Both of those things have happened—beyond his wildest hopes.

The proposed Mountain Valley Pipeline will slam right through some of the most scenic and iconic stretches of the Appalachian Trail, including Dragon's Tooth, McAfee Knob, and Angel's Rest. I hiked these stretches of the Trail myself this summer and can attest to their unsurpassed beauty. Imagine for just a moment standing on the precipice of McAfee Knob and staring down not at Virginia's beautiful great valley, but at the scar of an oil and gas pipeline. I think you can see the problem.

Some argue that the pipeline is important for the economic development of this region of the state. If that were so important, why would so many local communities have passed resolutions against the pipeline route? Clearly, those who pipeline supports purport to be trying to help don't want that sort of help. The residents of these communities understand how important the natural beauty of their region is the key to their economic survival – not being a transit point for natural gas fracked elsewhere.

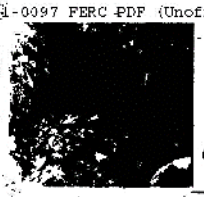
For all these reasons, I strongly urge the FERC to protect the Appalachian Trail and its surrounding landscape and communities. Heed the voices of those who live in the pipeline's route. Heed the voiceless trees, bears, foxes, and flowers of our beautiful Virginia landscape. Heed the voices of our children whose natural world is increasingly threatened by climate change. Find an appropriately sited route for this pipeline rather than the currently inappropriately sited one.

Thank you for your time, your service, and for your consideration of my plea.

Sincerely,

Theodore Mills Kelly
10704 Montgomery Drive
Manassas, VA 20111

IND778-1 The ANST would be crossed by a bore. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS. The pipeline would transport natural gas not oil. Socioeconomics are addressed in section 4.9 of the EIS.



SOS—Save Our Springs

RE: Mountain Valley Pipeline—Docket No. CP16-10-000

Comment:

IND 779-1

Concerning the FERC, DEIS, I am opposed for reason 4.3.2 for the reason that this is an incredibly invasive and irresponsible treatment of our precious and necessary bodies of water.

Name: Danielle Greene

email: g9danielle@gmail.com

Address: 368 Mike Starr Rd
Ronceverte, WV 24970

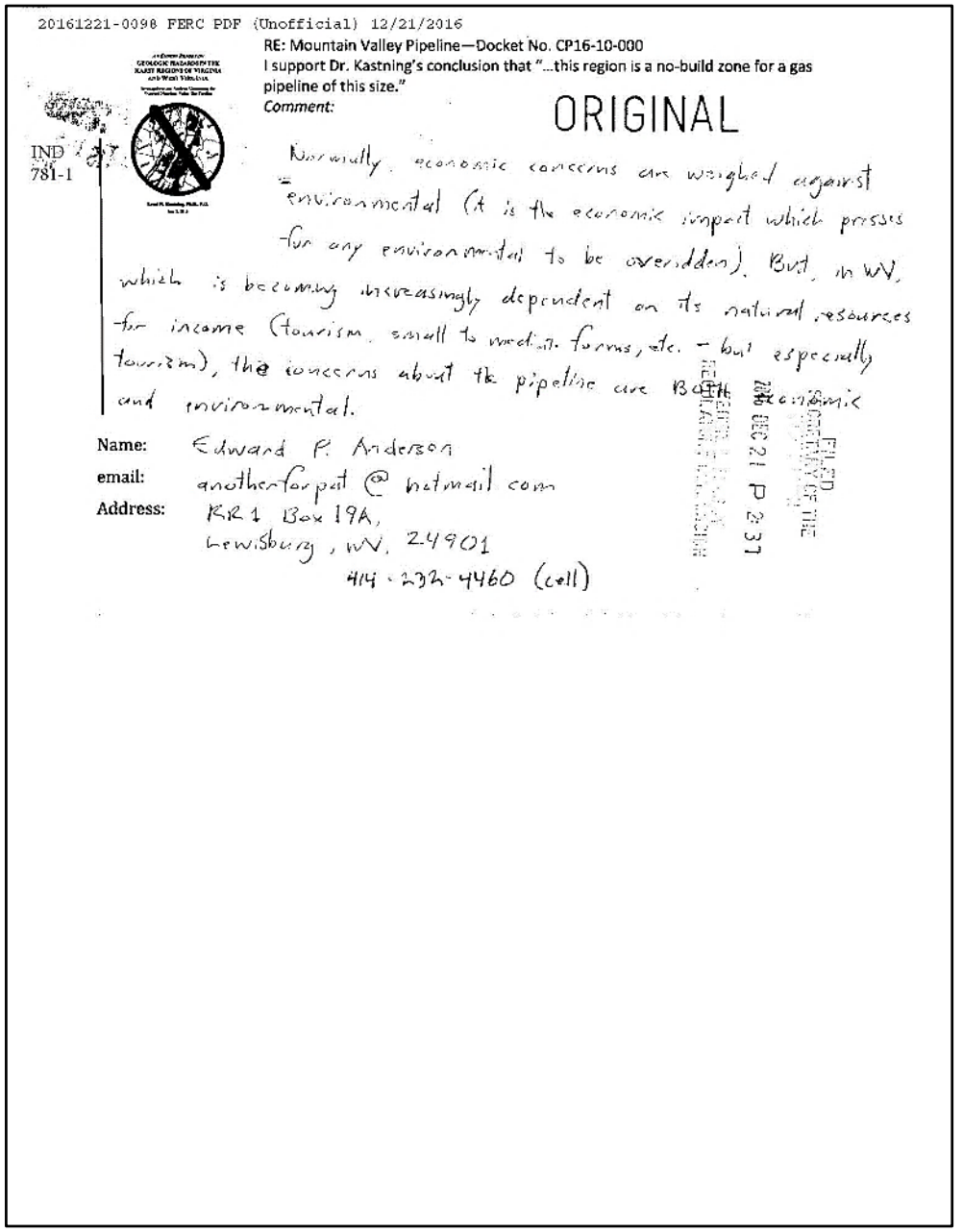
IND779-1 See the response to comment FA11-15 regarding waterbody crossings. Since Mountain Valley would cross all waterbodies using dry techniques, there would be a low potential for downstream sedimentation and turbidity

20161222-5045 FERC PDF (Unofficial) 12/22/2016 9:12:41 AM

Megan Motz, Fayetteville, WV.

IND 780-1 The Mountain Valley Pipeline is a serious threat to the residents of West Virginia and Virginia. For these reasons, I urge you to find that the Mountain Valley Pipeline is not in the public interest and reject its application.
1. Existing infrastructure is more than sufficient to meet the energy needs of this region.
2. Environmental impact of this project will be immense and irreversible.
3. It will infringe on the rights of private landowners.
4. Numerous incidents of leaks and explosions are a direct risk to residents and environment.
5. Protest against this project will create social unrest. Protest will not stop until this application is denied.

IND780-1 Section 3.3 of the EIS provides a discussion of existing systems as an alternative to the proposed projects. We conclude that with mitigation, the project is not likely to have significant impacts on most environmental resources (except forest). The right-of-way would be restored and revegetated following construction (see section 2.4.2 of the EIS). Landowner rights are discussed in section 4.9 of the EIS. See the response to comment IND92-1 regarding leaks. See the response to comment IND2-1 regarding safety.



20161221-0098 FERC PDF (Unofficial) 12/21/2016

RE: Mountain Valley Pipeline—Docket No. CP16-10-000

I support Dr. Kastning's conclusion that "...this region is a no-build zone for a gas pipeline of this size."

Comment:

ORIGINAL

IND 781-1

Normally, economic concerns are weighed against environmental (it is the economic impact which presses for any environmental to be overridden). But, in WV, which is becoming increasingly dependent on its natural resources for income (tourism, small to medium farms, etc. – but especially tourism), the concerns about the pipeline are Both economic and environmental.

FILED
FEDERAL ENERGY REGULATORY COMMISSION
2016 DEC 21 P 2:31

Name: Edward P. Anderson

email: anotherforpat@hotmail.com

Address: RR1 Box 19A,
Lewisburg, WV. 24901
414-232-4460 (cell)

IND781-1 See the response to comment IND62-1 regarding Dr. Kastning's report. Tourism is discussed in section 4.9 of the EIS.

Meredith Simmons, Shawsville, VA.

IND 782-1 Please do NOT let the Mountain Valley pipeline be approved. It will scar landscapes and make the AT much less beautiful. I understand that we need to transport fuel for energy, but this project is HUGE and affects our land in such a negative way. Listen to the people who will have to look at it all the time-- we don't want it! Please consider more factors than money and big business. Consider the people, the land, the environment, and my small voice.

IND782-1 The ANST would be crossed by a bore. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS.

T Hatfield, Chestertown, MD.

IND 783-1 My family is from the heart of Appalachia. We are rooted deep in coal country. The recognition of the challenges of energy, financial security for regions rich with natural resources and the protection of land is important and understood even by those who wish to conserve. Our immediate needs have always taken priority over long term goals and we see and feel the damage of this way of thinking every day. Innovation is needed to reduce the impact on the natural resources we have to prevent catastrophe, not only in the case of natural damage but also a refusal to address long term consequences that could leave the area and the people high and dry. Let us stop putting this off by relying on finite resources and focus more on having a pristine Appalachia that can bring tourism and outdoor pastime revenue indefinitely, while using the infinite resources of human creativity to solve our energy challenges in a more sustainable way. The people of the area need better jobs, the people of the country need better energy and the people of the world need and deserve a preserved planet and environment.

IND783-1 Tourism is discussed in section 4.9 of the EIS.

INDIVIDUALS

IND784 – Marilyn Amerson

20161222-5060 FERC PDF (Unofficial) 12/22/2016 10:10:14 AM

Marilyn Amerson, Callaway, VA.
I am opposed to the Mountain Valley Pipeline for three reasons:

IND 784-1 1. Safety: The proposed pipeline cuts off any access we have to roads of escape in the event of an explosion or problem. We live in a remote area that does not have cell phone service. There are at least a dozen households who would need to access Dillons Mill Road to escape in the event of a problem. We would all be trapped in a mountainous area. We have recently seen what happened in Gatlinburg with the wildfires and statistics show that, since 2010, more than 3,300 gas leaks have occurred in the U. S. In September 2015, a 30 inch pipeline exploded in New Mexico and ten people were killed. A 2010 explosion caused a fire that killed 8 people and damaged 70 homes.

IND 784-2 2. The environmental impact statement does not adequately describe the impact of this project: The statement says the pipeline would be minimally invasive, however this area is very rocky and a great deal of blasting will be required to seat a pipeline of this size. This blasting will affect the foundations of homes and wells and the streams in the area. These streams contribute significantly to one of the main branches of one our areas most important resources—Smith Mountain Lake. The high insurance rates and lower home values will be personally devastating to small, unimportant people like us, but will likely, at some point affect an affluent and economically significant economic treasure in our state. The issue isn't just the initial installation of this pipeline, but the subsequent maintenance and probable neglect as fracking becomes an increasingly disparaged source of energy and is replaced by other sources.

IND 784-3 3. The pipeline exists for the profit of a select few and is not for the common good: The land we live on belonged to my grandfather. When he lost the land (in the Great Depression) my father loved this area so much that he earned the money to repurchase it. My father allowed electric lines to be built and allowed right-of ways for an improved road that benefitted everyone. Research from other pipeline areas shows that, while the pipelines make a huge profit, this area will actually suffer economically as local workers will not be included in the building process and property-owners will suffer from high insurance fees, lower property values, pollution, water shed damage, infrastructure cost increases and slowed tourism. Recent statistics show that there are sufficient reserves for natural gas through at least 2030. A large natural gas company in New Mexico has called off plans to build a plant and pipeline because there were sufficient reserves already. The practice of fracking has come under fire in this country and has been outlawed in New York. What happens to this massive pipeline when this line is no longer in use? How many people will have been poisoned and how much of this pristine natural area (especially the national forest lands) will have been decimated for no reason—except for the greed of a very few?

IND 784-4 I have waited to give these comments because I don't believe my comments will make any difference. The same day that FERC held a meeting in Roanoke (where I was denied the right to complete my comments) the energy companies were negotiating and paying for easements with my neighbors. Apparently, the gas companies don't think FERC will rule against them, either. I live on land that will be visually affected by this project.

IND784-1 See the response to comment IND2-1 regarding safety. See the response to comment IND18-2 regarding emergency response.

IND784-2 See the response to comment CO14-1 regarding blasting. See the responses to letter CO14 regarding Smith Mountain Lake. See the response to comment IND12-1 and IND12-1 regarding property values and insurance. See the response to comment IND2-3 regarding hydraulic fracturing.

IND784-3 See the response to comment FA11-12 regarding need. See the response to comment IND13-2 regarding benefits to the local communities. See also the response to comment IND191-3 regarding local jobs. Tourism is discussed in section 4.9 of the EIS.

IND784-4 See the response to comment LA2-1 regarding the draft EIS comment sessions. See the response to comment LA13-17 regarding easement negotiations prior to approval. See the response to comment CO14-1 regarding blasting. See the response to comment IND3-1 regarding drinking water.

INDIVIDUALS

IND784 – Marilyn Amerson

IND 784-4 cont'd

My water will be poisoned and my foundations will probably crumble, but I have no say and no legal recourse for damages because this line is not running through my land—nor would I wish it to do so.
My father left his wife and young son behind to fight in WWII. He owned a business and did not believe in government intervention and did not even accept veteran's benefits of any kind. I'm glad isn't alive today to see his beloved countryside under attack from our own government. I wish I weren't alive to see it, either.

INDIVIDUALS

IND785 – Christopher Lish

20161222-5061 FERC PDF (Unofficial) 12/22/2016 10:18:23 AM

Christopher Lish, San Rafael, CA.
Thursday, December 22, 2016

Subject: Reject the Mountain Valley Pipeline application -- Draft Environmental Impact Statement for the Mountain Valley Project and Equitrans Expansion Project (CP16-10-000 and CP16-13-000)

Dear Secretary Bose:

IND 785-1 The proposed Mountain Valley Pipeline (MVP) is not in the public interest. It poses very real threats to public health and safety in West Virginia and Virginia. Not only will it have permanent adverse impacts on the local environment, it will also drive several more decades of global climate pollution.

Studies show that existing gas infrastructure is more than sufficient to meet regional energy needs for residents and industry. Therefore, the primary beneficiaries of the pipeline will be private companies. This is deeply concerning, given that a Certificate of Public Convenience and Necessity would allow the taking of private property for this project.

The Draft Environmental Impact Statement (DEIS) issued by the Federal Energy Regulatory Commission (FERC) rightly concludes that constructing the pipeline will have significant adverse impacts to forests. However, the DEIS fails to fully account for the other threats posed by the MVP, such as:

IND 785-2 1. Safety. The DEIS merely states that pipeline developers would comply with minimum construction and operation standards. It gives no reason for people living within the 1,400-foot blast radius to feel safe. The National Transportation Safety Board documents interstate pipeline accidents, and its database includes numerous recent natural gas pipeline ruptures, leaks, and explosions. (http://www.ntsb.gov/investigations/AccidentReports/Pages/pipeline.aspx) Moreover, studies show a spike in accidents involving new pipelines in recent years. (http://ieefa.org/wp-content/uploads/2016/05/Risks-Associated-With-Natural-Gas-Pipeline-Expansion-in-Appalachia-_April-2016.2.pdf)

IND 785-3 2. Water Quality. The pipeline would cross more than 1,000 waterways and wetlands. People living in the region rely on headwater streams and other water resources that stand to be significantly impacted by this project, yet the DEIS dismisses these concerns, saying only that developers would "evaluate any complaints" and "identify suitable settlements" in the event of contamination.

IND 785-4 3. Climate Change. The DEIS fails to adequately address the greenhouse gas lifecycle of a project that enables an additional 2 billion cubic feet of natural gas to be shipped and burned per day. This is not a sufficient analysis of the full climate impacts as required under National Environmental Policy Act.

IND785-1 We conclude that with mitigation, the project is not likely to have significant impacts on most environmental resources (except forest). The right-of-way would be restored and revegetated following construction (see section 2.4.2 of the EIS). Climate change is addressed in section 4.13 of the EIS. Section 3.3 of the EIS provides a discussion of using existing systems as an alternative to the MVP. See the response to comment IND1-3 regarding eminent domain.

IND785-2 See the response to comment IND2-1 regarding safety.

IND785-3 See the response to comment IND3-1 regarding drinking water. We found the Applicants proposed mitigation would be protective of drinking water.

IND785-4 Climate change is addressed in section 4.13.

20161222-5061 FERC PDF (Unofficial) 12/22/2016 10:18:23 AM

IND 785-5

4. Forest and Habitat. The project will permanently impact thousands of acres of prime forest and farmland and fragment habitats of species listed threatened or endangered, such as the endangered northern long-eared bat. The DEIS fails to look at the cumulative effects that the pipeline would have on vegetation and wildlife, instead waving off these concerns, only saying that FERC will consult with the U.S. Fish & Wildlife Service.

IND 785-6

5. Air and Noise Pollution. The DEIS states that one of the compressor stations will violate the Clean Air Act, but it leaves that issue to the West Virginia Department of Environmental Protection to resolve. There is also the significant issue of a once-proposed compressor station in Virginia that was removed from MVP's application of October 23, 2015. Even after the application's filing, residents in Montgomery County, VA reported that MVP surveyors and engineers continued in their efforts to site a compressor station in Virginia. This is on the record with the Montgomery County Board of Supervisors as of April, 2016. FERC must state definitively whether additional compression will be required, and it must consider the environmental impacts of an additional compressor station within the context of the proposed project.

IND 785-7

6. National Treasures. The DEIS does not fully consider the harm to the region's history. The pipeline would cross six historic districts and several archeological sites. The pipeline would also cross the Weston and Gauley Bridge Turnpike, the Blue Ridge Parkway, and the Jefferson National Forest (including the Appalachian National Scenic Trail and the Brush Mountain Inventoried Roadless Area), and the DEIS says FERC will consult with the U.S. Forest Service to minimize impacts. However, the Forest Service has already commented that the sum of these crossings will result in significant impacts. The EIS process should not move forward until all concerns raised by the Forest Service are addressed.

IND 785-8

7. Local Economies and Environmental Justice. The DEIS points out that 14 out of 17 counties along the proposed route have poverty rates above their respective statewide averages. These are the places where the environmental impacts will occur. Yet instead of addressing how the environmental impacts will be mitigated, the DEIS states that short-term employment and local spending during construction will somehow offset community impacts. A short term bump in local spending does nothing to reduce the risks to public health and safety endured by these communities.

IND 785-9

The DEIS ultimately fails to assess the true need for this new pipeline given the availability of renewable energy and existing pipeline capacity. That the FERC allows companies to seize private land through eminent domain without a comprehensive evaluation of the need for the pipeline is shameful.

A thorough examination of this project would show that the public and environment lose, while the gas industry profits. I urge you to find that the Mountain Valley Pipeline is not in the public interest and to deny Mountain Valley Pipeline's application or, at minimum, conduct a Programmatic Environmental Impact Statement that assesses all the regional pipeline projects in one document.

IND785-5 See the response to comment FA15-5 regarding forest impacts.

IND785-6 Regulations require Mountain Valley to submit a Title V application for one of the compressor stations. As stated in section 4.11.1.3 of the EIS, modeled air quality screening analysis performed for each of the new compressor stations (the MVP's Bradshaw, Harris, and Stallworth and the EEP's Redhook) show that emissions due to the compressor stations' operations would not exceed the NAAQS. Any additional pipelines, taps, or compressor stations would require an amendment or new application, with a separate NEPA review by the FERC staff, and additional permitting by other local, state, and federal agencies.

IND785-7 The assessment of the ANST crossing has been revised in section 4.8 of the final EIS. Impacts and proposed mitigation measures for the crossing of the Weston and Gauley Bridge Turnpike Trail and the BRP are provided in section 4.8. Historic Districts are discussed in section 4.10 of the EIS.

IND785-8 The environmental justice analysis provided in section 4.9 of the EIS is consistent with EO 12898. We conclude that low income communities in the project area would not be disproportionately affected.

IND785-9 See the response to comment FA11-12 regarding need. See the response to comment IND1-3 regarding eminent domain. The reasons the FERC did not prepare a programmatic NEPA document is explained in section 1.3.

INDIVIDUALS

IND785 – Christopher Lish

IND 785-9 cont'd

Thank you for your consideration of my comments. Please do NOT add my name to your mailing list.

Sincerely,
Christopher Lish

INDIVIDUALS

IND786 – Suzanne Vance

Suzanne Vance, Weston, WV.
Suzanne Vance
158 Court Avenue
Weston, WV 26452

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, D.C. 20426 December 21, 2016

RE: Mountain Valley Pipeline docket number CP16-10-0000, Impact on WV-LE-133

Dear Ms. Bose,

IND 786-1

MVP has moved the pipeline easement off of my property by 8 feet in the back of the valley. They moved it to this new location because of the severe possibility of mountain slips as they were originally going in a zig zag of several switchbacks over a very steep ridge. They moved it onto the property owned by Coastal Timberlands, which shares my valley road easement for over 6,000 linear feet.

The area that they are now traversing goes directly through the junction of two headwater creeks that quickly turns into an ancient creek bed which is 20 to 30 feet wide in most places. The area represents the main headwater pool for three steep mountains. It is an impressive wetland habitat which turns into Second Big Run. Second Big Run, which follows the road into the valley, flows into Oil Creek, which flows directly north to the Stonewall Dam in Lewis County. The Stonewall dam and resort are the number one tourist destinations for the county. In the event of any contamination, the reservoir would be permanently contaminated. The dam is also a source of water supply for several cities north of Weston, WV. In the 1950's, the area was designated as a recreational area due to the steep mountains and lack of viable building area.

MVP asked me if they could store their pipe at the base of Second Big Run. I told them that the area was a wetland habitat, with the water table about 4 feet below the surface. Furthermore, in the back of the valley where they have moved the pipe route, springs are bubbling up all along the road. Within 100 feet of their route, springs are bubbling up in all areas.

In my previous comments, I described a huge mountain slip, which is more than 400 feet in size that is within 400 feet of the new designated route. The story goes that the slip occurred when Coastal was putting in skid roads for timbering. The slip happened. They fixed the slip and it slipped again. Finally, they determined that there was a spring under the area.

MVP sent out an engineer, as they tell me, who said there was no issue. However, no one with any common sense would direct a pipeline to plow through two headwater creek beds in an area which is prone to torrential flash floods with an existing slip in view. This is why they moved the pipeline off of my property in the first place. They need to move the pipeline out of that Second Big Run valley completely, and go further

IND786-1 The commentor's statements are noted. A revised discussion of flash flooding is provided in section 4.3.2 of the final EIS. Waterbodies are discussed in section 4.3 of the EIS.

INDIVIDUALS

IND786 – Suzanne Vance

20161222-5062 FERC PDF (Unofficial) 12/22/2016 10:33:46 AM

IND 786-1 cont'd
IND 786-2
north, along established road corridors. However, it is my understanding that my corporate neighbors have already received a vast amount of money for this new pipeline route.
MVP now says that they want me to grant them a temporary easement to carry 2 miles worth of pipeline and 900 men across my little valley road so that they can build it to the interstate and across Coastal's property, from our valley. We are happy that they want a temporary easement, rather than a permanent easement; however the amount of potential damage to the watershed has not been addressed.
I asked them what would be the rate of increase of annual water runoff into Second Big Run. I asked them to calculate the slope, annual rainfall and surface water increase from the vast amount of deforestation impacting the two headwater creeks where they intend to plow directly through the creeks. They never answered my question. I told them that I would have to apply for an Army Corp Permit to have the creek banked with rock, through my farm to prevent the small green hay fields from being permanently washed out. They said they could not assess anything more than 40 feet from the pipeline. This is inadequate, as they have so much money that they could do the assessments.

IND 786-3
Second Big Run is an ancient creek, full of fish and other creatures that have been living there for eons. MVP said there would be a great deal of sedimentation from the vast deforestation operation at the headwaters of the creek. They did not say how they will fix this problem and keep all the fish from dying. They did not say how the creek will hold up when all the bedrock has been removed and replaced with a big pipe, right where there are so many springs bubbling out of the ground. Common sense says this is just a dumb idea of theirs in the first place, especially with the issues of torrential flooding every year now.

IND 786-4
Their pipeline route is also taking away my permanent access easement to get to the back 300 acres of my farm. They say that they have no intention of reimbursing me for lack of access to my property during the construction phase. They have failed to address the issue of replacing the existing road with a parallel road for which both Coastal Timberlands and I share. The replacement road needs to be able to support 20 ton trucks for gas well access and be of hard bedrock to support timber trucks for Coastal's timber business. Coastal VP also said they had failed to adequately address this issue. They have only offered us easement rights on their steep greenway. This is totally inadequate. There will be no way to access the gas well, which is in operation, at the top of the hill. What if there is some accident there? They made no plan whatsoever for access there. Who is to say that moving all that dirt for the pipeline will not cause some underground movement as well? The area around the pipeline route is so interdependent on the adjacent hills and trees remaining intact. If a slip results on my property due to them deforesting the area 8 feet from my property line, I will not consider it a coincidence: rather a deliberately un-assessed environmental impact from MVP.

IND 786-5
They sent out water testers, who I accompanied to about 9 areas where the springs are bubbling out of the ground just south of the pipeline route on my property. They never gave me a copy of the test results, even though I spent the entire morning helping the water testers.
I asked them about the potential for massive flooding, from plowing through two headwater locations. It is a clear concept that man cannot defile nature without consequence. On June 23, 2016, thunderstorms

IND786-2 Mountain Valley is proposing to install a portion of temporary access road MVP-LE-077.01 on the commentor's parcel. Following construction the access road would be removed and the area restored. See the response to comment IND70-1 regarding erosion.

IND786-3 A revised discussion of sedimentation and turbidity can be found in section 4.3 of the final EIS. Since Mountain Valley would cross all waterbodies using dry techniques, there would be a low potential for downstream sedimentation and turbidity. See the response to comment IND70-1 regarding erosion. A revised discussion of flash flooding is provided in section 4.3.2 of the final EIS.

IND786-4 As stated in the response to comment IND786-2, access road MVP-LE-077.01 would be temporary. Temporary access roads would be restored to their original condition and land use.

IND786-5 A revised discussion of flash flooding is provided in section 4.3.2 of the final EIS. The commentor's statements regarding the water testing results are noted. Section 4.3.2.1 of the EIS discusses monitoring and testing of water wells within 150 feet of the proposed workspaces as well as testing of wells and springs within 500 feet of karst areas.

IND 786-5 cont'd

brought torrential rain to much of West Virginia, resulting in accumulations of up to 10 in (250 mm) in 12-24 hours, quoted from Wikipedia. I understand that several pipeline areas were washed out during that flood. I was told that gas companies are suing each other for washing out each other's gas lines. If this is true, then you better just move the line. I have seen torrential flooding in my valley. MVP has repeatedly ignored addressing this issue. It would still be best if the pipeline was moved completely onto a main road corridor and out of these very steep hills, which serve as a headwater basin for the West Fork River.
The temporary road easement that they want will have to have 5 timber crossings and 9 culverts redone. I can live with the temporary road easement, however with none of the EPA impact issues to adjacent landowner's water, creeks, etc., this is a flawed plan. Here are the other issues that must be addressed in writing by MVP:

IND 786-6

Section 4.3.2 Stream Crossings: The DEIS states that MVP plans to cross the Elk, Gauley and Greenbrier Rivers using the open-cut wet crossing method. This method uses no water diversion and is the most invasive and impactful crossing method available. FERC must require MVP to minimize impacts during river crossings including reducing the construction area to a minimum. Please address the method to be used to go across Second Big Run in Lewis County.
• Section 4.3.3 Wetland Crossings: The DEIS claims there is no net loss of wetlands, but then states that MVP has not supplied information regarding their proposal to permanently fill 44 wetlands along access roads. The permanent filling of 44 wetlands is a significant impact. Information on wetland impacts must be provided to FERC. WV-LE-133 will suffer permanent wetland impact from the pipeline route.

IND 786-7

• Section 4.3.1 Groundwater: Private and domestic drinking water wells within the pipeline route have not yet been identified. FERC cannot determine the impact of blasting on water wells without this information. All water wells within the impact zone must be identified in the DEIS. I was not provided with a copy of the water testers' report. They said MVP would not pay for all of them, even though the creek was assessed in several places due to the high number of springs.

IND 786-8

• Section 4.6 Aquatic Resources: The DEIS does not adequately assess impacts of construction on aquatic life. MVP has not submitted the results of their analysis on sedimentation and turbidity from wet crossing methods. This information must be included in the DEIS. I mentioned this in my comments above.

IND 786-9

• Section 4.1.1.5 Geologic Hazards: The DEIS identifies 94 karst features, or caves, to be crossed by MVP. FERC has requested route variations to avoid some of these features. A study to determine interconnection between karst and water resources has not been completed. FERC must require a final route that avoids all karst features. In addition, going next to an obvious slip, in an obviously hazardous area is not wise. The pipeline should be moved to a major road corridor where it can be accessed in the event of an accident. There is no access to this pipeline other than it's own easement, in rugged central WV, next to my farm. After seeing the washout of the Stonewall gathering Line, 3 miles away, under WV DEP jurisdiction, it is obvious that if there is an

IND786-6 See the response to comment FA11-15 regarding waterbody crossings. Since Mountain Valley would cross all waterbodies using dry techniques, there would be a low potential for downstream sedimentation and turbidity. See the response to comment IND209-1 regarding the permanent fill of wetlands.

IND786-7 See the response to comment LA15-14 regarding water wells and blasting.

IND786-8 A revised discussion of sedimentation and turbidity can be found in section 4.3 of the final EIS. Since Mountain Valley would cross all waterbodies using dry techniques, there would be a low potential for downstream sedimentation and turbidity.

IND786-9 Section 4.1 of the final EIS has been revised to provide additional details regarding karst features in the project area. See the response to comment IND70-1 regarding erosion. See the response to comment IND152-1 regarding third-party monitoring.

IND 786-9 cont'd

accident, the hills are too steep to walk on . They had to seed it with a helicopter. Oil Creek was contaminated. No one should eat any fish from the Stonewall Reservoir: sad, as fishing is supposed to attract tourists to spend local dollars in Lewis County.

IND 786-10

• Section 4.1.2.4 Landslide Potential: The DEIS states that 78% of the pipeline route is highly susceptible to landslides; however, MVP has not supplied a detailed Landslide Mitigation Plan. FERC has requested route adjustments, additional information on landslide prone areas, and additional Best Management Practices (BMPs) to mitigate hazards from potential landslides. This information must be included in the DEIS. I was not presented with any mitigation plan for slides next to my property or for access roads to the back majority of my land.

Sincerely,

Suzanne W. Vance
Submitted by email.

IND786-10 See the response to IND177-1 regarding landslides and Mountain Valley's revised *Landslide Mitigation Plan*.

Bruce Mahin, Radford, VA.

IND 787-1 The Mountain Valley Pipeline proposed route crosses geologically unstable karst making it unsuitable for the proposed path. This project creates an environmental risk of water table contamination for thousands of residences living along the proposed pipeline path. Moreover, damage to the view-shed caused by the proposed pipeline will cost local businesses millions of dollars in lost revenue in an area where tourism, hiking, boating, hunting and fishing are the only means of financial support for the residents. This pipeline should follow any of the many pre-existing right-of-way routes in this area. Please do not approve this application as it is proposed. Thank you.

IND787-1 We conclude that with mitigation, the project is not likely to have significant impacts on most environmental resources (except forest). The right-of-way would be restored and revegetated following construction (see section 2.4.2 of the EIS). The EIS provides a discussion of karst in section 4.1, water resources in section 4.3, visual resources in section 4.8, tourism in section 4.9, recreation in section 4.8. Section 3 of the EIS provided an assessment of existing utility right-of-ways.

Kara Vaneck, Weston, WV.

IND 788-1 As a plant lover, vice president of the WV Herb Association and West Virginian by choice, I am particularly interested in how the statement addresses the threat the pipeline poses to the biodiversity of the flora in our state. Table 4.7.2-1 lists only federally endangered species as defined by the Endangered Species Act. From what I understand, that list is pretty exclusive. The assessment ignores nearly all of the plants listed as rare, threatened or endangered by the DNR (http://www.wvdnr.gov/Wildlife/PDFFiles/RTE_Plants.pdf). Before proceeding with such an enormous project, a more comprehensive assessment of plant life should be done.

IND 788-2 Furthermore, the document addresses the global warming potential of the pipeline only in regard to the greenhouse gas emissions of construction and operation projects, but ignores the surge in greenhouse gas emissions that will occur with the increase in consumption of natural gas, a direct result of increased availability offered by the MVP.

IND788-1 As stated in section 4.7.2 of the EIS, table 4.7.2-1 is limited to those species that occur or potentially occur in the MVP area.

IND788-2 See the response to comment FA15-10 regarding emissions due to consumption of gas.

Deborah Rosen, Pennsboro, WV.

IND 789-1 I am writing to object to Mountain Valley Pipeline, LLC's request to build a natural gas pipeline thru West Virginia and Virginia. First, Mountain Valley's application is incomplete and does not address all environmental impacts such a pipeline would have. If they can't complete a document properly, how can they be expected to complete a complex, dangerous project properly?

IND 789-2 Second, snaking through one of the most treasured hiking trails in the United States, the proposed Mountain Valley Pipeline threatens wildlife habitat, recreational lands and the health of local communities, while setting a precedent of building energy infrastructure through national forests.

IND 789-3 Third, it would violate the 2001 U.S. Forest Service "roadless rule," which establishes prohibitions on road construction, road reconstruction, and timber harvesting on 58.5 million acres of inventoried roadless areas on National Forest System lands.

IND 789-4 Fourth, this pipeline is unnecessary. A study presented by the Southern Environmental Law Center and Appalachian Mountain Advocates in September, 2016 examined the MVP project (and the Atlantic Coast pipeline) and found that current capacity is more than enough to last at least through 2030. Fifth – and while last, not least – it's not wanted by the citizens of these communities, and in spite of the seemingly successful corporate overthrow of government by the people, for the people, it is the citizens of these United States that own that land. We say no. Dare you say otherwise?

IND789-1 Comments noted.

IND789-2 The ANST would be crossed by a bore. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS. See the response to comment IND270-1 regarding wildlife.

IND789-3 The Roadless Area Conservation Rule and impacts to roadless areas under this regulation are discussed in section 4.8 of the EIS.

IND789-4 See the response to comment FA11-12 regarding need. See the response to comment IND1-3 regarding eminent domain.

INDIVIDUALS
IND790 – David Flores

20161222-5084 FERC PDF (Unofficial) 12/22/2016 11:08:20 AM

David Flores, Catawba, VA.
Federal Energy Regulatory Commission
Kimberly D. Bose, Secretary
888 First St. N.E. Room 1A
Washington, DC 20426

RE: Docket #CP16-10-000 (Mountain Valley Pipeline)

Ms. Bose,

IND 790-1

I am shortly moving to the small town of Catawba. Our little town is located between two of the most popular and magnificent day-hiles on the Appalachian Trail, and the Roanoke/Blacksburg region receives a lot of visitors who stop and recharge as they hike along one of the most beautiful trails in the world. The AT has a way of positively affecting all the areas along which it runs, reminding us of simpler things and better ways of living. The Mountain Valley Pipeline will be detrimental to this very important cultural and environmental asset. To put this dangerous pipeline along the route, and especially to ruin some of the most prized vistas along the Appalachian Trail (i.e. McAfee Knob), would be tantamount to a complete destruction of the sanctity of the trail's character, the value and character of our National Forest, and the trust that the people of this country place in the hands of government institutions like the US Forestry Service. I implore you not to allow the Mountain Valley Pipeline to render such damage to our Public Trust to the mere financial benefit of a small minority of stakeholders in the MVP.

- The pipeline will ruin views. If money is all that is cared about by some actors involved, then please remember this will adversely affect the tourism dollars headed to areas like my hometown.

- The pipeline WILL ruin water sources it would pass over. This isn't a hypothetical. They all do eventually. There are regions of seismic instability along the proposed route. To build upon these regions something as volatile as a pipeline is obviously folly.

- In order to accommodate the visual and environmental damage that would be caused by the Mountain Valley Pipeline, the U.S. Forest Service agreed to lower the Jefferson National Forest Management Plan standards for water quality, visual impacts, the removal of old-growth forest, and the number of simultaneous projects passing through the borders of federally protected land. This unprecedented change is extremely reckless, as it would open the gates for future infrastructure projects to cause similar destruction.

- Fossil fuels are bad for the environment. They are bad for people's health. They are bad for sustainable business models we need to build now in order to provide for our children. Yet here we are, debating investing in the wrong technologies and further entrenching us in systems we are supposed to be getting away from, all so a small handful of people

IND790-1 The ANST would be crossed by a bore. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS. Tourism is addressed in section 4.9 of the EIS. See the response to comment IND3-1 regarding drinking water. See the response to comments FA8-1 and FA10-1 regarding the LRMP for the Jefferson National Forest. See the response to comment FA11-12 regarding need.

IND 790-1 cont'd

can make money. People such as myself will be there in the future, pointing at those responsible.

- Finally, but not least, the proposed pipeline is NOT in the public interest, as evidenced by several financial studies of its projected economic impact on the communities it purports to serve. See Key-Log Economics, 2015. "Reason for Caution: Mountain Valley Pipeline Economic Studies Overestimate Benefits, Downplay Costs." Also Institute for Energy Economics and Financial Analysis, 2016. "Risks Associated With Natural Gas Pipeline Expansion Across Appalachia." The cited studies directly undercut the claims made by FTI Consulting in its 2014 financial study and reporting for MVP.

I urge FERC to protect the our Public Trust National Forest and Park lands, the Appalachian Trail, and the surrounding landscape and communities. Please evaluate the comprehensive need for pipeline development to transport natural gas from the same Marcellus shale plays in a single Programmatic Environmental Impact Statement so that this infrastructure can be appropriately sited and the cumulative impacts to our National Parks, National Forests, and private lands can be understood before moving forward. It is FERC's duty to serve the public interest — the alternative will be a turning point for the worse in an area that offers recreation and inspiration for millions of people.

Sincerely,

David Flores

INDIVIDUALS
IND791 – Freeda Cathcart

20161222-5086 FERC PDF (Unofficial) 12/22/2016 11:11:33 AM

Freeda Cathcart, Roanoke, VA.
Freeda Cathcart
Public Policy Chair for the General Federation of Women's Clubs for Virginia (GFWC of Va.)
2516 Sweetbrier Ave SW
Roanoke, VA 24015

Ms. Kimberly D. Bose Secretary
Federal Energy Regulatory Commission
888 First Street. NE, Room 1A
Washington, DC 20426
December 22, 2016

Re: CP16-10-0000

IND 791-1

The GFWC of Va. finds the EIS for MVP inadequately addresses our continuing concerns about their proposed pipeline through Virginia. Our organization represents over 4,000 women in Virginia and the resolutions below represent over 100,000 women worldwide. The proposed high capacity natural gas pipeline isn't necessary for our economy. There are ample concerns that it could be detrimental to our economy while putting our environment and public safety at risk. There are other ways for the natural gas to be transported to market without using a high capacity pipeline.

Below are our resolutions to support our opposition to granting MVP a permit for their proposed pipeline through Virginia:

015-200 Eminent Domain (Convention 2006; Amended 2007; Reviewed 2011; Amended 2015) "...Restricts the exercise of eminent domain to those cases where the land is required for a legitimate public use and where a public benefit can be demonstrated; ..."

IND 791-2

011-090 Global Warming (Convention 1991; Amended 1995; Amended 1998; Reviewed 2002; Amended 2006; Reviewed 2010)
"The General Federation of Women's Clubs urges action by government and industry worldwide to:
• Reduce emissions of harmful greenhouse gases;
• Research and develop economically feasible alternative energy sources;
• Implement sound agricultural and forestry practices to prevent deforestation and irreversible damage to tropical rain forests;
• Promote international cooperation to address this issue;
• Promote efficient use of energy..."

IND 791-3

011-200 Water Quality and Supply (Convention1993; Reviewed1997;Amended2001;Amended 2005; Amended 2009; Amended 2013)
"...The General Federation of Women's Clubs strongly supports enforcing existing laws protecting water quality and seeks stronger regulations to:
• Develop a systematic program to prevent groundwater contamination;
• Prohibit continued pollution of streams and domestic water supply;
• Develop a means whereby individuals and businesses pay their fair share of the cost of maintaining clean water;

IND791-1 The EIS provides a discussion of socioeconomics in section 4.9. See the response to comment IND1-3 regarding eminent domain

IND791-2 Climate change is addressed in section 4.13 of the EIS.

IND791-3 Water resources are addressed in section 4.3 of the EIS. See the response to comment IND3-1 regarding drinking water.

INDIVIDUALS

IND791 – Freeda Cathcart

IND 791-3 cont'd

• Maintain and protect our national forests;..."

Respectfully submitted,
Freeda Cathcart

20161223-5011 FERC PDF (Unofficial) 12/22/2016 6:44:45 PM

Thomas W Headley, Monongahela, PA.
FERC Docket No. CP 16-13-000 Equitrans Expansion Project (EEP) H-318

IND 792-1

I was previously granted intervener status for the above referenced Docket Number. I wish to make the following comments regarding the September 2016 Draft Environmental Impact Statement (FERC/DEIS-D0272) for this proposed project. These comments are in addition to those raised previously regarding the impacts of the proposed construction of the H-318 pipeline across my farm located at 2886 Pangburn Hollow Road, Monongahela, PA 15063. I respectfully request FERC carefully consider the below items during their deliberations regarding the award of FERC status for this application.

1. Section 3.5.3.2 (Page 3-84) of the September 2016 Draft Environmental Impact Statement evaluates a different pipeline alignment, "The Headley Minor Route Variation." This route goes around my farm on EQT-owned property on the west side, then on a neighboring farm on the south where it joins the original pipeline alignment. This route completely avoids my property and any adverse impacts from pipeline construction. This alignment is shown in purpleon the map (Figure 3.5.3-3) on page 3-85.

Table 3.5.3-4 (page 3-86) purports to evaluate the environmental impacts of this
"route variation" compared to the proposed alignment which crosses my cropland. These are discussed in section 3.5.3.2 (page 3-84) which specifies impacts on forested land, the existence of steep slopes, and difficulties working in this area. The fact that the proposed alignment would be collocated with an existing
right-of-way for the entire length is identified as an advantage of the proposed
route. Brief mention is made of a proposed NIAP-S001 gathering line.

During the summer and fall of 2016, the NIAP-S001 gathering line was, in fact,
constructed by EQT. Following exactly the path of "The Headley Minor Route
Variation", there is now a cleared and seeded right-of-way measuring almost 100
feet wide with more than enough room for the H-318 pipeline. The adverse environmental impacts identified in FERC's Draft Environmental Impact State are no longer germane. By following the "Headley Route Variation" the benefits of "collocating with the existing S001 right-of-way" are realized.

Construction of the NIAP-S001 pipeline has rendered the information used by FERC
to evaluate the "Headley Route Variation", contained in Table 3.5.3-4 (page 3-86),obsolete. FERC needs to perform another comparison using up-to-date
information.

IND792-1 Section 3.5 of the EIS has been revised to provide a discussion of the alternative route considered on the commentor's parcel.

IND 792-1 cont'd

A new analysis will show the best location for the H-318 pipeline is the route which goes around the Headley farm and avoids all potential problem and environmental impacts associated with pipeline construction on this preserved farm.

2. There is an valid Lease Agreement, dated April 11 , 2014, between Thomas W. Headley and Donnis W. Headley and Equitrans, L.P. a Pennsylvania limited partnership, which clearly defines the rights and obligations of both the property owners and Equitrans, L.P. relative to oil and gas matters on this property. Item # 32 in Addendum #1 to this lease contains the following language:

"Surface Use and Pipelines. Lessee shall have no right to use any surface of the Premises for any purpose related to the production of oil and gas without the express written consent of Lessor which consent may be withheld for any reason or for no reason; provided however, Lessee shall have the exclusive right to store gas, conduct geophysical work, construct pipelines, access roads, and/or maintain, repair, operate or plug any and all existing wells, facilities and equipment on the surface of the leased premises. Further, Lessee shall have all rights of ingress and egress and to use the surface of the Leased Premises to continue Existing Operations and for any future operations related to gas storage. Any new pipelines or other uses that are not solely for storage purposes (Existing Operations or future storage operations) whether related to production, transportation, transmission, gathering or otherwise, will require a separate written agreement from Lessor."

This language is very clear. New pipelines of any type, other than those specifically associated with gas storage, are not permitted without a new agreement. No agreement exists between the property owners and Equitrans, L.P. which would allow construction of the proposed H-318 pipeline across the Headley farm. Absent such an agreement, construction of the H-318 pipeline as currently proposed, is clearly a violation of a valid lease, and not permitted.

It would be an abuse of FERC's authority to overrule the terms of a valid lease, freely negotiated between the Headley's and Equitrans, L.P.. Without a valid right-of-way agreement between the Headleys and Equitrans, FERC must direct EQT to construct the H-318 pipeline on EQT property following the so-called "Headley Minor Route Variation" as shown on page 3-85 of the Draft Environmental Impact Statement (FERC/DEIS-D0272) dated September 2016, the same alignment used when EQT installed their NIAP-S001 gathering line.

Respectfully submitted for your consideration by:

Thomas W. Headley
2886 Pangburn Hollow Rd
Monongahela, PA 15063
412-384-0962 tomheadley1@comcast.net

20161222-5294 FERC PDF (Unofficial) 12/22/2016 2:03:05 PM

Lydia Barker, Leesburg, VA.

IND 793-1 The present DEIS is so fundamentally flawed as to require replacement or significant revision with a new 90 day public comment period. Important documentation has been periodically provided to FERC but not to the public after the posting of the draft impact statement, but even based on the accessible documents, the conclusion that the MVP would have "limited adverse environmental impacts, with the exception of impacts on forest" seems to directly contradict the DEIS itself: the report notes major karst involvement with potential for drinking water contamination, threats to special-status species, life-endangering erosion, and permanent qualitative changes to the recreational areas that provide major income for the states affected. Moreover, impacts on forest should not be taken lightly; forests in the region provide clean air, stabilize major steep slopes, filter mining contaminants, contribute to the character of historic districts, attract tourism and provide the means for sustainable forestry and agriculture. The mature forests in question cannot be simply replaced with magic -- impact will be long-standing and widespread during regrowth.

All of these factors have led localities, the state and federal agencies to implement stringent requirements for land use explicitly to protect against inappropriate development; the fact that such restrictions would require revision and degradation in order for the MVP to move forward as proposed should be a clear warning against approval (for example, the US Forest Service would need to reduce standards for siltation and water quality within the Jefferson National Forest because the MVP would not be able to meet the present steep-slope requirements).

For these reasons as well as the strong opposition expressed by the localities affected, I urge a more comprehensive assessment of this project, with a conclusion appropriately matching the data presented. Thank you for your consideration.

IND793-1 See the response to comment FA11-2 and LA5-1 regarding preparation of the EIS. All documentation provided by the Applicants is part of the public record for this proceeding; posted to the FERC's eLibrary system, and available for review and comment. See the response to comment IND70-1 regarding erosion. See the response to comment IND3-1 regarding drinking water. See the response to comment FA15-5 regarding forest impacts. See the response to comments FA8-1 and FA10-1 regarding the LRMP for the Jefferson National Forest.

IND 794-1

While I live probably 15 miles away, I feel threatened by the proposed Mountain Valley high-pressure, 42" diameter pipeline. I can just imagine how I would feel if I lived in the 1,115 feet blast zone, not knowing whether the pipeline could rupture at any time.

I will defer to a local expert on the problem with this pipeline: Dr. Ernst Kastning, a retired geology professor from Radford University, commented to FERC that the proposed pipeline "cannot be built safely through the designated counties" because of the karst region, meaning the underlying rock is porous limestone. Further, he stated "Many of the potential hazards are immitigable; they cannot be adequately circumvented or mitigated with engineering or construction practices. The same is true should a catastrophic event occur, such as a breach of the pipeline."

The map illustrates how the pipeline will traverse all of Giles County, coming close to many homes, schools, and businesses. The cleared land of the Mountain Valley pipeline through the mountain forests all the way across the county will hurt tourism. Who wants to see that when you visit or stay here? And, this eyesore will be visible to 27% of land parcels in the county according to an economic report by Spencer Phillips. As a result, property values could decrease well beyond the blast zone.

Building of the pipeline may damage water resources, including water wells as reported in the Roanoke Times newspaper story "Karst landscapes bring challenges, concerns for pipeline projects" (October 25, 2015). Our underground streams which provide water to wells are interconnected because of the karst limestone. I might wake up one day and find our well water is cloudy, not knowing the cause but it might very well be construction occurring miles away, such as this pipeline. While this is more likely to happen closer to the pipeline, the possibility is there.

Giles County, like many other counties in Virginia, will become a sacrifice zone if this pipeline is built. This pipeline could easily be located in the National Forest which comes close to the proposed pipeline location all along the northern half of Giles County. Or it should not be built at all—too many pipelines are being built as it is.

IND794-1 See the response to comment IND2-1 regarding safety. See the response to comment IND62-1 regarding Dr. Kastning's report. Tourism is addressed in section 4.9 of the EIS. See the response to comment IND12-1 property values. See the response to comment IND3-1 regarding drinking water.

INDIVIDUALS

IND795 – Amanda Wilson

20161222-5088 FERC PDF (Unofficial) 12/22/2016 11:16:44 AM

amanda wilson, blacksburg, VA.
NO pipeline here!

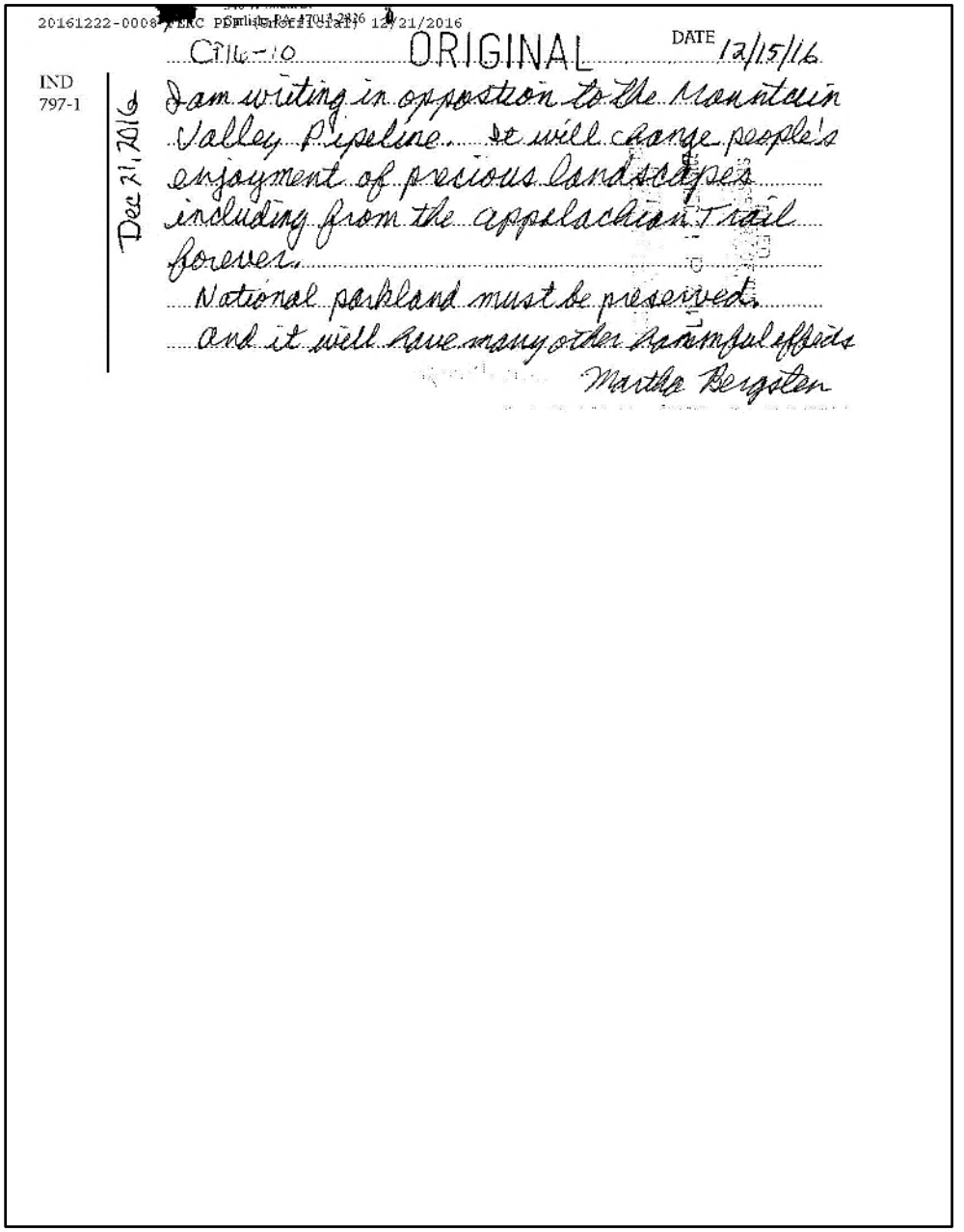
IND 795-1 It will destroy our natural beauty which brings tourists here in addition to being one of the reasons I live here! I am worried about the safety of our water and our natural resources. The AT is historic and should be left alone! Please do not destroy our area with this pipeline!

IND795-1 We conclude that with mitigation, the project is not likely to have significant impacts on most environmental resources (except forest). The right-of-way would be restored and revegetated following construction (see section 2.4.2 of the EIS). Tourism is addressed in section 4.9 of the EIS. See the response to comment IND3-1 regarding drinking water. The ANST would be crossed by a bore as discussed in section 4.8 of the EIS. A revised visual analysis of the ANST can be found in section 4.8 of the EIS.

Savannah Neal, Nantucket, MA.

IND 796-1 I am commenting to voice my hope that the Mountain Valley Pipeline will not be allowed to be built. One of the wonderful things about West Virginia is the forests and this pipeline has the potential to do damage to our forests. As a native West Virginian who currently lives out of state, I feel fiercely protective of my home state and would be deeply disappointed to see this project approved. It is not necessary and will not benefit the people who live near its proposed location.

IND796-1 See the response to comment FA11-12 regarding need. See the response to comment CO2-1 regarding benefits. See the response to comment FA15-5 regarding forests.



20161222-0008 FERC PDF (Unofficial) 12/21/2016

C116-10 ORIGINAL DATE 12/15/16

IND 797-1

Dec 21, 2016

I am writing in opposition to the Mountain Valley Pipeline. It will change people's enjoyment of precious landscapes including from the Appalachian Trail forever.

National parkland must be preserved and it will have many other harmful effects

Martha Bergsten

IND797-1 We conclude that with mitigation, the project is not likely to have significant impacts on most environmental resources (except forest). The right-of-way would be restored and revegetated following construction (see section 2.4.2 of the EIS). The ANST would be crossed by a bore. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS.

INDIVIDUALS

IND798 – Jones Family

20161222-5105 FERC PDF (Unofficial) 12/21/2016 8:27:51 PM

This Motion to Intervene was submitted 6 times by various members of the Jones family.

Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington DC 20426

Reference: Docket Number CP16-10-000

IND 798-1 I motion to become an intervenor in docket number CP16-10-000.

Donald Jones
1944 Kiska Rd
Salem VA 24153
vmftech@yahoo.com

IND798-1 Non-environmental staff at the Commission will make a determination on whether to grant a party's intervention request.

Erin Noakes
P.O. Box 65240
Washington, DC 20035
thewritein@yahoo.com

December 21, 2016

Federal Energy Regulatory Commission
Kimberly D. Bose, Secretary
888 First St. N.E. Room 1A
Washington, DC 20426

RE: Docket No. CP16-10-000

Ms. Bose,

IND 799-1

I am concerned that the FERC/DEIS-D0272[1] draft environmental impact statement ("EIS") for the projects proposed by Mountain Valley Pipeline LLC ("Mountain Valley") and Equitrans LP ("Equitrans") does not comply with FERC regulations, nor does it comply with applicable statutes governing FERC's exercise of its sovereign authority.

I. FERC/DEIS-D0272 does not comply with FERC's own regulations

18 CFR §380.7(b) requires any EIS to contain a Staff conclusion section that includes summaries of any alternative to the proposed action that would have a less severe environmental impact or impacts, and the action preferred by the Staff. Section 5.1.14 contains summaries of alternatives but does not clearly contain a statement of the action preferred by Staff. Staff only states, "we conclude that no existing interstate natural gas transmission system could reasonably replace the proposed projects." This statement does not indicate Staff's preference for action among a set of alternatives. Staff also states, "We recommended that Mountain Valley provide us additional information for two route variations since we did not have adequate data to fully assess it." The fact that Staff states that it does not have adequate data to assess at least two of the possible alternatives (i.e. Mountain Valley's route variations) renders FERC/DEIS-D0272 inconsistent with FERC's requirement in 18 CFR §380.7(b), because Staff is not able to conclude what action is preferred if some of the alternatives remain incompletely assessed by Staff at the time of drafting the EIS.

Therefore, for any final EIS, please adhere to 18 CFR §380.7(b) by completely assessing all alternatives and then including a statement as to which action, among all those alternatives, Staff prefers that the Commission take.

[1] FERC/DEIS-D0272 (Sept. 16, 2016), https://www.ferc.gov/industries/gas/enviro/eis/2016/09-16-16-eis/DEIS.pdf.

IND799-1 A conclusion of each alternative can be found in section 3 of the EIS. Mountain Valley adopted the Mount Tabor Variation into its proposed route in a October 14, 2016 filing with the FERC; as addressed in the final EIS.

IND 799-2

II. FERC/DEIS-D0272 is combined with a portion of a proposal for federal action that does not follow the procedural requirements of the applicable statutes governing FERC's exercise of its sovereign authority

The Administrative Procedure Act does not apply specifically to FERC/DEIS-D0272, as it is a draft, Staff-level document that does not constitute an "agency proceeding," as defined in 5 U.S.C. §551(12). However, Section 5.2 contains a list of recommendations by FERC Staff for inclusion in the Commission's Order. Therefore, it is important for the public to understand what FERC's objective was in including the Section 5.2 list of recommendations within this draft EIS. It is not immediately clear – after all, 40 C.F.R. §1502.2(c) requires that EISs be kept concise, so extraneous information should not otherwise be included in an EIS. Looking at the relevant statute mandating preparation of an EIS, all federal agencies are required to:

> *include in every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment a detailed statement by the responsible official on – (i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, (iii) alternatives to the proposed action, (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.*[2]

Notably, the statute does not require a statement by agency staff on their suggested list of mitigations. Next, turning to the applicable regulations, the Council on Environmental Quality ("CEQ") codified requirements for EISs under the National Environmental Policy Act, and established a recommended format for EISs, which includes "appropriate mitigation measures not already included in the proposed action or alternatives."[3] The CEQ requirements also mention how mitigation and other conditions established in the EIS or during its review and committed as part of the decision shall be implemented.[4] However, 40 C.F.R. §1506.4 permits agencies to combine other agency documents with an EIS. For example, under 40 C.F.R. §1502.5(d), the CEQ recommends that for informal rulemaking, draft EISs should accompany the proposed rule. Therefore, it would make sense to interpret CEQ's reference to mitigation and other conditions established in the EIS to refer to certain combined documents that contain both an EIS and a notice of proposed rulemaking, because EISs alone are not required to contain a list of staff recommendations for mitigations.

Turning back to the question of why the list of recommendations appears in Section 5.2, under the definitions of the Administrative Procedure Act, 5 U.S.C. §551(4), the substance of the

[2] *See* 42 U.S.C. §4332(c).
[3] 40 C.F.R. §1502.14(f).
[4] 40 C.F.R. §1505.3.

IND799-2 Section 5.2 (Recommendations) is a standard feature for all FERC EIS documents. The recommendations in section 5.2 are not "rule making" because they are staff recommendations for the Commission to consider and the EIS is not a decision document. See the response to comment IND147-1 regarding recommendations. The Applicants would file recommended environmental reports into the FERC's public record for these proceedings.

IND 799-2 cont'd

list of recommendations would meet the definition of "rules" in an agency proceeding – i.e. agency statements of general or particular applicability and future effect designed to implement, interpret, or prescribe law. For example, Recommendation 7 would require Mountain Valley and Equitrans to employ certain personnel in the future, and would establish certain job requirements for those personnel.[5] Interestingly, several of the FERC Staff recommendations purport to come into legal effect by virtue of their publication: the draft EIS states that recommendations 14 through 20 apply to Mountain Valley and "shall be addressed *before the end of the comment period on the draft EIS*." (emphasis mine)

Consequently, it appears that Staff recommendations in Section 5.2 are part of a proposed/final rulemaking that has been combined with the EIS document. After all, 42 U.S.C. §4332(c) requires that an EIS be included with every recommendation for any major *federal action*. It would make sense that a recommendation for federal action must first exist in order for an EIS to be included with it. However, the entirety of the rulemaking has not been combined with the draft EIS, because several critical items are missing. Rulemaking documents are subject to several procedural requirements under various statutes, and FERC/DEIS-D0272 does not, in its current form, adhere to those procedural requirements.[6] If the intent of the FERC Commission was to satisfy the procedural requirements that would be applicable to a rulemaking in order for it to be binding upon Mountain Valley and Equitrans with the force of law, it has not obtained its objective.

For example, many of the FERC Staff recommendations in Section 5.2 would require reports to be filed upon certain events, but the conditions do not reference any OMB numbers for these information requests. The Paperwork Reduction Act requires that an independent agency such as FERC[7] seek public comment on proposed information collections and to submit proposed information collections for review and approval by the Office of Management and Budget ("OMB"). If approved, OMB issues a control number, which the agency must display on the information collection. An "information collection" is defined as, "the obtaining, causing to be obtained, soliciting, or requiring the disclosure to third parties or the public, of facts or opinions by or for an agency, regardless of form or format, calling for…answers to identical questions posed to, or identical reporting or recordkeeping requirements imposed on, ten or more persons, other than agencies, instrumentalities, or employees of the United States…."[8]

Recommendation 3 states, "Prior to any construction, Mountain Valley and Equitrans shall each file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EIs, and contractor personnel will be informed of the EIs' authority and have been or will be trained on the implementation of the environmental mitigation measures

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[5] *See, e.g.*, FERC/DEIS-D0272 at 5-18.

[6] For example, the Regulatory Flexibility Act ("RFA") requires agencies to consider the impact of their regulatory proposals on small entities, to analyze effective alternatives that minimize small entity impacts, and to make their analyses available for public comment. 5 U.S.C. § 601. FERC/DEIS-D0272 makes no mention of an RFA analysis.

[7] See 44 U.S.C. § 3502(1).

[8] *See* 44 U.S.C. § 3502(3)(A)(i).

IND 799-2 cont'd

appropriate to their jobs before becoming involved with construction and restoration activities."[9] Identical language, imposing an identical mandatory filing, has already been imposed on more than 10 persons during 2016.[10] Therefore, the mandatory filing that would be required if Recommendation 3 were included in a Commission Order likely meets the definition of a collection of information under the Paperwork Reduction Act, necessitating an OMB control number. Further, as Staff concedes, "[s]ome recommendations are standard conditions typically attached to Commission Orders." There are likely other recommendations for collection of information within the set of recommendations in Section 5.2 that have been requested so frequently in 2016 that they, too, need to comply with the requirements of the Paperwork Reduction Act prior to being included in a Commission Order.

IND 799-3

Additionally, the Administrative Procedure Act requires adequate notice of rulemakings to be provided to the public, and for agencies to afford the public a meaningful opportunity to comment.[11] It may appear that the public is receiving adequate notice and a meaningful opportunity to comment on these proposed rules pursuant to the publication of the draft EIS FERC/DEIS-D0272 and a request for comment on this document. However, the recommendations in Section 5.2 originate at the Staff-level, and do not reflect the Commission's proposal. At this point in time, the public remains completely in the dark as to the Commission's thinking on what regulatory requirements, if any, may be appropriate to apply to these projects. This distinction is important because the power of the U.S. Government to bind third parties for the benefit of the public – such as through imposing conditions on Mountain Valley or Equitrans in any Commission Order – is a sovereign power, and only office holders appointed consistent with the Appointments Clause (such as FERC Commissioners, in contrast with FERC Staff) may exercise such delegated sovereign power.[12]

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[9] *See* FERC/DEIS-D0272 at 5-16.

[10] *See, e.g.*, (1) Docket No. CP16-12-000, Order Issuing Certificate re Tennessee Gas Pipeline Company, L.L.C. under CP16-12 (Dec. 15, 2016); (2) Docket No. CP15-557-000, Order Issuing Certificate, Approving Abandonment, and Reaffirming Market-Based Rate Authority re Total Peaking Services, LLC under CP15-557 (Dec. 15, 2016); (3) Docket No. CP16-17-000, Order Denying Motion to Dismiss and Issuing Certificate re Millennium Pipeline Company, L.L.C. under CP16-17 (Nov. 9, 2016); (4) Docket No. CP 16-64-000, Order Issuing Certificate re the ANR Pipeline Company under CP16-64 (Sept. 22, 2016); (5) Docket No. CP16-125-000, Order Granting Abandonment and Issuing Certificate re National Fuel Gas Supply Corporation under CP16-125 (Sept. 20, 2016); (6) Docket No. CP15-117-000, Order Issuing Certificate re Transcontinental Gas Pipe Line Company, LLC under CP15-117 (Aug. 3, 2016); (7) Docket No. CP15-498-000, Order issuing certificate Eastern Shore Natural Gas Company under CP15-498 (July 21, 2016); (8) Docket No. CP15-118-000 Order issuing certificate re Transcontinental Gas Pipe Line Company, LLC under CP15-118 (July 7, 2016); (9) Docket No. CP15-527-000, Order issuing certificate and granting abandonment re Transcontinental Gas Pipe Line Company, LLC under CP15-527 (July 7, 2016); and (10) Docket No. CP15-517-000, Order issuing certificate re Gulf South Pipeline Company, LP under CP15-517 (June 20, 2016).

[11] *See* 5 U.S.C. §553(b), (c).

[12] *See, e.g.*, Memorandum Opinion for the General Counsels of the Executive Branch (Apr. 16, 2007) at 13, https://www.justice.gov/sites/default/files/olc/opinions/2007/04/31/appointmentsclausev10.pdf

IND799-3 The EIS is not a decision document, and the Commission would more fully explain its opinions in its Project Order.

IND 799-4

Consequently, I am requesting that any final EIS prepared by FERC Staff regarding the Mountain Valley and Equitrans projects should either (i) contain (or cross-reference) a complete notice of the intended proposed federal action (such as a rulemaking containing a set of proposed conditions on Mountain Valley and Equitrans that would mitigate the impact of the projects), which adheres to the applicable procedural requirements and that is issued by the Commission, or (ii) clarify what purpose is served, and what legal effect is obtained, by including the list of Staff recommendations in Section 5.2 within the EIS.

Sincerely,

/s/ Erin Noakes

Erin Noakes

("Similarly included in delegated sovereign authority is power to issue regulations and authoritative legal opinions on behalf of the Government, and other powers to execute the law…..").

IND799-4 See the response to comment IND147-1 regarding recommendations.

Papi Crabtree, Peterstown, WV

Dec. 21, 2016

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

Re: Proposed Mountain Valley Pipeline, Docket No. CP16-10-000

Dear Ms. Bose,

IND 800-1 I am writing in regard to several concerns I have about the DEIS and the proposed MVP pipeline. The DEIS, despite being a huge and heavy tome of a document, is not complete. There are several places where it admits that it does not have the information for that particular section. In some places, it flat out says it doesn't know about water sources or what the long term affects of a pipeline coming through an area like this will be.

It doesn't take into account the danger to our agricultural community's soil and water, or to the endangered plants and animals in the region. It doesn't answer our concerns about our property rights. It doesn't take into account the damage to the Appalachian Trail and the natural tourism our area needs. It does not take any consideration for the people who have made this place their home for generation.

This year alone, there have been pipeline failures in Oklahoma, Texas, Kansas, Wyoming, Louisiana, Iowa, North Dakota, South Dakota, Illinois, Pennsylvania, California, Virginia, Alabama, Nebraska, Oregon, and Missouri. Some of those states had multiple incidents. They are clearly not as safe as we have been assured. I don't know how anyone can be aware of the environmental disasters these pipelines cause and still think they are a good idea.

It has left me with no confidence in the project or the company behind it. I am writing this to ask that FERC take note of how unreliable and incomplete this DEIS is, and to question whether such an invasive and potentially disastrous project needs to be undertaken in the first place.

Sincerely,
Papi Crabtree

IND800-1 See the response to comment FA11-2 and LA5-1 regarding preparation of the EIS. The EIS provides a discussion of water resources in section 4.3, soils in section 4.2, threatened and endangered species in section 4.7, and tourism in section 4.9. Landowner rights are discussed in section 4.9 of the EIS. See the response to comment IND2-1 regarding safety.

INDIVIDUALS

IND801 – Bob Peckman

20161222-5116 FERC PDF (Unofficial) 12/22/2016 11:47:44 AM

Bob Peckman, Roanoke, VA.

IND 801-1 Many commenters, including myself, have noted that the DEIS is incomplete, incorrect, and does not fulfill the requirements. Now even the EPA had noted the same deficiencies. We are not talking that a few details need to be adjusted. We are all saying that important parts are missing and others are just plain incorrect. The DEIS needs to be revised and completed before the NEPA process goes to the next step.

It is reported in the newspapers that FERC refuses to make any corrections and additions; the corrections and completions will appear in the EIS. That is a bold statement that FERC is above the law and does not need to comply with the NEPA process.

FERC ID #F335874
Robert (Bob) Peckman
8131 Webster Dr
Roanoke, VA 24019
bob@peckmanjazz.com

IND801-1 See the response to comment FA11-2 and LA5-1 regarding preparation of the EIS. See the response to the EPA's comment letter at FA15. The FERC staff made corrections to the final EIS to address comments on the draft.

INDIVIDUALS

IND802 – Sherman Bamford

Sherman Bamford
PO Box 3102
Roanoke, VA 24015
Bamford2@verizon.net
(540) 343-6359

December 19, 2016

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission

Washington, DC 20426

Re: Docket CP16-10-000
Mountain Valley Pipeline
Draft Environmental Impact Statement

Dear Ms. Bose,

Thank you for the opportunity to comment on this project.

IND802-1

The proposed Mountain Valley Pipeline would facilitate increased development of hydraulically fracked natural gas throughout the eastern United States. The proposed pipeline is proposed through important habitat on Peters Mountain, Sinking Creek Mountain and Brush Mountain on the Jefferson Natural Forest and would have a devastating impact on the New River Valley and surrounding areas of Virginia and adjacent states.

Hydraulic fracking is a controversial issue. Here as elsewhere, natural gas development accelerates the impacts of climate change, and discourages the development and use of renewable energy. It encourages hydraulic fracturing and increases methane emissions that are 80 times more harmful than CO2 emissions.

The Mountain Valley Pipeline (MVP) would cut a path through the Jefferson National Forest in Giles County and Montgomery County, Virginia - passing through highly sensitive karst geology, dense forests, across trout streams, and steep mountainous terrain. The proposed route would run through (a) a remote and undeveloped section of the Appalachian Trail between the newly-expanded Peters Mountain Wilderness and the Rice Field Shelter/Vista, (b) an area between the Cascades and the New River, (c) the outer edge of the Brush Mountain Roadless Area, a roadless area which directly adjoins Brush Mountain Wilderness, (d) the headwaters of Craig Creek, home to federally endangered freshwater mussels, and (e) through the middle of a residential neighborhood between the national forest and Blacksburg . The purpose of the pipeline is to deliver fracked natural gas from Midwest over the mountains. Ultimately, if hydrofracking begins in Virginia, the pipeline could also be used to transport fracked gas from Virginia as well.

IND802-2

- Proposed Amendment 1 will severely compromise the wilderness character of Peters Mountain and Brush Mountain Wilderness areas by fragmenting the forest and cutting off the wilderness areas from the remainder of the intact forest. The easement corridor will become a vector for invasive and opportunistic species and facilitate intrusion into the wilderness areas. It will create conditions that facilitate illegal use by ORV and ATVs throughout the area. It will also impact the scenic integrity of the wilderness areas. These need to be considered in a programmatic analysis that assesses impacts cumulatively as other areas which are part of the National Wilderness

IND802-1 See the response to comment IND 2-3 regarding hydraulic fracturing.

IND802-2 See the response to comment FA8-1 regarding Amendment 1. See the response to comment FA10-1 regarding Amendments 2 and 4. See the response to comment CO107-3 concerning OHV concerns. See the response to comment CO114-34 concerning the Roadless Area Conservation Rule.

IND802-2 cont'd

Preservation System are currently under impact in these aforementioned ways from oil and gas leasing and infrastructure nation-wide. The continual degradation of the National Wilderness Preservation System is unacceptable and these impacts cannot be mitigated.

- Proposed amendment 2 would allow construction to exceed existing restrictions on Soil and riparian corridor conditions. These impacts cannot be mitigated and impacts will be both immediate and ongoing.
- The route through old growth and roadless area on Brush Mountain and Proposed Amendment 3 violate the 2001 Roadless Area Rule 36 CFR Part 294.13 which prohibits timber cutting, sale, or removal of timber in inventoried roadless areas. In addition, the cleared path would become a defacto "road" utilized both by MVP for clearing and maintenance and by illegal ORV/ATVs for destructive and illegal vehicular use.
- The MVP is proposed to cross about 1 mile of the Brush Mountain Inventoried Roadless Area, thus damaging the value of this area. The existence of remaining roadless areas on the Forest is valuable, because they are all too rare. Roads damage forests by degrading water quality, changing hydrologic cycles, promoting invasion of harmful non-native species, and eliminating forest habitat. The pipeline, both during construction and throughout the many decades its impacts would be felt, will create many of the damages and risks that roads create.
- Proposed Amendment 4 which would change in Scenic Integrity Objective for the Rx4A from High to Moderate would be a permanent change to the visual quality and the recreation values of the Appalachian National Scenic Trail. The cumulative impacts to the ANST, as well as those to the National Wilderness Preservation System are of a programmatic nature as there are currently numerous crossings of the ANST proposed including one other in Virginia (Atlantic Coast Pipeline). The continual degradation of the ANST is unacceptable and these impacts cannot be mitigated. To give a 5-10 window where there are virtually no required scenic integrity objectives for this area is absolutely unacceptable.

IND802-3

The DEIS does not include an adequate analysis of an alternative route for the MVP that would not cross National Forest lands, as federal regulations require and as specified at FSM 2703.2(2)b. The minimum threshold for deciding whether *any* crossing of the National Forest lands may be allowed, is a finding that the "proposed use cannot reasonably be accommodated on non-National Forest System land."

I request that you deny the application for the permit to build the Mountain Valley Pipeline.

Note: Page numbers in these comments are based on page numbers from the PDF document provided by FERC.

This EIS is based on incomplete information. A new full DEIS needs to released and another 90 day comment period should be offered.

IND802-4

National Environmental Policy Act

The National Environmental Policy Act ("NEPA") is the nation's basic charter for the protection of the environment. NEPA makes it national policy to "use all practicable means and measures * * * to foster and promote the general welfare [and] to create and maintain conditions under which [humans] and nature can exist in productive harmony."7 NEPA's purposes are to "help public officials make decisions that are based on [an] understanding of environmental consequences, and to take actions that protect, restore, and enhance the environment."8

1. "Hard Look"

IND802-3 See the response to comment IND695-2 regarding alternative crossings of the Jefferson National Forest.

IND802-4 See the response to comment FA11-2 and LA5-1 regarding preparation of the EIS.

IND802-4 cont'd

To accomplish these purposes, NEPA requires all agencies of the federal government to prepare a "detailed statement" regarding all "major federal actions significantly affecting the quality of the human environment."9 This statement is commonly referred to as an Environmental Impact Statement ("EIS"). NEPA further provides that agencies "shall * study, develop, & describe appropriate alternatives to recommended courses of action in

3 5 U.S.C.A. § 706(2)(A).
4 (*Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto. Ins. Co.*, 463 U.S. 29, 43 (1983), citing *Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962).
5 *Motor Vehicle Manufacturers Association of the United States v. State Farm Mutual Auto InsuranceCompany*, 463 U.S. 29, 43 (1983).
6 *Pacific Coast Fed'n*, 265 F.3d at 1034.
7 42 U.S.C. § 4331(a).
8 40 C.F.R. § 1500.1(b)-(c).
9 42 U.S.C. § 4332(C).

any proposal which involves unresolved conflicts concerning alternative uses of available resources."10

An EIS must describe (1) the "environmental impact of the proposed action," (2) any "adverse environmental effects which cannot be avoided should the proposal be implemented," (3) alternatives to the proposed action, (4) "the relationship between local short- term uses of [the] environment and the maintenance and enhancement of long-term productivity," and (5) any "irreversible or irretrievable commitment of resources which would be involved in the proposed action should it be implemented."11
NEPA's disclosure goals are two-fold: (1) to ensure that the agency has carefully and fully contemplated the environmental effects of its action, and (2) to ensure that the public has sufficient information to challenge the agency's action. The Council on Environmental Quality ("CEQ") – an agency within the Executive Office of
the President – has promulgated regulations implementing NEPA that are binding on all agencies.12

The CEQ regulations provided that the direct, indirect, and cumulative effects of the proposed action must be analyzed under NEPA.13 When the agency prepares an EIS, it must take a hard look at the impacts of the action and ensure "that environmental information is available to public officials and citizens before decisions are made and before actions are taken," and the "information must be of high quality."14
In preparing NEPA documents, federal agencies "shall insure the professional integrity, including scientific integrity, of the discussions and analyses" and "identify any methodologies used and * * * make explicit reference by footnote to the scientific and other sources relied upon for conclusions * * * ."15

NEPA requires that the Environmental Impact Statement contain high-quality information and accurate scientific analysis.16 If there is incomplete or unavailable relevant data, the Environmental Impact Statement must disclose this fact.17 If the incomplete information is relevant and essential to a reasoned choice, and costs are not "exorbitant," the information must be compiled and included.18

IND802-5

I am a hiker. I have hiked and conducted volunteer trail maintaining work on the section of the Appalachian Trail where the pipeline is proposed to cross. I am supportive of the comments on the DEIS submitted by the Roanoke Appalachian Trail Club and wish to incorporate these comments by reference.

I am a member of the Sierra Club and support the comments on the DEIS submitted by the Virginia Chapter of the Sierra Club and wish to incorporate these comments by reference..

IND802-5 See the response to comment CO49-2 regarding unevaluated archaeological and historic sites.

IND802-5 cont'd

I am a member of Wild Virginia and support the comments on the DEIS submitted by Wild Virginia and wish to incorporate these comments by reference.

p. 44 "Thirty-three unevaluated archaeological sites along the MVP would be avoided. Mountain Valley would conduct archaeological testing to assess the NRHP eligibility of another 52 archaeological sites which are currently unevaluated. Additional research would also be conducted at three historic architectural sites. "
When will they be evaluated and how will the public be allowed to comment on them?

What is meant by "unevaluated"? "Currently evaluated"? What is the difference? What is meant by "additional research"? There is no mention of NRHP sites. Is doesn't look like any evaluation or review has occurred and we are at the DEIS stage.

IND802-6

p. 146 "Mountain Valley and Equitrans would manage unauthorized off-road vehicle and ATV use on their operational rights-of-way by adhering to Section VI of the FERC Plan and Equitrans' Plan, which includes measures such as signs, fences/gates, and slash, timber, and boulder barriers."

"signs, fences/gates, and slash, timber, and boulder barriers" have not proven effective across many sites on the GWJNFs. For example, in the Patterson Mtn ATV site (formerly a FS official site for ATV use), the FS was forced to erect boulders, steel barriers and other deterrents, but ATV riders continued to ride ATVs off-trail. The site eventually had to be closed.

FERC and MV need to provide measures that are demonstrated to be effective. Evidence-based effectiveness of measures have not been disclosed.

There is nothing in the statement as to what monitoring would occur, how often it would occur, how thorough it would be, or how long it would last (i.e., for the life of the pipeline and/or the open-space corridor). There is nothing in the statement as to whether FERC and MV would provide any additional funding for law enforcement officers who would patrol the area. FS budgets have been cut drastically over the past two decades and the GWJNFs is understaffed. How would existing LEOs be able to patrol the additional linear corridor provided by the pipeline footprint?

Also, does MV have the financial ability to pay for LEO staffing and patrols over the foreseeable future? What financial guarantee or bond will be required to ensure that if the partnership dissolves, if MV goes bankrupt, or if MV is sold, transferred, or otherwise ceases to exist, the forest around the pipeline will be protected from illegal motorized use facilitated by the infrastructure in place?

In April 2003, Forest Service Chief Dale Bosworth identified unmanaged off-road vehicle use as one of the four greatest threats to America's National Forests, along with fire, the spread of invasive species and habitat fragmentation. The Chief catalogued the damage and the other negative impacts caused by uncontrolled off-road vehicle use: "We're seeing more and more erosion, water degradation and habitat destruction. We're seeing more and more conflicts between users. We're seeing more damage to cultural sites and more violation of sites sacred to American Indians. And those are just some of the impacts."

On July 26, 2002 the GWNF's head LEO, Mr. Woody Lipps stated that "the number 1 threat on the Forest is illegal ATV use." In a letter dated July 1, 2004, Lipps stated, "so far this year, cross-country motor vehicle operation is the most reported violation occurring on the GW/Jeff."

Illegal motorized use is a very serious threat within the Jefferson National Forest. In a letter dated July 1, 2004, Woody Lipps, the George Washington and Jefferson National Forests' chief law enforcement officer stated, "so far this year, cross-country motor vehicle operation is the most reported violation occurring on the GW/Jeff[erson National Forests]." Illegal motorized use has been a highly serious problem since this time.

IND802-6 See the response to comment CO107-13 regarding ORV. Monitoring of forest resources will be conducted by the FS and funded through cost recovery.

IND 802-6 cont'd

See also the following Reviews of the Environmental, Social and other impacts of ORVs:

Havlick, D.G. 2002. No Place Distant: Roads and Motorized Recreation on America's Public Lands. Foreword by Mike Dombeck. Island Press, Washington, DC.

Stokowski, P.A. and C.B. LaPointe. 2000. Environmental and social effects of ATVs and ORVs: an annotated bibliography and research assessment. School of Natural Resources, University of Vermont. 31p.
http://www.anr.state.vt.us/anr/atv_nov20_final.pdf

Wildlands CPR, The Wilderness Society, et al. 1999. Petition to enhance and expand regulations governing the administration of recreational off-road vehicle use on National Forests. Published by Wildlands CPR, Missoula, MT 188p. http://www.wildlandscpr.org/orvs/ORVpetition.doc

Wilkinson, T. 2000. Loud, Dirty, and Destructive. Wilderness, Pp. 26-31, 2000.
Abstract: Off-road vehicles (ORVs) could be the largest growing threat to America's wilderness. The Forest Service estimates that from 1979 to 1987 the number of ORVs using national forests has grown from 5.3 million visitors-days to 80 million visitor-days. The threat to wilderness will continue to grow given that between 1991 and 1997 the annual ORV sales have doubled. Wilderness supporters are outraged over the escalating problems of ORV use on public lands. The four federal agencies involved have ignored these threats to wilderness on large areas of undeveloped public land. Snowmobiles, four-wheelers, dirt bikes, and other ORVs leave their mark on back-country wilderness areas. Trails, both legal and illegal, disturb the natural wilderness and character of the land. The noise can drive away birds and harm the sensitive hearing of small mammals. Amphibians, reptiles, and plants become crushed when up against ORVs. Big game hunters worry that the proliferation of machines will scare off wildlife. Two-stroke engines cause water and air pollution, sometimes spilling fuel directly into soil and water. ORVs scar the land and harm wildlife with noisy, polluting, trail-mangling machines. ORVs are transforming recreation in national forests, especially in western lands. A coalition of over 100 groups filed a petition with the Forest Service urging the management of ORV use and the definition of the recreational standards. The ORV lobby, well-organized with financial support, maintains a good relationship with land managers who traditionally have supported ORV recreational uses. Grassroots and environmental efforts are bringing national attention to the ORV issue. The National Park Service has proposed a ban on snowmobiles in parks such as Yellowstone, and have other plans to limit ORV use. Environmentalists call for more actions limiting ORV use and want untouched areas undisturbed, unpolluted, and populated with wildlife.

Wilkinson, T 2001. On the beaten path. National Parks 75(3-4): 34-8.
Abstract: The National Park Service (NPS) has developed a new strategy to combat the damage caused by off-road vehicles (ORVs) in Big Cypress National Preserve in Florida. Across the National Park System, there is a noisy and increasing multitude of people using motorized recreation, causing a wide range of detrimental effects on wildlife and habitat. In Big Cypress National Preserve, which features some 22,000 miles of unregulated ORV trails, ORVs have caused massive destruction to the preserve's impressive biological diversity. The NPS' new bold, multiyear strategy will close trails to secure habitat, deploy scientists to assess damage, establish 400 miles of ORV trails, and limit the number of permits to 2,000. The NPS will also increase regular patrols of rangers to prevent illegal incursions. However, ORV groups, which have until now enjoyed de facto primacy over the backcountry and have hunting privileges there, intend to fight the new regulations.

Foltz, R.B., D. Meadows, C. Napper, R. Gonzales, C. Aldrich. Study proposal. Impacts of All Terrain Vehicles (ATV) on National Forest Lands and Grasslands. May 2004

IND 802-6 cont'd

Abstract. The US Forest Service will conduct a study to determine the potential impacts of All Terrain Vehicles (ATVs) on National Forest Lands and Grasslands. The objective is to determine which ATV mechanical components and equipment may cause potential impacts to the natural environment. The tests will be conducted on existing trails and areas open to cross country travel. Locations for the study are in Louisiana, Missouri, Kentucky, Minnesota, Montana, and Washington. Parallel trails dedicated to a single combination of ATV type and tire combination will be located at each site. ATV traffic will occur until three levels of soil disturbance, Low, Medium, and High, have been achieved. Key indicators for the soil disturbance classes will be presence or absence of vegetation cover, trail condition, and potential erosion condition. Following the ATV traffic, measurements of the erosion potential will be taken on each disturbance class. At the conclusion of the study we will be able to demonstrate the ATV vehicle and tire combinations that produce each level of soil disturbance, the erosion implications of those classes, and a method to predict soil erosion from ATV traffic in climates different from the test areas. 7 last paragraphs above Compiled by Adam Switalski

CLOSING REQUIREMENTS

Due to the extensive damage that the Forest Service has documented, it is simply not legal for the Forest Service to allow any ORV use on the Forest. The Forest Service is required to:

[t]he respective agency head shall, whenever he determines that the use of off-road vehicles will cause or is causing considerable adverse effects on the soil, vegetation, wildlife, wildlife habitat or cultural or historic resources of particular areas or trails of the public lands, immediately close such areas or trails to the type of off-road vehicle causing such effects, until such time as he determines that such adverse effects have been eliminated and that measures have been implemented to prevent future recurrence.

Section 9 of E.O. 11644 as amended by E.O. 11989.

The effects of use by specific types of vehicles off roads on National Forest System lands will be monitored. If the results of monitoring, including public input, indicate that the use of one or more vehicle types off roads is causing or will cause considerable adverse effects on the factors and resource values referred to in Sec. 295.2, the area or trail suffering adverse effects will be immediately closed to the responsible vehicle type or types until the adverse effects have been eliminated and measures have been implemented to prevent future recurrence as provided in 36 CFR part 261.

36 CFR § 295.5.

IND 802-7

p. 147: "The Applicants stated that the expected useful lifespan of the projects would be about 50 years. While there is no termination date for a FERC natural gas Certificate, at the end of the 50- year period, the Applicants may need to repair, replace, or abandon facilities." The DEIS does not provide a reasonable estimate of the actual period of time this infrastructure and the clearings around them would be in place. What is the longest period of time the pipeline, infrastructure and clearings could be expected to exist? How would this be expected to affect wildlife, water quality, scenic resources, and other resources over time, given the long period it is expected to be in place? How would future generations be affected? If there is no termination date for a FERC natural gas Certificate, could the pipeline route be used in perpetuity? Could it be used for any other purposes? What effect does such effective privatization of public land have on resources and people in the area?

IND 802-8

pp. 154-163. There is not an adequate discussion of single-pipe or co-location alternatives. Missing from the discussion is the question of whether there is enough supply or demand for utilization of all of the multiple pipelines proposed to criss-cross the eastern US. The degree to which these pipeline ventures are speculative in nature or redundant is not explored. This flaw in the DEIS makes it imperative for FERC or the land agencies affected to conduct a programmatic EIS as suggested on p. 70-71. FERC uses circular logic to avoid such an exploration, which is required if FERC is to take the hard look at the issue that NEPA requires.

IND802-7 See the response to comment CO49-4 regarding abandonment.

IND802-8 We disagree with the commentor's statements. Alternatives are discussed in detail in section 3 of the EIS. The reasons the FERC did not prepare a programmatic NEPA document are explained in section 1.3. Section 3.3.2.1 of the EIS provided an estimated construction width 155 feet (125 feet plus 30 feet) for the one pipe alternative.

IND 802-8 cont'd

p.162: In discussing the ACP co-location alternative, FERC says: "there is insufficient extra space available along the ridgelines of the ACP route to accommodate the additional construction right-of-way width and additional temporary workspaces that would be required." FERC obviously recognizes that there are limitations (in terms of space and environmental impacts) for constructing a pipeline in the mountainous terrain of Virginia and West Virginia. FERC needs to further disclose what these constraints are in terms of size and in terms of resources impacted, as it applies to the MVP itself and its infrastructure and clearings. There is no discussion or analysis of this in the DEIS. FERC also needs to disclose what these constraints are in terms of size and in terms of resources impacted, as it applies to the ACP itself and its infrastructure and clearings. Please incorporate this comment into our formal comments on the Atlantic Coast Pipeline.

IND 802-9

p. 172: "In addition, a significantly greater length of FS lands (approximately 16 more miles), side slopes (approximately 22 more miles), and landslide prone areas (approximately 35 more miles) would be crossed by the Northern Pipeline – ACP Alternative." If the ACP is also is also built, there would be even more construction in landslide prone areas (considering both pipeline systems). This is all the more reason to avoid construction in both locations. Please consider the combined impacts of the two pipeline system in landslide prone areas as portions of both are in the Chesapeake Bay watershed system and the New River/Ohio River watershed system.

IND 802-10

p. 174: 1700 (linear) feet of the proposed MVP would impact known old growth forest.

According to the Forest Service's Southern Region guidance on old growth (FR-62), old growth in the eastern U.S. comprises approx 0.5% of the old growth that historically existed in the southeastern US. Much of it was cut down in the early part of the 20th century.

As part of this analysis, the Decisionmakers should identify all old growth of any size (including within-stand old growth and old growth partially within multiple stands). Old growth components and old growth habitat value of all old growth of any size should be adequately protected. The FS should protect mature forest adjacent to or near existing old growth may be important ecological components that should be protected, as well. FERC should have provided figures on the size, distribution, and age of trees to be cut. FERC should have provided figures on the size, distribution, and age of trees to be cut. FERC should have disclosed the impacts on old growth and disclose whether the treatments could preclude or delay the attainment of old growth status.

The agency should examine whether there is any within-stand patches of OG or relic trees that should be protected or buffered from disturbance. It is possible that some old growth may exist within whole stands, partial stands, or portions of stands adjoining other stands. If any inclusions of an older age are found in the course of surveys, it would be proper to change the stand layouts and dimensions and numbers to incorporate this new data also

The agency should examine the spatial arrangement of OG and surrounding mid- late-successional habitat, to determine whether any such areas should be protected or buffered from disturbance. Even if these areas did not meet operational criteria for old growth, given the obvious shortage of old growth in this area (and throughout the Appalachians) FERC should also consider designating some of the best areas as small, medium or large old growth tracts.

In FR-62, the Southern Region of the FS includes the following "considerations for old-growth forests during project-level planning:""When developing overall management strategies for an area, care should be taken not to isolate the medium- and small-sized old growth patches from the mid- and late-successional forests." (pp. 26-7). National Forests need to "provide for ... representation of all old growth forest community types" (FR-62 p14) and "consider underrepresented old growth forest community types" (FR-62 p17) in planning.

Thorough old growth surveys should be conducted which include a record of where each of the plots were taken, a record of how each of the criteria for old growth were determined, and whether the FERC ensured that the criteria used were appropriate for this geographical area and the old growth types found here.

IND802-9 See the response to comment IND94-1 regarding impacts to the Chesapeake Bay watershed.

IND802-10 See the response to comment CO49-8 regarding forests.

IND802-11 p. 187. This map doesn't show any JNF lands in Monroe Co., WVa, although there are FS lands in this county.

IND802-12 p. 189: Virginia Division of Natural Heritage recommendations for conservation sites are –

Sinking Creek Mtn. "The rare community is partially if not entirely edaphically maintained and appears to persist in absence of management." "Invasive plants should .. be monitored and control measures taken in necessary and feasible." P. 101.

Mudlick Branch Woodland "Monitoring of the community over time is warranted to ascertain long-term trends in condition and any successional patterns." P. 74.

From the Division of Natural Heritage Technical Report of special areas on the JNF, approx.. 2000.

See Virginia Division of Natural Heritage Nat. Her. Tech. Rpt. 00-11

IND802-13 p. 199: FERC would minimize impacts to "concentration of sinkholes" at Mt. Tabor, but avoids analysis of how it would avoid individual sinkholes/karst systems/caves that are not concentrated. If the pipeline avoids concentration of sinkholes but impacts numerous other karst features throughout the route, there may be cumulative impacts to karst.

IND802-14 p. 205: MVP can't mitigate the visual impacts to the Blue Ridge Parkway if it does not" affect more landowners, cross more forest including interior forest, side slopes, landslide-prone areas, and steep terrain as compared to the proposed route." Something is wrong about this statement. Perhaps this is the wrong location to cross the BRP or perhaps the pipeline should not cross the BRP altogether if there is no way to mitigate the deleterious impacts of the project without causing greater impacts.

IND802-15 p. 220: "We asked Mountain Valley to coordinate with these landowners and to develop measures to eliminate or minimize these concerns, if possible." After the project is already approved? This does not seem like a fair or open process. **"If landowners refuse coordination and/or access, Mountain Valley should utilize available desktop data to evaluate the landowners' stated concerns." What exactly is available desktop data? Is it accurate? Thorough? How is this demonstrated?**

IND802-16 p. 248: Is this map accurate? Esp. re. carbonate rock formations. Seems to missing large areas with carbonate rock formations, e.g. Monroe Co, WV, Sinking Creek valley, and Burkes Garden. Others?

IND802-17 p. 258 et seq. Is the 1897 Giles County earthquake the design standard for construction of the pipeline? How close is the pipeline to earthquake epicenters and felt areas mapped in fig 9 & 11 of Bollinger and Wheeler, the Giles County Seismic Zone, USGS Paper 1355.

IND802-18 p. 370 - 372: What is the difference between the Virginia system for identifying core areas and the West Virginia system? FERC seems to be using two different systems, simply because of artificial political boundaries.

IND802-19 p. 371-372: Va. Core # 1 and W Va. Core #24 should be looked at as one area if they in fact are contiguous.

IND802-11 See the response to comment CO49-9 regarding mapping of NFS lands.

IND802-12 See the response to comment CO49-10 regarding the two conservation sites.

IND802-13 See the response to comment CO49-11 regarding the Mount Tabor Sinkhole Plain, karst, and sinkholes.

IND802-14 See the response to FA11-10 regarding the BRP.

IND802-15 See the response to comment CO49-13 regarding landowner coordination. Desktop data is the only alternative for areas where survey permissions has been denied. The accuracy of this data varies.

IND802-16 Mapping was updated as appropriate for the final EIS.

IND802-17 See the response to comment CO49-15 regarding seismicity.

IND802-18 See the response to comment CO49-16 regarding interior forest designation data.

IND802-19 While we agree that the state line is not a reason to separate the two areas, both areas have different characteristics and analyzing them separately provides a more conservative estimate.

INDIVIDUALS

IND802 – Sherman Bamford

IND802-20 In Mar. 1999, James Ohear of the FS conducted a spatial analysis of "Total Road Density Across the Jefferson National Forest." The area of Peters Mtn just to the NE of the pipeline route was one of the core areas with the lowest amount of road density identified. How would the pipeline and infrastructure affect this area in terms of remoteness? How would wildlife be affected?

IND802-21 p. 386: "Additional surveys for locally rare plant species within the Jefferson National Forest will be conducted in August 2016" August is not the most ideal time for identifying these plants. Some plants will have dried up and withered away. Flowers may not be present on many plants. This seems more like an afterthought or a "check the box" than a serious analysis of biological communities in the proposed pipeline's path.

p.386. These surveys were supposedly conducted in August and the DEIS was released in Sept. but there is no information about the surveys. Another indication that this is a rush job and that the DEIS was released prematurely.

IND802-22 p. 375 et seq.: The disclosure of information on key forest types is a mere listing of the acreage. This is supposed to be a site-specific EIS. One would expect more detailed analysis, including location (maps, discussion) of forest types, significance of forest types, presence of important biological communities. The discussion is too simplistic. It breaks forest types into the broadest of categories. In reality there a many more forest types than listed based on soils and numerous other factors. Some of these are quite rare or unusual. The Virginia Division of Natural Heritage can provide more information on this.

The discussion should have also analyzed the degree to which wildlife species utilize different types of biological communities during different stages of their lives.

IND802-23 p. 390: Likewise, the list of wildlife species on this page is merely a rote list of some wildlife species. We would expect a more detailed discussion of the impact of the pipeline on wildlife species found in the area, particularly wildlife species that are indicators of certain types of habitat, keystone species, rare and listed species, and species that are disturbance species (e.g. salamanders, trout, etc)

FERC should sufficiently examine and consider the potential impacts upon salamanders. This concern is significant here given the project's potential to destroy, degrade, or fragment suitable salamander habitat in some locations. Populations in the project area could be centered in, perhaps even be only found at, the particular places targeted for intense manipulation. They have very small home ranges with limited abilities of mobility (see attachments). They are susceptible and vulnerable to severe site-specific harm to their habitat and numbers; harm that would occur should the decision be implemented.

Their life history requirements and characteristics greatly restrict their abilities to "recolonize" areas. Since this project area does not contain Peaks of Otter salamander (POS) habitat, then the MIS (viz., black bears, pileated woodpeckers) and other species listed in the JNF Plan are of limited, even misleading, use for gauging impacts to site-sensitive salamander populations. Additional salamander/amphibian/reptile MIS need to be considered in this analysis.

The use of these species does not accurately gauge the impacts to small site-sensitive species of low mobility such as salamanders and turtles. Management plans must insure research on and (based on continuous monitoring and assessment in the field) evaluation of the effects of each management system to the end that it will not produce substantial and permanent impairment of the productivity of the land.

Present MIS do not allow for the accurate monitoring and assessment of management impacts to salamander populations in the Eastern Divide Ranger District where POS do not occur. Then some other indicator of effects needs to be used; the project's and Plan's MIS are deficient. 16 U.S.C. 1604(g)(3)(C).

IND802-20 See the response to comment CO49-17 regarding the Peters Mountain Wilderness.

IND802-21 See the response to comment CO49-18 regarding rare plant surveys.

IND802-22 See the response to comment CO49-19 regarding site-specific forest data.

IND802-23 See the response to comment CO49-20 regarding wildlife and salamanders.

INDIVIDUALS

IND802 – Sherman Bamford

IND802-23 cont'd

Impacts to site-sensitive creatures such as salamanders should be properly monitored and assessed. These creatures are very important components of forest ecosystems. The biomass of salamanders in a northern hardwood forest was twice that of the bird community during the breeding season and nearly equal to that of small mammals (see Burton and Likens, 1975, Copeia: 541-546). While in southern Appalachian forests, salamander biomass may exceed that of all other vertebrates combined (see Hairston, 1987, Community Ecology and Salamander Guilds). It is clear that they play key roles in ecosystem dynamics.

Impacts to site-sensitive creatures such as salamanders are also not being properly monitored and assessed. These creatures are vitally significant components of forest ecosystems. The biomass of salamanders in a northern hardwood forest was twice that of the bird community during the breeding season and nearly equal to that of small mammals (see Burton, T.M. and G.E. Likens, 1975, "Salamander populations and biomass in the Hubbard Brook Experimental Forest, New Hampshire", Copeia (1975): 541-546). While in southern Appalachian forests, salamander biomass may exceed that of all other vertebrates combined (see Ha
`irston, N.G., 1987, Community Ecology and Salamander Guilds, Cambridge University Press, Cambridge, UK. It is clear that they play key roles in ecosystem dynamics.

Abundant studies reveal the severe impacts of logging upon salamander populations and their preference for older forest sites. See "The Relationship Between Forest Management and Amphibian Ecology", 1995, deMaynadier and Hunter, Environmental Reviews 3:230-261 (incorporated by reference). See also "Effects of Timber Harvesting on Southern Appalachian Salamanders", Petranka et al, 1993, Conserv. Biol. 7:363-370; "Effects of Timber Harvesting on Low Elevation Populations of Southern Appalachian Salamanders", Petranka et al., 1994, Forest Ecology and Management 67:135-147; and "Plethodontid Salamander Response to Silvicultural Practices in Missouri Ozark Forests", 1999, Herbeck and Larsen, Cons
ervation Biology 13:3, 623-632) (these are standard journals readily available to the agency; the agency is already in possession of most if not all of this info as the studies took place on and were funded by NFs).
Also, James Organ, "Studies on the Life History of the Salamander, Plethodon welleri," Copeia 1960 No. 4. Also R.G. Jaeger, "Moisture as a Factor Influencing the Distributions of Two Species of Terrestrial Salamanders," Oecologia (Berl.)6, 191-207 (1971); "Competitive Exclusion and Environmental Tolerances in the Distribution of Two Species of Salamander (Genus Plethodon) in Virginia, U.Md. Doc. Di
ssertation, 1969; and Jaegar, Bioscience Vol. 24, No.1 (33-39) regarding the effects of competition on salamanders, including effectives of moisture and environmental tolerances on competing salamanders.

Terrestrial salamander abundances are affected by forest thinning (Grialou, J.A., West, S.D., and R.N. Wilkins. 2000. The effects of forest clearcut harvesting and thinning on terrestrial salamanders. Journal of Wildlife Management 64(1): 105-113).

Harpole and Haas, "Effects of Seven Silvicultural Treatments on Terrestrial Salamanders, For. Ecol. & Mgmt. 114:349-356 (1999) found that relative abundance of salamanders based on area-constrained searches decreased on group selection cuts, 12-14 sq. m shelterwood cuts, 4-7 sq. m shelterwood cuts, leave tree cuts, and cl
Nearcuts , Harpole and Haas, "Effects of Seven Silvicultural Treatments on Terrestrial Salamanders, For. Ecol. & Mgmt. 114:349-356 (1999).

Large plethodontid populations declined in group selection cuts after the Daves Ridge TS (Mt Rogers NRA). See the 1994 SO monitoring and evaluation report, section on Daves Ridge TS and James Organ's report on salamanders and related issues in the Daves Ridge area ("Salamander Survey in Connection with Daves Ridge Timber Sale"). These documents, already in possession of the GWJNFs are incorporated by reference

FERC has not sufficiently examined and considered the potential impacts upon salamanders.

IND802-23 cont'd

Another pertinent study that the agency needs to incorporate in its analysis and decision is "Determinants of salamander distributions along moisture gradients" by M. Grover in Copeia 2000 (1): 156-168.

The present MIS, except for some TES species, are all large mobile vertebrates. The use of these species does not accurately gauge the impacts to small site-sensitive species of low mobility such as salamanders. Management plans must insure research on and (based on continuous monitoring and assessment in the field) evaluation of the effects of each management system to the end that it will not p vroduce substantial and permanent impairment of the productivity of the land. Present MIS (outside of the limited ranges of the Peaks of Otter Salamanders) do not allow for the accurate monitoring and assessment of management impacts to salamander populations. Then some other indicator of effects needs to be used.

." (Congdon et al 1993, op cit.)

IND802-24

p. 392: The cerulean warbler is not only found in "river valleys." The cerulean is recognized by the FS and others as an area-sensitive species (Southern Appalachian Assessment, Terrestrial Rept, Robbins et al., Cove Creek BE, 1995, Clinch RD, J&GWNFs, Maple Springs Branch BE, Clinch RD, J&GWNFs). 131313 Other species are listed as area sensitive species in the SAA. The FS should consider the impacts to these area-sensitive species.

The FS found that cerulean warblers "tended to be older, large diameter stands with tall trees, a deciduous understory, multiple layers and ages..." ((Cerulean Warbler Interim Mgmt Strategy, Clinch RD, GWJNFs, p. -7) "Trees 18.2 in. in diameter composed greater than one-fourth of the overstory trees in the stands." (CW IMS-7) The IMS documents that research characterized "suitable cerulean warbler habitat as mature forest with a high, closed canopy and a large number of stems greater thatn 12 in. diameter..." (CWS IMS-8) The cerulean warbler is found in the PA and vicinity. The cerulean warbler, is an area-sensitive bird (Southern Appalachian Assessment, Terrestrial Report); the cerulean warbler is experiencing the greatest annual decline of any of the warbler species and this significant decline is continuing. (Robbins, Fitzpatrick and Hamel, 1989, " A warbler in trouble: Dendroica cerulea") Studies have found cerulean warblers chiefly in "large tracts of mature, semi-open deciduous forest." Robbins, Fitzpatrick and Hamel, 1992. The authors of one study, affirm that there is a "need to protect extensive tracts of mature deciduous forest," especially on publicly owned land. See also excerpts from the Maple Springs Branch BE on the cerulean warbler (Clinch RD, GWJNFs, already in the agency's possession, incorporated by reference).

- The cerulean is recognized by the FS and others as an area-sensitive species (SAA, Terrestrial Rept, Robbins et al., Cove Creek BE, 1995, Clinch RD, J&GWNFs, Maple Springs Branch BE, Clinch RD, J&GWNFs). The Southern Appalachian Assessment Terrestrial Report lists the cerulean warbler among "area sensitive, mid- to late-successional deciduous forest species" (SAA/TR-70, in the agency's possession, incorporated by reference). It predicts that "based on past trends in land use, it is expected that, over the next 15 years, suitable acreage [for these area sensitive species] and associated forest interior habitats will continue to decrease due to loss of forestland to other uses such as agricultural pasture and development."(SAA/TR-72) The cerulean warbler is found in a variety of deciduous forest types, usually in extensive woods. (Brandt, 1947; Peterjohn and Rice, 1991; Andrle and Carroll, 1988; Brooks, 1908; Mengel, 1965; Cadman et al., 1987; Torrey, 1896; Kirkwood, 1901; Maxon, 1903; Hann, 1937) Most often, its occurrence is recorded in forests with large, tall trees. (Lynch,1991; Robbins et al, 1989; Wilson, 1811; Oliarnyk, 1996; Mengel, 1965; Andrle and Carroll, 1988; Robinson, 1996; Torrey, 1896; Schorger, 1927) "A change to shorter rotation periods and even-aged management," one of the 6 "chief constraints on the breeding ground" listed in Robbins et al., 1989.

According to USF&WS, "Ceruleans are routinely identified with large tracts, tall trees, and mature forest." (Cerulean Warbler Status Assessment April 2000) For example, Lynch (1981) indicates minimum habitat requirements of the birds along the Roanoke River of North Carolina "to include: (1.) a closed canopy, (2.) presence of scattered, very tall old-growth canopy trees, and (3) good development of vegetation strata, i.e. distinct zonation of canopy, subcanopy, shrub, and ground-cover layers." (Cerulean Warbler Status Assessment April 2000). This project has the potential to alter or degrade these habitat

IND802-24 See the response to comment CO49-21 regarding Cerulean warblers and migratory birds.

IND802-24 cont'd

characteristics in the project area removal of contiguous forest cover and removal of large, old trees that are potential cerulean warbler nest trees.

The Cerulean Warbler is in need of robust conservation planning, especially by the Forest Service. Cerulean Warbler populations have declined dramatically since the 1960s. Data from the Breeding Bird Survey show that the Cerulean population has decreased approximately 80% since 1966, with an average rate of decline of -4.1% per year from 1966 to 2007. (J. R. Sauer et al., *The North American Breeding Bird Survey, Results and Analysis 1966-2007* (updated 15 May 2008), Version 5.15.2008 (USGS Patuxent Wildlife Research Center, Laurel, MD, 2009) The U.S. Fish and Wildlife Service's Cerulean Warbler Status Assessment concluded that this precipitous population loss represented the largest decline among any warbler species and one of the most significant declines among neotropical migratory birds. (J. R. Sauer et al) Much of this decline has occurred in the species' core breeding range. Dramatic habitat loss to mining, development, and logging throughout the Cerulean's breeding range, as well as loss of habitat in its winter range, are the primary causes of this decline. (Hamel (2000); Paul B. Hamel, How We Can Learn More About the Cerulean Warbler (Dendroica Cerulea), *Auk* 121(1): 7, 9 (2004).)

National forests like the JNF and other portions of the proposed MVP corridor are critical to the Cerulean Warbler's long-term survival, because of the Cerulean's habitat requirements. The Cerulean Warbler is an area sensitive forest-interior species, dependent on large tracts of mature forest to breed successfully. (C. Robbins., *A Warbler In Trouble: Dendroica Cerulea*, in Hagen, et al., *Ecology and Conservation of Neotropical Migrant Landbirds* at 555-56, 560. Smithsonian Inst. Pr. (1992); Nicholson, C.P. 2004. *Ecology of the Cerulean Warbler in the Cumberland Mountains of East Tennessee*, at 1. Dissertation, University of Tennessee, Knoxville, USA [hereinafter —Nicholson 2004ll]. *See also* C. Oliarnyk & R. Robertson, —Breeding Behavior and Reproductive Success of Cerulean Warblers in Southeastern Ontario,ll *Wilson Bull* 108(4): 673 (1996); R. Askins, "Relationship Between the Regional Abundance of Forest and the Composition of Forest Bird Communities," *Biological Conservation* 39: 144 Table 5 (1987); R. Connor and J. Dickson, "Relationships Between Bird Communities and Forest Age, Structure, Species Composition and Fragmentation in the West Gulf Coastal Plain," *Texas J. Sci. suppl.* 49(3): 131 (1997) ("Cerulean Warblers, …are perhaps the most area-sensitive bird in this region and are likely the most vulnerable species to the forest fragmentation in this region"); Cathy A. Weakland & Petra Bohall Wood, —Cerulean Warbler (Dendroica Cerulea) Microhabitat and Landscape-Level Habitat Characteristics in\ Southern West Virginia,ll *Auk* 122(2): 497, 498, 506 (2005).

Cerulean Warblers require a minimum forested area of 700 hectares to sustain a viable population. (MTM EIS at III.F-15.) In a Tennessee study, Ceruleans were found only in forest tracts greater than 800 hectares (2,000 acres). (Chandler S. Robbins et al., *A Warbler in Trouble: Dendroica cerulean*, at 555, Manomet Symposium (1989)) Another study found that the probability of encountering a Cerulean reached its maximum when the area consisted of 3,000 or more unfragmented hectares (7,500 acres) of forest. (Robbins et al. 1992) Within the context of a fragmented landscape of private land, the unfragmented forest habitat provided in the path of the proposed MVP is of critical importance to area-sensitive species like the Cerulean Warbler. The landscape surrounding the George Washington-Jefferson National Forests is projected to continue to fragment for new housing density at the fastest rate of any national forests. (U.S. Forest Service, Forests on the Edge at 9.)

"For nest trees, cerulean warblers preferred white oaks, sugar maples, and cucumber magnolias and avoided red maples and oaks in the red oak group (scarlet, black, northern and southern red oak." (CEWA study p. 15). It is not clear that these preferences are used in determining tree species retention.

Prime Cerulean habitat should generally be protected from fragmentation, especially large unfragmented forest blocks of 7,500 acres or more that contain existing old growth forest.

IND802-24 cont'd

There are viability concerns for cerulean warblers, other species of interior forest-dwelling warblers, species of cuckoos, and other interior-forest dwelling songbirds listed as declining in BBS (or other ornithological data) that must be taken into consideration.

151515 Other species are listed as area sensitive species in the SAA. The FS should consider the impacts to these area-sensitive species.

The proposed activities could impact birds that have different stratigraphic preferences, niches, and life cycle needs. What are the stratigraphic preferences and vegetative preferences of cerulean warbler and other birds? How would the project affect birds with different stratigraphic preferences and vegetative preferences of birds other than and including cerulean warblers?

The proposed activities could impact birds during the time that birds are seeking mates, breeding, nesting, rearing their young, or migrating. During what period due forest interior birds seek mates? Breed? Migrate? How would the project affect these factors? The project may involve a taking under the MBTA if birds are killed in nest trees or nearby trees

What activities are affecting the forest interior birds throughout their breeding range? Wintering range? How do these activities cumulatively affect birds?

The 2001 Executive Order on Migratory Birds states: "Sec. 3. Federal Agency Responsibilities. (e) Pursuant to its MOU, each agency shall, to the extent permitted by law and subject to the availability of appropriations and within Administration budgetary limits, and in harmony with agency missions:
(1) support the conservation intent of the migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions;…
(4) design migratory bird habitat and population conservation principles, measures, and practices, into agency plans and planning processes (natural resource, land management, and environmental quality planning, including, but not limited to, forest and rangeland planning, coastal management planning, watershed planning, etc.) as practicable, and coordinate with other agencies and nonfederal partners in planning efforts;…
(6) ensure that environmental analyses of Federal actions required by the NEPA or other established environmental review processes evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern;…
(9) identify where unintentional take reasonably attributable to agency actions is having, or is likely to have, a measurable negative effect on migratory bird populations, focusing first on species of concern, priority habitats, and key risk factors. With respect to those actions so identified, the agency shall develop and use principles, standards, and practices that will lessen the amount of unintentional take, developing any such conservation efforts in cooperation with the Service. These principles, standards, and practices shall be regularly evaluated and revised to ensure that they are effective in lessening the detrimental effect of agency actions on migratory bird populations. The agency also shall inventory and monitor bird habitat and populations within the agency's capabilities and authorities to the extent feasible to facilitate decisions about the need for, and effectiveness of, conservation efforts;"…
Sec. 2 i) "Species of concern" refers to those species listed in the periodic report "Migratory Nongame Birds of Management Concern in the United States," priority migratory bird species as documented by established plans (such as Bird Conservation Regions in the North American Bird Conservation Initiative or Partners in Flight physiographic areas), and those species listed in 50 C.F.R. 17.11." Several birds listed in Bird Species of Conservation Concern 2002 are found in this area (see breeding bird survey records). Impacts to these NTMBs should be analyzed.

IND802-25

p.390: Black Bear habitat, black bear populations and JNF Black Bear management (8C) areas are found in the areas of the proposed corridors and areas surrounding the proposed corridors.

Some of the activities in this proposal would take place in JNF black bear habitat areas designated in the JNF Forest Plan. FERC should analyze the impact of this project on bears, bear habitats, and on those who might utilize the additional roads and infrastructure for illegal access.

IND802-25 See the response to comment CO49-22 regarding black bears in the Jefferson National Forest.

IND802-25 cont'd

We are concerned about the intensive activities planned in this area and the removal of forest cover.

Consistent with the JNF Plan for 8C areas, how does this project:
Provide optimal habitat for black bears and other wide-ranging area sensitive species?
Ensure adequate den sites?
Provide secluded and diverse habitat?
Meet road densities?
Affect any core areas that provide SPM or SPNM recreation opportunities?
Affect backcountry recreation or recreation associated with nearby wilderness areas?
Affect ovenbirds, northern saw-whet owls, cerulean warblers, wood thrushes, pileated woodpeckers, hooded warblers, southern pigmy shrews, and eastern wood peewees?
Affect forests in prime mast-producing years?
Affect late-successional and old growth forests?
Affect portions of this MRxA managed through natural processes?
Affect solitude and feelings of challenge and risk experienced by forest users here?
Affect forests 40-100 yrs old?
Manage forests consistent with rotation requirements?
Meet SIO and Scenic Class requirements?
Affect OHV use and mountain bike use and wildlife affected by such use?
Manage pests consistent with Integrated Pest Management methodologies?

Since 2007, a disproportionate amount of logging and roadbuilding taking place in these areas compared to other MRxAs across the JNF. Since 2007, the major logging proposals I am aware of are (from past SOPAs and other sources):
Fry Hill (Mt R) 7E2
Interior (Eastern Divide) 8C
Big Mtn (Eastern Divide) 8A1
Johns Cr Mtn (Eastern Divide) 8C
Back Valley (Clinch) 8A1
Olean (Eastern Divide) 8C
SR 622 Bear (Mt R) 8C/6C/4A
Goldbond (Eastern Divide) 8C
Laurel Cr (Eastern Divide) 8C
Wells Branch (Clinch)
Mine Mountain (Eastern Divide)
White Rocks (Eastern Divide)
Wallen Ridge (Clinch)
Clinch Hardwood Restoration (Ciinch)
Flatwoods (Clinch)
Rich Mountain (Eastern Divide)
Fork Mountain (Eastern Divide) 8C
I have included some timber projects not in 8C areas that are smaller timber projects in this list. Even so, about 41% of the timber sales above have been in MRxA 8C areas. Given the fact that this is rudimentary list, I hope the FS will examine how many timber sales of all the timber sales planned in the JNF during this period have been in 8C areas, how many acres of logging has taken place in 8C areas and in the JNF as a whole during this period, and how many miles of permanent, temporary, and reconstructed roads have been built in 8C areas and in the JNF as a whole during this period.

Looking at what has transpired during this period, it appears that a disproportionate amount of the logging and roadbuilding is still taking place in 8C areas today. According to the JNF Plan, "this management area is allocated to approximately 57,300 acres (8%) across the Jefferson National Forest." (3-120). Yet according to the management prescription, the emphasis and desired condition for these areas are: "to provide a secluded and diverse habitat,", "the landscape character of this area retains a natural, forested appearance," "forest visitors….may experience solitude in portions of these prescription

IND802-25 cont'd

areas and feelings of challenge and risk are expected." (JNF Plan 3-120 to 122). Is a disproportionate amount of logging and roadbuilding taking place in these areas compared to other MRxAs across the JNF? What are the cumulative impacts of this combined with the MVP proposal? How is it possible to provide for these attributes if this management prescription is receiving a disproportionate amount of the logging across the JNF? Why are management prescription areas closer to roads not receiving a higher proportion of logging than these areas? What are the cumulative impacts on black bears and their habitat? What monitoring has taken place? Why are so many roadbuilding and logging projects being selected in this MRxA? How does this affect semiprimitive areas, backcountry areas, wildlife corridors between roadless or Virginia Mtn Treasure areas or other such habitat, remote areas utilized by black bears forestwide? If road densities for the MRxA 8C area in Olean are above Forest Plan objective levels, why not decrease the amount of roadbuilding in this area to compensate? Have vehicle collisions with black bears, nuisance complaints, poaching incidents, or other black bear-human incidents increased or decreased in these other areas where roadbuilding and logging has taken place? An analysis of the cumulative effects of the MVP pipeline and this logging and roadbuilidng regime across the JNF should take place as part of the analysis for this project, in order to better inform the public and decisionmakers before this project proceeds.

The Hickory Flats area of Giles and Monroe Counties, where one of the pipeline route alternatives is proposed, is the largest black bear management area in the JNF(See Fork Mountain EA). This is also the area with the "highest portion of radio collared sows in the southern portion of the Cooperative Allegheny Bear Study" (See Fork Mountain EA 26). FERC has not examined the degree to which proposed activities, done in a short period of time, could adversely affect black bear populations. And it is possible that blear bears from this population or other population may utilize the Peters Mountain, Little Stony, Craig Creek watersheds, Sinking Creek watersheds and other areas of the JNF where the MVP is proposed. Studies of black bear movements in this area need to be conducted.
Monitoring activities should include studying impacts to black bear populations and should incorporate management of past Forest Service projects such and the Fork Mountain, Interior, Olean, Johns Creek and other projects. There are not feedback provisions in black bear monitoring to ensure that if there are impacts to black bears at certain stages, the project can be altered to protect black bears. The cumulative impacts of pipeline construction and this project on black bear populations are not analyzed.

Black bear is an MIS here and throughout the JNF (JNF Plan MIS List) and an important featured species in this bear management area and adjacent areas. Issues of negative impacts to the MIS black bear due to increased disturbance, stress, vulnerability, and deaths which the project could foreseeably facilitate should receive a hard look. See also 36 CFR 219.19(a)(4). "It is evident that hunting is a stronger influence on the dynamics of the local population than is habitat capability... Potential biotic increases in habitat quality resulting from timber harvest may easily be outweighed by the potential effects on population dynamics...We believe that habitat capability models, no matter how complex, cannot predict the status of bear populations by themselves. Population dynamics must be explicitly considered in evaluating the long-term effects of habitat manipulation on bears." - Brody and Stone "Timber Harvest And Black Bear Population Dynamics" (previously submitted with appeal of the West Dry Branch TS on this GW National Forest - the agency is already in receipt of this information - we incorporate it by reference into the AR - including the Powell declaration - "To date I have not been able to document that logging...ha[s] any positive effects on black bears or black bear habitat..."). Black bears occupy only 5-10% of their former range in the southeast and "would now likely be totally extirpated in this region were it not for federal lands containing designated wilderness or de facto wilderness" (Pelton, "Habitat needs of black bears in the east," in Wilderness and Natural Areas in the Eastern United States, Kulhavy and Conner, eds., 1984) FERC should analyze the negative impacts to populations that the proposal would foreseeably result in (e.g., increased legal and illegal disturbance, facilitated poaching and hunting). See also 40 CFR 1507.2(d) and 1508.27 and FSH 1909.15,ch.05.
- Foreseeable negative impacts from the proposed action to most MIS must be thoroughly analyzed in the EIS. For example, agency planners must use the latest scientific information when assessing impacts to

IND802-25 cont'd

MIS black bears and their habitat. A report published in 1991 by Steven Reagan, "Habitat use by female black bears in a southern Appalachian bear sanctuary", analyzes how removal of forest cover adversely affects black bears. The Forest Service is already in receipt of this information; it was delivered to the JNF Supervisor's office (currently the GW&JNFs SO) several years ago by the Southern Appalachian Biodiversity Project. We incorporate it by reference into the administrative record. One significant finding of this research was that black bears were not taking advantage of food and habitat in even-age logging sites as was anticipated. He also found that such logging results in a dramatic increase in female black bears' home range. The same potential result can reasonably be expected to occur here from this proposed even-age logging. The outcome would be increased competition for a limited food and habitat supply. Having to roam over a greater area would also make them potentially more vulnerable to legal, illegal, and accidental killing, injury, or stress by humans. These foreseeable direct, indirect, and cumulative impacts must be adequately considered and analyzed by the planners. The best and most accurate scientific information must be used - per NEPA. The potential clearly exists for significant impacts to black bear viability here. There must be hard inventory and population data for this MIS to provide an accurate picture.

-Bears need security. Black bears are classified as "wide ranging area sensitive species" (SAA Terr Rpt 154&158). Areas of grapevines and large denning trees are key habitat components. Large hollow den trees are the preferred den sites of black bears (see eg JNF Plan Rev DEIS 3-177). Grapes are a soft-mast food source of black bears (see JNF Plan Rev DEIS 3-177). Hollow trees, existing stumps, snags, shallow holes, and rock outcrops are potential bear den sites. These must be protected. There must be analysis of the loss of interior and remote habitat that will occur and has already occurred here. The road density, when both legally and illegally used motor routes are considered, may be in excess of that found to be desirable for bears. (there is little info in the DEIS) And the effects of miles of nearby access roads. must be properly analyzed. Use of these rts. (and associated noise, disturbance, and partying) create constant disturbance which may impact black bears. And "closed" roads are known to be violated by vehicle use here and elsewhere. Temporary and closed roads facilitate more access and disturbance and mortality.). Road densities must meet Plan objectives for these important habitat components in the PA. And the agency's own "Wildlife Population Data Working Paper" (Goetz and McEilwane - incorporated by reference) shows that the impacts to bears becomes negative when the proportion of suitable acreage in regen areas exceeds 10%.). If recent clearings, even-aged cuts, grassy areas around roads existing and proposed roads, existing and proposed landings, and natural within stand openings are included in these figures, The criteria data and amount of suitable land here should be disclosed to the public

- Above ground den trees are important to black bears in the Appalachians. Data from a study in the Allegheny mountains of Virginia, for example, "show 93 percent of denned bears denned above ground in standing hollow trees." (GWNF Hoover Creek timber sale EA-57; incorporated by reference) Trees of sufficient size for bears to den are old large trees. Yet the agency's action would remove these key elements over the long-terrm, habitat significant to viability. Even if a few den trees are protected these trees are vulnerable to accidental or intentional damage by logging operators and may topple over in windstorms if left standing in a much more exposed location in the middle of a timber cut. The analysis must fully and fairly consider this factor. This is omission particularly glaring since there is no information in the project record as to amounts of trees in the area suitable for bears to den in, and given that the agency claims old growth is not present which would mean that such trees can be expected to be scarce.
- A clear goal for black bear conservation is "promoting remote forest conditions when managing forests (e.g., minimizing forest fragmentation, limiting road development)." Rudis, V.A., and J.B. Tansey. 1995. Regional Assessment of Remote Forests and Black Bear Habitat from Forest Resource Surveys. J. Wildl. Management 59(1): 170-180 (written by FS researcher; incorporated by reference).
- Clearing, roads, and other operations can be seen to make an area more desirable for Bear hunters (e.g., providing easier access for humans, attracting Bears to so-called "escape" habitat that does not actually provide an escape), but this does not equate to being better for Bears. Roadways and clearings can foreseeably be used for legal and illegal access. See also Jefferson NF Wilson Mtn. TS EA-69 - "roads and forwarder trail could increase hunting/poaching pressure".

Poaching and other wildlife disturbing activities must be fully and fairly considered.

IND802-25 cont'd

- These foreseeable direct, indirect, and cumulative impacts must be adequately considered and analyzed by the planners.
- FERC should provide hard inventory and population data for this MIS.

IND802-26

p. 393: Discussion of birds and Important Bird Areas omits the potential impact of the pipeline on the Hanging Rock Raptor Observatory, near one of the alternatives.

Water crossings on the JNF: FERC should have examined the impact of the pipeline on waterways identified in 9 VAC 25.60 Virginia Water Quality Stds., Jan 6, '11
The New River, Stony Cr. Curve Br., and Clendenin Cr. Are nutrient enriched waters under 9 VAC 25.260.350. How will the project exacerbate water quality problems in these waterways?

Little Stony Creek is not just a Tier III stream above the pipeline project area. It is a class ii trout stream "from the confluence of the New River." Class ii trout streams "contain a good wild trout population" "would represent a major portion of Virginia's wild trout waters." 9 VAC 25.60 Virginia Water Quality Stds.,

Curve Br. Is not discussed at all among Va trout streams in 9 VAC 25.60 Virginia Water Quality Stds., even though it flows directly from Peters Mountain. DEQ and FERC should evaluate this stream to determine what kind of trout population it has and was classification of trout stream it falls under.

IND802-27

p. 421 Indiana bats and Northern Long-eared bats

These two federally listed bats are vulnerable because of white nosed syndrome and their reliance on summer roosting habitat found on national forests.

The DEIS does not seem to recognize the precariousness of the species' population in Virginia. Here on the periphery of their range, the Bats' numbers have plummeted. **A net loss of 1300 Bats since counts were initiated in VA winter hibernacula** (IBat EA-11)**, a decline of approximately 75% in this state**. Bat populations

in Starr Chapel Cave plummeted from 600 bats in the early 60s to 54 bats by 1996-97. . Bat populations in Mtn. Grove Cave have declined from 23 bats in 1992 to 2 bats by 1997- 98 (IBAt EA-11).

The Brack and Brown (2002) study discloses that less than half of identified roost trees are shagbark hickory, but the FS mainly only protects shagbark hickories in its inadequate mitigation measures with no assurance that adequate other potential roost trees are protected. Research in Indiana and Kentucky indicates that bats range up to 5 mi. from hibernacula during fall and spring swarming periods (ibid p. 25). Clawson(2002) reported an 80% decrease in bat populations over the last 40 years in the southern portion of the bats' range (Alabama, Arkansas, Kentucky, Missouri, Tennessee, and Virginia) (ibid, 13).

FERC and the FS should perform the needed surveys and inventories of the area and its habitat (the proper site-specific good faith "hard look" by qualified personnel using valid methods) necessary for clearly establishing the status of the Bat here, it is clear the agency would not

be placing the requisite highest priority on the Indiana Bat and other T&E bats and their habitat

Forest clearing proposed in the Alternatives could adversely affect roosting (sheltering), maternity (breeding), foraging (feeding), and swarming habitat of the Indiana Bat and other T&E bats. Logging could remove the very trees (large mature with broken tops and cavities and snags and exfoliating bark) with the characteristics known to be used or favored by the Bats. Top priority should be given to the Bats.

IND802-26 See the response to comment CO49-25 regarding the Hanging Rock Raptor Observatory.

IND802-27 See the response to comment CO49-27 regarding the Indiana bat and northern long-eared bat.

IND802-27 cont'd

This felling/removal also ignores the Bats' known loyalty to habitat. The agency must address the impact of removing a roost tree when the bats are not there. There is the need to consider, loyalty to the roost trees, stress of finding new roosts, and the impacts of removing trees next to roosts or potential roosts (i.e., making the tree more susceptible to windthrow and changing the thermal dynamics).

Ignored also is the fact that the Bats are known to especially use riparian and stream corridors for dispersal and feeding. All forested habitat is not "equal', The agency is proposing to disturb and degrade areas of Forest that are particularly important to the Bats. Most, if not all, of the tracts proposed for clearing are adjacent to streambeds.

Efficacy of proposed mitigation measures for the Bat must be explained, and they must completely compensate for potential adverse effects. For example, the increased susceptibility of remnant leave trees to windthrow should be assessed. Efficacy of retaining only shagbark hickory trees is unsubstantiated; the Bats are known to use other tree species that are present here that the cuts will remove. See Table 4 at pg. 21 of GWJNF IBRS. White, chestnut, and northern red oaks, species which are prevalent here, are "Class 1 Tree Species" and are likely to be used for roosting and maternity sites. The effectiveness of retaining a certain number of snags per acre should be substantiated. If the Bats were receiving the required "top priority" all snags and large potential den trees would be retained. See Bensman v. USFS (1997). The mitigation may not necessarily retain the large old or dead/damaged trees of greatest benefit to the Species. And concern over low snag amounts (and quality) are not merely conjectural. See the information found in USDA FS General Technical Report SE-94 "Biodiversity and Coarse Woody Debris in Southern Forests" (incorporated by reference).

Another mitigation often offered for I. Bat roost trees is in effect no mitigation. "If during implementation active roost trees are identified. . ." Loggers or overseers can not be expected to be qualified at identifying or locating TESLR species or roost trees. And there is no assurance that they would notify proper authorities if they did find anything. Reliance upon such mitigation for a FONSI is unreasonable and/or arbitrary and capricious.

There is no mitigation requirement for examining cut trees to ascertain if "incidental take" or significant harm to Bats should occur. In a meeting attended by members of the appellants on July 26, 2002 at the GWNF Deerfield RD office, the agency timber sale administrators and contract inspectors present made it quite clear that they "do not monitor or track wildlife killed" at logging sites. How would MV do so?

Of particular concern are cumulative impacts to the IB. The proposed action, in concert with other past, present and future actions, could result in CIs to the Bat. Past actions have already harmed Bat habitat in this analysis area. There is clear evidence that further habitat modification (e.g., cutting of trees for sale) is foreseeable here and elsewhere in the Bats' habitat in this Forest and ranger district. The agency's assertion that CIs will not result to the Bat's populations here or in Virginia must be explained & substantiated. The Bats' viability is particularly at risk here due to it being on the edge of its range and its small population in Virginia.

The agency is at present modifying and/or damaging and/or degrading and/or destroying IB habitat (or contemplating such) throughout its range.

The planners often do not seem to recognize the precariousness of the species' population on this Forest. Here on the periphery of their range, the Bats' numbers have plummeted. A net loss of 1300 Bats since counts were initiated in Virginia winter hibernacula (GWJNF IBat EA-11), a decline of approximately 75% in this state.

Northern Long-eared Bat

The DEIS states that the northern long-eared bat, a proposed endangered species could be adversely

IND802-27 cont'd

impacted. The northern long-eared bat has declined 99% in the Northeast, 96% in Virginia, roughly 68% in West Virginia. Unlike the little brown bat, which is showing signs of stabilization in areas longest affected by white nosed syndrome, the northern long-eared bat population does not appear to be stabilizing anywhere. Northern long-eared bat populations are starting to show increasing mortality in the Southeast and Midwest. Twenty- five states in its 38 state range are now affected by white nosed syndrome, and 5 Canadian provinces in its range are also now affected by white nosed syndrome.

- FERC should have analyzed the particular habitat needs of the long-eared bat and should have analyzed how the project would impact the bat and its habitat. Surveys should be conducted for the bat (and other PTESLR bats). ÒCompared to random trees, roosts of northern long-eared bats were within intact forests (x2 = 10.56, d.f. = 1, P = 0.001). Amount of obstruction and decay differed; roosts of M. sodalis typically were less cluttered and more decayed than those of M. septentrionalis (x2 = 38.63, d.f. = 2, P < 0.001). Indiana bats roosted almost exclusively under exfoliating bark of bottomland snags, whereas northern long-eared bats also made extensive use of cavities and crevices.Ó ÒNorthern long-eared bats used five identified species of trees for roosting; nine roosts were in pin oak, five in elm, two in unidentified snags, and one each in sweetgum, oak, and hawthorn (Cratagus spp.).Ó ÒComparing roosts of Indiana bats and northern long-eared bats (Table 3), two variables were significant (x2 = 38.633, d.f. = 2, P < 0.001). Degree of roost obstruction was greater around northern long-eared bat roosts than around Indiana bat roosts (x2 = 14.954, d.f. = 1, P < 0.001), and M. septentrionalis roosts were less decayed than those of M. sodalis (x2 = 4.876, d.f. = 1, P < 0.027).Ó(Timothy C. Carter , George A. Feldhamer, ÒRoost tree use by maternity colonies of Indiana bats and northern long-eared bats in southern Illinois,Ó Forest Ecology and Management 219 (2005) 259Ð268).

-FERC and the FS should consider the differences between northern long-eared bats and Indiana bats and their use of habitats.

From Northern long-eared bat (NLEB) comparisons with the Indiana bat (Ibat) Appendix B:

Canopy cover around roost trees

Northern long-eared bats: They appear to select roosts with **generally more canopy cover** than Indiana bats do.

Canopy coverage at NLEB roosts has ranged from 56 percent in Missouri (Timone *et al.* 2010), 66 percent in

Indiana bats: Mean values of canopy cover are highly variable among studies, ranging from <20 to 88 percent (FWS 2007).

FWS (2007) ÒFirst, some variation undoubtedly is related to differences in

Food sources:

Arkansas (Perry

and Thill 2007), greater than 75

percent in New Hampshire (Sasse and

Pekins 1996), to greater than 84

percent in Kentucky (Lacki and

IND802-27 cont'd

Schwierjohann 2001).

Examples of studies that compared NLEB and Indiana bats directly:

¥ Indiana bat 25% vs. NLEB 56% (Timpone et al. 2010)

¥ Indiana bat 18% vs. NLEB 44% (Carter and Feldhamer 2005)

methodology, because virtually every study measures canopy cover in a different way. Second, roosts found in closed-canopy forests, particularly primary roosts, are often associated with natural or man-made gaps (e.g., openings created when nearby trees fall, riparian edges, trail or forest road edges). Although the forest may be accurately described as closed canopy, the canopy in the immediate vicinity of the roost tree may have an opening that allows for solar radiation to reach the roost.

Northern long-eared bat: Similar to Indiana bat. Beetles, mayflies, moths (Brack and Whitaker 2001, Lee and McCracken 2004, Feldhamer *et al.* 2009) Potential differences Indiana bat, as gleaners, **NLEB eat more arachnids (spiders)** (Feldhamer *et al.* 2009) and **more orthopterans** than Indiana bat (Lee and McCracken 2004).

Indiana bats: Flying insects. Consistent use of moths, flies, beetles, and caddisflies throughout the year at various colonies suggests that Indiana bats are selective predators to a certain degree, but incorporation of ants into the diet also indicates that these bats can be opportunistic (Murray and Kurta 2002). Hence, Brack and LaVal (1985) and Murray and Kurta (2002) suggested that the Indiana bat may best be described as a Òselective opportunist,Ó as are a number of other *Myotis* species (Fenton and Morris 1976).

Foraging behavior:

Northern long-eared bats: Nocturnal. Both hawking and **gleaning** (Brack and Whitaker 2001, Feldhammer et al. 2009, Fenton and Bogdanowicz 2002; Ratcliffe and Dawson 2003). **Within canopy** more than Indiana bat (Nagorsen and Brigham 1993).

p. 422: Equitrans not likely to affect the Indiana bat and NELB is West Virginia? There are some large cave systems in W. Va. Utilized by these bats and some areas have had historically large populations. How is the pipeline not likely to effect these bats?

IND802-28

How does FERC demonstrate that the project is not likely to adversely affect the James spinymussel? When the project is proposed near the headwaters of Craig Creek and near the eastern continental divide? What about high water events, blowouts w/ high sediment levels. This is a species highly sensitive to sedimentation. Limited to only 10% of its original range.

- The requisite full, intensive, and competent surveys, inventories, and data gathering for endangered species must be performed. Cumulative impacts must be analyzed and accounted for.
- According to a study commissioned by the American Fisheries Society Endangered Species Committee, there are "297 native freshwater mussels [in the U.S. and Canada], of which 213 taxa (71.7%) are considered endangered, threatened, or of special concern... and only 70 (23.6%) as currently stable... Freshwater mussels (also called naiads, unionids or clams) of the families Margaritiferidae and Unionidae are worldwide in distribution but reach their greatest diversity in North America with about 297 recognized taxa... During the past 30 years, numbers both of individual and species diversity of native mussels have declined throughout the United States and Canada. Freshwater mussels (as well as other aquatic species) are emperiled disproportionately relative to terrestrial species... This alarming decline, the severity of which was not recognized until recently, is primarily the result of habitat destruction and

IND802-28 See the response to comment CO49-28 regarding the James spinymussel.

IND802-28 cont'd

degradation associated with adverse anthropogenic activities." (Williams, Warren, Cummings, Harris and Neves, 1993
- At its peak, the James spinymussel (Pleurobema collina) was distributed from a location a few miles upstream of Richmond, Va. and throughout the James River basin upstream. Since that time, its range has been reduced by approximately 90% (Clarke and Neves, 1984) The James spinymussel now survives in a few tributaries of the James. (Terwilliger, 1990)
- Water quality can greatly affect the suitability of mussel habitat. Road construction is one of the most detrimental activities impacting mussels (Hove and Neves, 1994, see enclosure) A section of Virginia's Endangered Species edited by Dr. Neves acknowledged poor logging and roadbuilding practices within the national forest are a threat to the spinymussel in one watershed. He stated that "activities in Jefferson National Forest likely to affect the streams in which Pleurobema collina lives should be monitored by the United States Forest Service." (Terwilliger, 1990).
- The James spinymussel depends on fish species such as the bluehead chub (Nocomus leptocephalus), rosyside dace (Clinostomus funduloides), satinfin shiner (Cyprinella analostana), rosefin shiner (Lythurus ardens), central stoneroller (Camptostoma anomalum), blacknose dace (Rhinichthys atralulus) and mountain redbelly dace (Phoxinus oreas) in order to reproduce, so potential impacts to these fish species should have been considered as well. These fish serve as the prime fish hosts for young developing mussel larvae, called glochidia (Terwilliger, 1990, p. 254; Hove and Neves, 1994) See also George Washington and Jefferson National Forest T & E Mussel and Fish Conservation Plan (Mussel and Fish Conservation Plan), 6 & 31: " The decline of fish host species may present a problem in mussel reproduction." There is no monitoring or analysis of impacts to host fish.
- James spinymussel females usually produce significantly fewer glochidia than other mussels. Female mussels release glochidia during a short period from early June to through late July. Water temperature and springtime water flows are believed to be important factors as far as James spinymussel reproduction is concerned. (Hove and Neves, 1994, p. 34 & 37) The timing of activities and longevity of impacts should be of concern. There is no attempt to mitigate such effects or monitor such effects over the long term.
- Pesticides and contaminants have long been recognized as a threat to mussels (Williams et al 1993; see also EPA, "Protecting Endangered Species," EPA Rpt. #21T-3055, June 1992, for example, for the adjacent county in Va., Craig County) There is no information in the DEIS on what contaminants from the sites might flow into waterways inhabited by mussels or the impacts of herbicide release necessitated by this project, or cumulative impacts.
- It is not clear that all provisions of the Mussel and Fish Conservation Plan, adopted into the Plan revision, are being fully implemented. For example, the Mussel and Fish Conservation Plan requires that minimum conservation zone widths be measured based on stream type and slope (MFC Plan 12). Conservation Zones used in the project may not adequately take into account the steep slopes found in the cutting units (EA Aquatics). FERC never discloses how steep the slopes are in and around waterways inhabitated by the James spinymussel, and their upper reaches.
- The Mussel and Fish Conservation Plan objectives require the FS to manage streams " in a manner that results in a minimum of 200 pieces of large woody debris (LWD) per stream mile (125 LWD/km)." Minimum diameters of LWD pieces are specified (MFC Plan 12). The FS does not disclose whether LWD levels are adequate and whether they would be maintained or improved as a result of this project.
- The MFC Plan objectives require the FS to manage streams in a manner that meets or exceeds State Water Quality Standards (MFC Plan 12). Theoretically, this would be accomplished by implementing BMPs, but FERC does not demonstrate the effectiveness of BMPs at meeting state water quality standards in this ranger district and NF, or that timber sale administrators could assure that BMPs are fully adhered to.
- And FERC has not demonstrated that current monitoring requirements are being followed, inlcuding, eg, direct monitoring of T&E mussel populations and habitat, or development of a proper protocol.
- The past and current state of biotic populations and water quality of perennial streams, and intermittent and ephemeral tributaries, even if a "fishery" may be absent, are undisclosed. Some populations may be close to threshold levels of tolerance for sediment; but who knows, the agency discloses no information on this relevant factor. Total amounts of sediment estimated to enter these streams along with the

IND802-28 cont'd

proposed cutting are tabulated but not meaningfully analysed. How many tons would enter precisely what stream segments? On this the table and discussion in the DEIS are silent. Monitoring information as to effects to intermittent stream populations and water quality from previous cutting are absent. Exceeding the threshold levels for certain intermittent tributary "resources" may be at risk.
- "The effects of sediment delivered to a stream channel diminish as watershed size increases. Most vulnerable are small sensitive headwaters catchments where concentrated timber harvest activity can have profound results. . . . After four years, sediment rates are normally back to predisturbance levels. However, once sediment is deposited in a stream channel, its effects can persist for decades or even centuries (Frissel, 1996)." (JNF Enterprise TS EA-42; incorporated by reference) So this project may result in significant impacts to channel condition and population viability or distribution.

There is evidence of illegal and environmentally destructive use of roads and off-roads areas in the project area. During a field visits in the upper Craig watershed, I have observed evidence of off-road motorized use (tracks and ruts off-road. How has FERC demonstrated that existing problems will be reduced, that closures are effective, that enforcement is effective, and that similar (or greater) problems from off-road motorized use will not occur on the roads and other infrastructure proposed for this project?

Has MA 11 (Riparian area) been mapped, verified, and delineated in the field? Where are these areas located, how close are cutting units and other logging and burning infrastructure from them and how will they be protected?

What stream surveys have been conducted in the area and what reaches did they cover?

IND802-29

p. 189:
- Yellow lance occurs in the James River drainage. This species may also potentially be affected by this project. The JNF Plan documents that orangefin madtom occurs in the Upper Craig watershed (JNF Plan 4-10) and documents that Atlantic pigtoe mussel and roughhead shiner are also found in the upper James watershed (JNF Plan 4-10). Atlantic pigtoe is found in the Craig Creek drainage (see Terwilliger, Virginia's Endangered Species 275 to 276). See also Terwilliger pp.356 to 357 regarding the range of the roughhead shiner. See GWJNFs TESLR lists.
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The yellow lance, is a G2G3 S2S3 species in Va., and the roughhead shiner, is a G2G3 and S2S3 species. The roughhead shiner is confined to the Ridge and Valley province of the upper James drainage, Virginia…The contiguity within subpopulations and the sharp limits of the range of the species indicate that high gradient and small size of stream, turbidity, and siltation variously combine to effect the tight distribution of the roughhead shiner (Jenkins and Burkhead, 1975a)" Terwilliger (1991). The roughhead shiner is a sensitive species (R-8 sensitive species list).

IND802-30

p. 423: How does FERC demonstrate that simple time of year restrictions will protect the Candy darter and orangefin madtom? What about high water events, blowouts w/ high sediment levels. These are two species that are highly sensitive to sedimentation.

The results of the bog turtle surveys are not disclosed.

TURTLES VIABILITY:
Bog turtles may be impacted by the project. Field studies and statistical analyses clearly show that even modest mortality rates (intentional or incidental) of adult turtles can lead to strong declines in populations. See J.D. Congdon et al, 1993, "Delayed sexual maturity and demographics of Blanding's turtles (Emydoidea blandingii): Implications for conservation and management of long-lived organisms", Conservation Biology 7: 826-833; and J.D. Congdon et al, 1994, "Demographics of common snapping turtles (
Chelydra serpentina): Implications for conservation and management of long-lived organisms", American

IND802-29 The yellow lance and roughhead shiner are discussed in section 4.7 of the EIS and in more detail in our BA. We are consulting with the FWS regarding these species.

IND802-30 The candy darter and orange madtom is discussed in section 4.7 of the EIS.

IND802-31

Zoologist 34: 397-408; and J.P. Gibbs and G.D. Amato, 2000, "Genetics and Demography in Turtle Conservation", pp. 207-217 in M.W. Klemens (ed.), Turtle Conservation, Smithsonian Institution Press Washington D.C. Researchers found that the accidental loss of even one adult box turtle every year could not be sustained by the population; see Doroff, A.M. and L.B. Keith, 1990, "Demography and ecology of an ornate box turtle (Terrapene ornata) population in south-central Wisconsin", Copeia 1990: 387-399. Also, "studies demonstrate how relatively subtle shifts in plant community structure, resulting in shifts in microclimate and altering life history, can lead to steep population declines." Curtin, C.G., 1997, "Biophysical Analysis of the Impact of Shifting Land Use on Ornate Box Turtles, Wisconsin, USA", pp. 31-36 i
Gn J. Van Abbema (ed.), Proceedings: Conservation, Restoration, and Management of Tortoises and Turtles - An International Conference, New York Turtle and Tortoise Society, New York.
"Effective management and conservation programs will recognize the integrated nature of life histories and the extreme limitation that the evolution of longevity has placed on the ability of populations of long-lived organisms to withstand and respond to increased mortality or reduced fecundity of any life-history stage. In addition, programs developed to aid in the recovery of depleted populations of long-lived organisms must recognize that there will be long delays before population responses can be detected." (Congdon et al 1993, op cit.)

The candy darter, a Forest Service sensitive species, inhabits this watershed (the Stony Creek watershed) (JNF Plan 2-3) .

"Habitat - The candy darter inhabits rocky, typically clear, cold and warm, small to large creeks. Adults generally occupy unsilted runs, riffles, and swift pockets of current in and around large rubble and boulders. … Threats - Turbidity and siltation are assumed to be limiting factors…" (Terwilliger (ed), 1991, Virginia's Endangered Species,. p. 385) "In Virginia, Etheostoma osburni (candy darter) is generally distributed in Big Stony Creek only. Although six other systems of the New River drainage have its critical habitat requirements, recent records do not indicate the presence of candy darter. Furthermore, the fish is endemic to the New River drainage in the Ridge and Valley of Virginia and the Appalachian Plateaus of West Virginia and is experiencing declines throughout its range. Stony Creek provides essential habitat in preventing this species from becoming federally listed." (JNF Plan FEIS D-12).

For example, the following is from NatureServe (regarding the candy darter):

"Degree of Threat: Substantial, imminent threat
"Threat Scope: High
"Threat Severity: Moderate
" Threat Immediacy: High
"Threats: Primary threats may be turbidity and siltation resulting from human activities. Stocking of trout may be detrimental (trout probably eat E. OSBURNI). Also, anglers may limit populations by wading through possible spawning sites (Burkhead and Jenkins 1991). Jenkins and Burkhead (1994) stated that they previously (Burkhead and Jenkins 1991) may have underrated the jeopardy of this species in Virginia by recommending it for only special concern status; in 1994 they rated it as endangered or threatened in Virginia due to "localization or extirpation of most populations." Warren et al. (2000) rated this species as vulnerable.
"Environmental Specificity: B
"Endemism: endemic to a single nation
"U.S. & Canada State/Province Distribution
"United States - VA, WV
"Global Range: EF
"Global Range Comments: New River drainage, in the Ridge and Valley of Virginia and the Appalachian Plateaus of West Virginia (Jenkins and Burkhead 1994). See Jenkins and Burkhead (1994) for corrections of identifications affecting the known ranges of this species and E. KANAWHAE. In Virginia, generally distributed only in Big Stony Creek, perhaps solely above the gypsum plant at Kimbalton; extremely localized in Laurel Fork of the Wolf Creek system; limited range in the New River. Known also

IND802-31 The bog turtle is discussed in section 4.7 of the EIS. The candy darter is discussed in section 4.7 of the EIS.

IND802-31 cont'd

from Reed, Big Walker, Little Stony, and Sinking creeks, and Spruce and Pine runs, but there are no recent records from these streams (Burkhead and Jenkins 1991)….
"Reproduction Comments: Spawning typically peaks mid-to-late May in the Greenbrier River, West Virginia (Lee et al. 1980). Spawners were found in late April at a water temperature of 15.5 C in Big Stony Creek, Virginia; adults were in breeding condition on 20 June at 18 C in a different year (Burkhead and Jenkins 1991). Sexually mature in 2 years, lives up to 3 years…..
"Habitat Comments: Swift water over stones and boulders in cool montane streams. Rocky, typically clear, cold and warm, small to large creeks; adults generally occur in unsilted runs, riffles, and swift pockets of current in and around large rubble and boulders (Burkhead and Jenkins 1991). Fast rubble riffles of small to medium rivers (Page and Burr 1991). In three streams in West Virginia, occurred in fast current velocities and rock substrate in water depths of 20-30 cm (Chipps et al., 1994, Am. Midl. Nat. 131:175-180). May spawn in patches of sand in swift water? (Burkhead and Jenkins 1991)."
(NatureServe. 2004. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.1. NatureServe, Arlington, Va. Available http://www.natureserve.org/explorer. (Accessed: November 23, 2004)).
"Habitat - The candy darter inhabits rocky, typically clear, cold and warm, small to large creeks. Adults generally occupy unsilted runs, riffles, and swift pockets of current in and around large rubble and boulders. … Threats - Turbidity and siltation are assumed to be limiting factors…" (Terwilliger (ed), 1991, Virginia's Endangered Species,. p. 385)

FERC should have analyzed how the project (including forest clearing, roads, and other infrastructure) affect sediment-sensitive species such as trout, candy darter, and other aquatic species. Efficacy of proposed mitigation measures for the candy darter and other aquatic species must be explained, and they must completely compensate for potential adverse effects.
Cumulative effects of the MVP pipeline, other land disturbing activities in combination with other past, present, and reasonably activities and events in this watershed should be analyzed in accordance with NEPA. There is a possibility that these activities in combination with non-FS activities or events may already be contributing significant levels of sediment, affecting the viability of the candy darter.

IND802-32

p. 424. What stretches were actually surveyed for James spinymussels? How far downstream?

p. 435. No mussels surveys of the Gauley River due to high water events? "Waived"? More evidence that this DEIS is incomplete.

IND802-33

p. 423 and 426/27: Why the differing treatment of Indiana Bat and NLEB in MVP and Equitrans? Are the Equitrans mitigation measures realistic?

IND802-34

p. 433 What timber rattlesnake roosting areas could be disturbed?

IND802-35

p. 437: Allegheny woodrat is found within 0.3 mi. of corridor. This is a species often found in remote habitat. The Allegheny woodrat is found on the JNF. New strategies such as "maintaining sufficient old growth mast producing canopies (Beck 1977; McShea 2000), maintenance of continuously forested corridors" " public education, maintenance of course woody debris such as large snags and fallen logs, and more may be required to insure the long-term survival of the Allegheny woodrat" See (See '01-'03 GWJNFs Monitoring &Evaluation (M& E) Rpt Mengak 2002 pp. 30-34, See also the entire'01-'03 GWJNFs M&E Rpt Mengak 2002 pp. 1-38).

IND802-32 See the response to comment CO49-35 regarding the James spinymussel. See the response to comment CO49-36 regarding Gauley River mussel surveys.

IND802-33 See the response to comment CO49-37 regarding the Indiana bat.

IND802-34 See the response to comment CO49-38 regarding timber rattlesnake roosting areas.

IND802-35 See the response to comment CO49-39 regarding the Allegheny woodrat.

IND802-36

p. 438: Is it true that wild trout was "not observed" at all in the course of the surveys? Really? How thorough were the surveys? There are numerous trout streams in the area. This is more evidence of an incomplete DEIS and incomplete surveying.

FERC should pay particular attention to how ground disturbing activities and loss of shading and canopy near streams could affect trout habitat and trout populations in streams in the area - since this is an important area for trout. We are particularly concerned about the potential for forest clearing in this project to negatively affect water quality, sediment levels, and water temperature. FERC should analyze these issues and should fully mitigate all impacts. What are large woody debris levels along these streams and do they need to be augmented?

FERC should have also considered how it would protect the stream management zones, as laid out in the Virginia BMPs. These are different from the riparian zones established in the JNF Plan in some respects. For example, they require that the forest floor "remain essentially undisturbed" in the SMZ, which is 60-120 ft. along trout streams, dependent on slope of adjacent lands.

Wider stream buffers should have been be considered. Many species and biological communities rely on the health of riparian areas. See Jan 13, '04 USF&WS BO for the JNF p. 2 bottom paragraph and p. 3 top paragraph; and Seth Wenger, 1999, "A Review of the Scientific Literature on Riparian Buffer Width, Extent and Vegetation", Institute of Ecology, University of Georgia, 59 pp. (both incorporated by reference). And The Virginia Department of Game and Inland Fisheries (VDGIF) stated its position that the proposed riparian corridors in the draft revised Jefferson LRMP were not sufficient to protect threatened and endangered aquatic species. *See* Comment letter 2575 on the draft revised Jefferson LRMP, William Woodfin, Jr., Virginia Department of Game and Inland Fisheries, already in the FS's possession, incorporated by reference. Instead of the proposed riparian standards, the *VDGIF recommended increasing the standard buffers with an allowance to reduce the buffers on a site-specific bases after consultation with all cooperating agencies. Id.* Wider streamside buffers than those proposed here (EA 13&14) should have been considered and implemented.

Headwaters and small streams are particularly sensitive: "The effects of sediment delivered to a stream channel diminish as watershed size increases. Most vulnerable are small sensitive headwaters catchments where concentrated timber harvest activity can have profound results. . . . After four years, sediment rates are normally back to predisturbance levels. However, once sediment is deposited in a stream channel, its effects can persist for decades or even centuries (Frissel, 1996)." (JNF Enterprise TS EA-42; incorporated by reference). "Generally the headwater fish populations are the most threatened." (GWNF FEIS J-8). For information regarding salamander use of headwater stream habitat see <**http://www.epa.state.oh.us/dsw/wqs/headwaters/TechRep_FishAmphibian_2002.pdf**> (incorporated by reference). This information needs to be fully considered and incorporated into the analysis. Expanded no cutting or no disturbance zones around stream courses needs to be implemented here.

The JNF Plan requires the FS to delineate riparian areas (manage prescription area (RxA) 11 areas) and this should be done as part of the MVP proposed project through maps and other documentation.
- Springs and seeps are a component of landscape diversity and are very important for maintaining the population viability and distribution of salamanders, frogs, crayfish, box turtles, ruffed grouse, turkeys, and other species (see JNF Hagan Hall Timber Sale EA -43, 44, 46; incorporated by reference). Removal of their canopy cover impedes and disrupts the natural ecological succession of these areas. Implementation of the proposed alternative/mitigation is not compliant with the DFC for these microhabitats. These areas should be absolutely off-limits to cutting and removal and vehicles; and the no-disturbance zone should be more than just the "immediate" wet area due to hydrological, shade, and drying concerns.

"Elimination of terrestrial vegetation around aquatic breeding sites causes amphibian populations to decline [citations omitted]. Thus, maintenance of amphibian biodiversity depends on the protection and management of both aquatic breeding sites and the surrounding terrestrial habitat." "Factors influencing amphibian and small mammal assemblages in central Appalachian forests", Mitchell et al, Forest Ecology and Management 96: 65-76 (1997). (research conducted on the GWNF, incorporated by reference).

"Downed material in these spots is providing cover which was formerly provided by a forest

IND802-36 See the response to comment CO49-40 regarding wild trout. See the response to CO49-41 regarding stream management zones. See the response to CO49-42 regarding springs and seeps.

IND802-36 cont'd

canopy. This downed material is retaining the cooler temperatures and higher humidity associated with springs and seeps." (Hagan Hall Wildlife Existing Condition report, Aug. 1998). "Removal of material from these sites [seeps, springs, bogs, and forested wetlands], particularly where most of the tree canopy is now gone, would increase the solar radiation causing warming temperatures and less humidity. . . . increased temperatures and drier air can affect the presence of certain amphibians and small mammals." (Hagan Hall EA-47). Ecosystem management should recognize that there is more to seeps, springs, bogs, and forested wetlands than just their physical characteristics. If these locations become unusable or unattractive to some amphibians, mammals, or other taxa that would be expected here, then they are not fully functional. There should be analysis or citation to studies to corroborate the assertion that retention of 5-15% (or whatever basal area the cutting method retains) of the overstory cover shading these sites is enough to maintain their full functioning and attain their DFC.

Surveys to identify these areas should have been carried out during wet periods when they can be properly detected (see state BMP manual). "Seeps and other wetlands ... are best located during rainy season as many wetlands are difficult to identify during dry periods." - Forestry Best Management Practices for Water Quality in Virginia Technical Guide at pg. 42 (incorporated by reference). If the habitats are not properly identified and inventoried, they cannot be properly protected, mitigated, and monitored.

Seep areas provide critical riparian habitat. A VDGIF biologist states they should be protected "by a minimum of 100 feet on each side (preferably 200-300 feet)" (see GWNF Johnson Mtn. timber sale project file at tab 20; incorporated by reference). This 200-300' zone should be applied here. See also Jan 13, '04 USF&WS BO for the JNF p. 2 bottom paragraph; and Seth Wenger, 1999, "A Review of the Scientific Literature on Riparian Buffer Width, Extent and Vegetation", Institute of Ecology, University of Georgia, 59 pp. (both in your possession and incorporated by reference).

IND802-37 p. 454. Peters Mountain itself should be considered a special interest area. This landform is the dominant feature of the this part of the Ridge and Valley.

IND802-38 p. 467. No mention of the Allegheny Trail, a long-distance trail of over 300 mi. from Va. to Pennsylvania.

No mention of Hanging Rock Raptor Observ.

Where is the consideration of alternatives in this discussion? Discussion seems to be limited to one alternative, the MVP chosen alternative. Does this mean there is effectively only one alternative? Will effects on other alternatives be considered if another alternative or variation of the proposed alternative is chosen? Precludes an examination of full range of alternatives required by NEPA.

Impacts to Peters Mtn WA is "none" when pipeline 75 ft away?

IND802-39 p. 470: Where is the evidence of "gravel… FS roads….transmission lines" etc. on NFS lands. It sounds like these roads, lines, disturbances are everywhere. Is this the case? Not explained or demonstrated.

IND802-40 p. 471: what are the scenic impacts to the Pandapas Pond to Caldwell Fields route?

IND802-41 p. 474: Riparian corridors (Rx 11) should be mapped and analyzed as part of the DEIS.

IND802-42 p. 597: Only 78% of the proposed route in Virginia was surveyed from cultural resources. What cultural resources exist in the remaining 22%?

IND802-43 P. 604: An evaluation of cultural attachment should not have been conducted only limited areas, such as the Peters Mtn area. The evaluation should have looked at areas surrounding all of the proposed corridors. As the DEIS says, "Cultural attachment is not specific to the project area, and could apply anywhere in the world."

IND802-37 See the response to comment CO49-43 regarding Peters Mountain.

IND802-38 See the response to comments CO49-44, CO49-45, CO49-46, and CO49-47 regarding the Allegheny Trail, Hanging Rock Raptor Observatory, Alternatives, and Peters Mountain.

IND802-39 See the response to CO49-48 regarding gravel roads on NFS lands.

IND802-40 See the response to CO49-49 regarding scenic impacts to the Pandapas Pond.

IND802-41 See the response to comment CO49-50 regarding riparian corridors.

IND802-42 See the response to comment CO49-51 regarding cultural resources.

IND802-43 See the response to comment CO49-51 regarding cultural resources.

IND802-44 Pp. 610-617: Even though this is a DEIS, and presumably our last chance to get informed comments in during the administrative stage of the project, a vast number of potential cultural/archaeological sites have not been evaluated.

"Thirty-one archaeological sites that are currently unevaluated or presumed potentially eligible would be avoided." (p. 610)

What is meant by "presumed"? They will not be required to be protected and/or will not be affirmatively protected?

"Thirty-two archaeological sites in the direct APE in West Virginia, and 22 archaeological sites in the direct APE in Virginia are unevaluated or are presumed potentially eligible, cannot be avoided, and testing was recommended to assess their NRHP eligibility. Additional research was recommended at three historic sites in Franklin County, Virginia." (p. 611).

Thus, a large number sites "cannot be avoided" and since they have not been evaluated, FERC has no idea of their significance. Some of these sites may be highly significant.

IND802-45 p. 638: Greenhouse gases. Virtually the only discussion of greenhouse gases (and climate change) in this DEIS is in terms of meeting the greenhouse gas reporting rules. There is nothing on the effects of gas extraction, gas development, gas transportation, and natural gas use on climate change. Cumulative effects analysis is arbitrarily truncated. It cannot be said that natural gas is transported with no intention to burn it or that methane is not released at various points in the life cycle of natural gas (from extraction, to preparation for distribution, to distribution, to its end use.) Without such an analysis, it cannot be said that a hard look at the issue is taken, as required by NEPA.

IND802-46 p. 723-26: Maps of cumulative effects (and cumulative effects analysis) are lacking, esp. regarding forested habitat. There are numerous Forest Service timber project (past, present, and in planning stages) in this area. Other activities include road construction, prescribed burning projects, powerlines, gas lines, utilities, communication tower construction, herbicide spraying projects, etc.). The key to the maps ostensibly includes "other projects," but none of these are shown. These include, for example the Olean, Upper Craig Creek, Fork Mountain, and other timber sale projects. One has only to look at past and present Schedules of Proposed Actions and past decision notices/decision memos for the Eastern Divide Ranger District to begin this analysis. Apparently this was not done. Nor was a full analysis of the issue.

IND802-47 Maps:

In general, all streams and rivers are not labeled on these maps. This makes it difficult to evaluate proposal's impact on waterways in the area.

IND802-48 p. 884: What are the visual impacts to the Appalachian Trail and Allegheny Trail, including the valley and mountain around Little Mtn from MP 191 to MP 195?

The area on Peters Mtn to the west of the proposed pipeline MP 195 to 196 is the remote area in Ohear map Mar. 1999 described above. How would the corridor impact the remoteness of this core area?

FERC and the FS should examine whether there are any areas that qualify as roadless areas (or potential wilderness areas) east of the existing Peters Mountain Wilderness? How would the pipeline route (buried and unburied sections) and the permanent and temporary roads shown on this map impact this area?

p. 885

IND802-44 See the response to comment CO49-51 regarding cultural resources.

IND802-45 See the response to CO49-52 regarding GHG emissions.

IND802-46 See the response to CO49-53 regarding maps of cumulative effects.

IND802-47 See the response to comment CO49-54 regarding maps.

IND802-48 See the response to comment CO49-55 regarding visual impacts to the ANST and Allegheny Trail.

IND802-48 cont'd

FERC and the FS should examine whether there are any areas that qualify as roadless areas (or potential wilderness areas) east of the existing Peters Mountain Wilderness? How would the pipeline route (buried and unburied sections) and the permanent and temporary roads shown on this map impact this area?

IND802-49

Fish in Stony Creek and other streams on this map may travel upstream to national forest lands during different parts of their life cycles. How would the project (pipeline, roads, and other infrastructure) impact fish populations on national forest lands and private lands?

p. 886

Fish in Little Stony Creek and other streams on this map may travel upstream to national forest lands during different parts of their life cycles. How would the project (pipeline, roads, and other infrastructure) impact fish populations on national forest lands and private lands?

What visual impacts would the project have on the approach road to the Cascades area? How would this impact the recreational experience?

p. 887:

What visual impacts would the project have on Mountain Lake Wilderness, the approach road to the Mountain Lake Wilderness area or the approach road to Mountain Lake Lodge? How would this impact the recreational experience?

IND802-50

p.888: Re. Brush Mountain Wilderness and Brush Mountain Inventoried Roadless Area

"The Wilderness Act defined wilderness as any "area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain." Although it took a long time, people gradually began to realize that this did not only apply to large expanses of territory in the Western US. "In passing the Endangered Wilderness Act [in 1978], Congress further established that areas previously influenced by man should not be precluded from consideration for wilderness classification, nor should roadless areas near major cities, as they could provide much-needed primitive recreation for the nearby population." Browning at al. 103 Wilderness Laws: Milestones and Management Direction in Wilderness Legislation 1964-1987.

"Brush Mountain Wilderness and Roadless Area are perfect examples of why it is important to protectpockets of wilderness at the doorsteps of communities. The areas are close to Blacksburg, but seems to be world away. Once inside Brush Mountain Wilderness and Roadless Area, unexpected opportunities for nature study abound.

"Brush Mountain Wilderness is located entirely along an 8-mile stretch of the north side of Brush Mountain. This 4794-acre wilderness is expanded by the 1126-acre Brush Mountain roadless area that runs another mile and a half to the southwest. To its northeast lies 3743-acre Brush Mountain East Wilderness.

"The rock strata are tilted upward to the north, so as you walk over Brush Mountain from the Blacksburg side on the south to the wilderness side on the north, you are walking backwards in geological time. To the south (and mostly outside the wilderness) are Mississippian layers formed between 320 and 360 million years ago. On the upper reaches of the mountain is tough Devonian sandstone formed between 360 and 408 million years ago. It caps Brush Mountain and juts out to the north at the top of the wilderness slope. Below it, one encounters more brittle layers of older and more crumbly Devonian shale subject to erosion. And as you enter the lower reaches of Craig Creek valley you walk over Silurian

IND802-49 See the response to CO49-56 regarding aquatic resources. See the response to comment CO49-57 regarding visual impacts.

IND802-50 See the response to comment CO49-58 regarding Brush Mountain. See the response to comment CO49-59 regarding Craig Creek.

IND802-50 cont'd

sandstone formed between 408 and 438 million years ago before it slopes upward to form Sinking Creek Mountain.

"The steeper wilderness side of the mountain on the north is shaped by geology. Because the southern slopes of Brush Mountain lie with the layers of rock like the top of a wave, because the northern slopes go against the layers of rock, and because of variations in the hardness of the rock, the wilderness side is much more rugged than the south side. Rock formations at the top of the mountain jut at a sharp angles. Below it are more brittle layers of older Devonian rock and Silurian sandstone. This combination is quite unusual and makes for interesting terrain. About two dozen side-ridges crisscross the mountain forming narrow, sharp ridges with deep coves. The result is a tremendous amount of variety across the wilderness area. These make great places to explore.

"One of the key species of the backcountry is table mountain pine, a stalwart pine that thrives in harsh conditions and out-of-the-way places where few other trees will grow. It is found on dry southwestern slopes along Brush Mountain. The wilderness area lies in the heart of an area with some of the highest concentrations of this pine in the world. Table mountain pine has serotinous cones, or cones that spring open in the presence of fire and produce seedlings.

"Old growth oak-pine forests play an important role amongst the natural communities here. There is a fairly large amount of old growth scattered across the western half of the wilderness. Rarities on Brush Mountain include two parasitic plants: sweet pinesap and piratebush. Both live off of the roots of plants. Sweet pinesap is an aromatic plant with subtle rose-pink flowers. The plant doesn't leaf out; instead it lives off of a fungus growing on roots of other plants. Piratebush, on the other hand, saps the nutrients from roots of conifers. Look for a small shrub with pale green compound leaves. The only two other related species in piratebush's genus are found halfway around the world in China and Japan.

"The wilderness is located just a few miles downstream from the eastern continental divide. The divide, at this point, is a relatively flat gap near Route 460 and Pandapas Pond. Because of its location near the headwaters of Craig Creek, Brush Mountain Wilderness protects habitat for the James spinymussel, an endangered mussel. The mussel was once found throughout much of the entire James River basin from the Richmond area to the mountains. Today, the range of this mussel has been reduced by 90%. Only a few streams, like Craig Creek, still provide good habitat for the James spinymussel. Mussels act as natural water filters, purifying streams and other waterways. Some of the rarest mussels depend on clear, flowing water rushing over small rocky bars and riffles. Wilderness areas like Brush Mountain Wilderness protect aquatic species like mussels by reducing the release sediment into streams.

"The Craig Creek bottoms are full of life. The lower portion of Brush Mountain Wilderness is bordered by Craig Creek, a stream that has seen intense flooding from time to time, carrying with it logs and debris. Along this section of the wilderness, you may find small rocky cliffs, such as those near Caldwell Fields, a popular group camping area. At the right time of year, people who rock-hop near these cliffs can find bleeding heart and other wildflowers and ferns.

"There is a bit of history in the air, too. In the fall of 1872, sixteen year old Addison (Add) Caldwell and his eighteen year old brother Milton (Mic) Caldwell undoubtedly passed by Brush Mountain on their journey from Sinking Creek Valley to Blacksburg. It was the year that Add Caldwell became the first student to enroll in Virginia Tech (then known as Virginia Agricultural and Mechanical College). Add and Mic walked from the family farm (still standing) a dozen miles northeast of Brush Mountain, climbing over a gap on Sinking Creek Mountain, passing below Brush Mountain, and traversing another gap on Brush Mountain to Blacksburg. Today, Virginia Tech's Corps of Cadets commemorates the journey of its first member by conducting the two- part Caldwell March in the fall and the spring. Both segments of the traditional march pass near Brush Mountain Wilderness." (Excerpted and amended from Bamford, An Insider's Guide to Virginia Wilderness.)

IND802-50 cont'd

What effect would the pipeline and associated infrastructure proposed in the steep terrain here (including Sinking Cr Mtn and Brush Mtn side of Craig Cr) have on Craig Cr or endangered mussels downstream? What effect would the pipeline have on table mountain pine populations/habitat? On habitat for TESLR species? On the historic route of Add and Mic Caldwell?

Temporary access roads are planned directly beside Craig Creek here. See map. How close are these to the stream? What effects would these have on Craig Cr or endangered mussels downstream?

IND802-51

p. 889-90: How far is this from Falls Ridge Nature Conservancy Preserve? Karst areas? Fault lines – all found in Falls Ridge and perhaps other areas throughout this area?

Why is the extensive roadwork proposed between MP 223-25.

The proposed route crosses Paris Mountain just west of Half Acre of Rocks and Acre of Rocks. Are there any areas of rocky terrain, boulder fields, scree slopes, cliffs, outcrops or other such areas? What wildlife species are associated with such areas?

Throughout the entire proposed pipeline route: –
A number of portions of the pipeline route may contain boulderfields or very rocky areas. These are important elements of biodiversity and are important habitat for various species (e.g. Allegheny Woodrats, amphibians, reptiles). Forest clearing and ground disturbing activities must be avoided in these areas. But merely not performing actions within the outcrops and slopes themselves does not avoid impacts to these unique areas. Without proper buffer zones (such as extending out at least a tree height or approximately 150') the habitat conditions and populations within the outcrops would not be protected. See the above discussion regarding habitat conditions, functionality, and no-disturbance zones around springs and seeps. The present mitigation is not sufficient for avoiding significant impacts to these areas and the decision does not protect the Forest's diversity.

Rocky outcroppings, rocky ridge spines, cliffs, and rocky slopes are known to be extremely important habitat for various species such as Timber Rattlesnakes, Coal Skinks, Allegheny Woodrats, peregrine falcons, and salamanders, as well as mosses and lichens and others. Implementation of the proposed cutting would significantly alter the ecological conditions at these rocky sites (e.g., temperature and moisture regimes). In addition, the operation of logging equipment would alter the soil conditions and the rocks. Small site-sensitive species of limited mobility would also be killed or maimed directly.

This relevant environmental factor must be given a hard look. FERC must fully and fairly consider the impacts of the proposed activities upon these areas.
The proposed operations could significantly affect their distribution and mortality (degrade or destroy den conditions, road kills and crushing, increased motorized use, draw more people to area, habitat displacement, etc.). Their security and viability may be significantly worsened.
Den sites are ecologically critical areas, like bird rookeries or Indiana Bat hibernacula. The snakes are even more vulnerable because unlike birds and bats they cannot fly away. There is a clear need to establish what their status is here. Harm to a relatively small area could actually effect an area or population for miles around.
They should be searched for during the time of spring egress (from the den) or fall ingress (into den). During these times they stay in close proximity to their den sites. Then their status and the possibility of the presence of dens here can be ascertained.
We are particularly concerned about the harm implementing this project could have on "Timber Rattlesnakes (*Crotalus horridus*). This is a species of viability concern on this Forest and elsewhere throughout its range (see, e.g., 2003 JNF DEIS at Appendix E). See Reptiles of Virginia by Joseph Mitchell and "The Timber Rattlesnake: Its Distribution and Natural History" by W.H. Martin in *Conservation of the Timber Rattlesnake in the Northeast* published by the Massachusetts Audubon Society, incorporated by reference. Individuals of this species congregate in concentrated areas (i.e., den sites) during the winter and immediately pre- and post-hibernation. Many snakes may travel from a wide area (from 2.5 miles away and more) when migrating to one of these overwintering sites. Populations and

IND802-51 See the response to comment CO49-60 regarding Falls Ridge Nature Conservancy Preserve. See the response to comment CO49-61 regarding extensive road work at MP 223-25. See the response to comment CO49-62 regarding Paris Mountain.

IND802-51 cont'd | individuals are especially vulnerable to direct and indirect disturbance during these denning times.

IND802-52 | p.891: There is something wrong with the map of Spring Hollow Res. The terrain and topo lines around the map does not match the blue area. Is the reservoir of a different configuration from that shown?

How would the project (pipeline, road construction (brown) and infrastructure) impact the viewshed around the reservoir and the camp adjacent to the reservoir? How would water quality be impacted?

IND802-53 | p. 892: How would the project affect the viewshed of the North Fork of the Blackwater River?

The area where the pipeline is located near Callaway Rd is one of the major access routes between the from Rt. 221 to the Blue Ridge Parkway. What visual impacts would there be to this sensitive viewshed?

What hiking routes are there in the vicinity of the 3326 ft knob south of Callaway Rd. on Blue Ridge Parkway Lands? How would these be impacted?

IND802-54 | p.893:

How would water quality in the N Fk of Blackwater River be affected?

IND802-55 | p. 894-5: How would the visual quality of the Grassy Hill Nature Preserve (Va. state lands) be affected?

IND802-56 | p. 896-8:

All waterways are not labeled so it is difficult to evaluate this area.

How would water quality in the Pigg River be affected?

IND802-57 | p. 926 "Actual construction techniques may differ depending upon field conditions and or regulatory requirements." What leeway to pipeline investors/developers have to weaken construction techniques based on field conditions? If this project is approved assuming current regulatory requirements are adequate mitigation measures and subsequent weaker regulations replace existing regulations, what would happen? Would a new NEPA analysis have to be prepared to determine whether there are significant impacts on the environment?

Thank you for the opportunity to comment

Sincerely yours,

Sherman Bamford

IND802-52 See the response to comment CO49-63 regarding the map of Spring Hollow Reservoir.

IND802-53 See the response to comments CO59-64, CO49-65, and CO49-66 regarding the Blackwater River, BRP, and hiking routes respectively.

IND802-54 See the response to comment CO49-67 regarding water quality in the Blackwater River.

IND802-55 See the response to CO49-68 regarding the Grassy Hill Nature Preserve.

IND802-56 See the response to CO49-69 regarding water quality in the Pigg River.

IND802-57 Changes to construction techniques that arise after the start of construction would be handled via the FERC's variance process (which includes a provision for landowner approval) as discussed in section 2.4.4 of the EIS.

December 22, 2016

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

RE: Mountain Valley Pipeline DEIS - Docket Nos. CP16-10-000 and CP16-13-000

Dear Ms. Bose:

IND 803-1

I am concerned that in the 2016 Draft Environmental Impact Statement for the Mountain Valley Pipeline, the Federal Energy Regulatory Commission is not fulfilling its responsibilities under the August 2016 Council on Environmental Quality **Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews,** and other important documents related to reducing greenhouse gas emissions.

FERC acknowledges the CEQ Guidance on GHG emissions and the effects of climate change in section 4.13.2.7 (page 4-516) of the Draft EIS for the Mountain Valley Pipeline. However, in the scant 3 page consideration of climate change impacts, FERC's superficial assessment ignores that guidance concluding that "[b]ecause we cannot determine the project's incremental physical impacts on the environment caused by climate change, we cannot determine whether the projects' contribution to cumulative impacts on climate change would be significant." This conclusion directly contradicts the CEQ guidance which states *"a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA."* (p 11)

In the Draft EIS for the MVP, FERC does offer its calculation of GHG emissions as recommended in the CEQ guidance, but it is not clear how this quantification was arrived at. Furthermore, FERC's GHG emission factor is then simply dismissed as noted above. Ignoring the substance of the CEQ Guidance, FERC's Draft EIS fails to consider *alternatives* to *mitigate* the *direct, indirect* and *cumulative effects* of GHG emissions related to this project. FERC also fails to provide any local *frame of reference* by which to judge the significance of these GHG emissions as is called for in the CEQ Guidance.

The Draft EIS apparently ignored testimony prepared by Dr. Richard Ball and submitted by the Sierra Club Virginia Chapter, entitled **GHG Emissions Associated with Two Proposed Natural Gas Transmission Lines in Virginia,** that estimates CO2eq for both the Mountain Valley and Atlantic Coast Pipelines. Dr. Ball calculates both direct and indirect GHG emissions, and for the MVP, he estimates GHG emissions at from 54.3 to 91.2 million tons per year of CO2eq. For a frame of reference as to the significance of these emissions, Dr. Ball points out that the total CO2eq emissions from the 177 GHG sources in Virginia reporting in the EPA's 2014 GHG

IND803-1 GHG emissions and climate change are addressed in section 4.13 of the EIS. See the response to FA15-10 regarding emissions.

IND 803-1 cont'd

Inventory was 49.4 million tons CO2eg, meaning the Mountain Valley Pipeline represents more than double the emissions from all stationary sources reporting in Virginia.

Finally, the Obama Administration's Mid-Century Strategy for Deep Decarbonization issued as the United States' blueprint for compliance with the Paris Climate Agreement calls for "economy wide GHG emissions reductions of 80% or more below 2005 levels by 2050." By these standards, FERC's climate analysis of pipelines as reflected in the MVP Draft EIS is woefully deficient.

Under the circumstances, recognizing that other comments demonstrate that there is sufficient natural gas capacity in existing pipeline infrastructure, I urge you to deny the permit for the Mountain Valley Pipeline and to accept the No Build alternative.

Sincerely,

Glen Besa
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North Chesterfield, VA 23234
glenbesa@gmail.com
804-387-6001

20161222-5133 FERC PDF (Unofficial) 12/22/2016 11:59:04 AM

Patrick Shea, Blacksburg, VA.
Comment from Patrick Shea, Blacksburg VA re: CP16-10-000

For reasons listed below, I urge FERC to disapprove the Mountain Valley Project.

IND 804-1 It is an environmental disaster. It will encourage fossil fuel utilization, which will exacerbate climate change. It will support existing fracking and encourage additional fracking, which harms environments where it occurs. It will be built in areas with karst terrain, characterized by sinkholes, caves, springs and underground aquifers. The pipeline will be especially vulnerable when earthquakes occur. It will leave an ugly scar on the land it crosses. It will destroy habitat of endangered species.

It is a perverse use of eminent domain, which should apply to projects benefiting the public at large. The only beneficiaries of the pipeline are investors. All others impacted will lose out.

The FERC is an industry-funded agency that approves over 90% projects. It has made a mockery of citizen and local government concerns.

Again, only a few wealthy investors will benefit; the land and residents of the pipeline will be permanently harmed

I RECOMMEND DENIAL OF THE APPLICATION TO BUILD MOUNTAIN VALLEY PIPELINE.

Patrick Shea
1504 Boxwood Drive
Blacksburg, VA 24060

ursusdc@vt.edu

IND804-1 Climate change is addressed in sections 4.11 and 4.13 of the EIS. The EIS provides a discussion of sinkholes and karst in section 4.1, water resources in section 4.3, earthquakes in section 4.1, and threatened and endangered species in section 4.7. See the response to comment IND1-3 regarding eminent domain. See the response to comment IND196-5 regarding FERC approvals. See the response to comment IND281-2 regarding jobs in Virginia.

INDIVIDUALS
IND805 – Carol Geller

20161222-5132 FERC PDF (Unofficial) 12/21/2016 7:03:47 PM

Carol Geller
PO Box 71
Newport, Va 24128
December 21, 2016

Federal Energy Regulatory Commission
Kimberly D. Bose, Secretary
888 First St. N.E. Room 1A
Washington, DC 20426

Subject: MVKKP CP16-10-000 Draft Environmental Impact Statement

Ms. Bose;

IND 805-1 As a resident of Newport VA 24128 in Giles County for over 44 years, I strongly recommend the Commission and it's consultants evaluate the Dr. Ernst Kastning report again and take notice of the scientific advice identified in this report and not approve the MVP building a 42" gas pipeline through the Appalachian counties of Monroe Co., WVA, Giles, Montgomery and Roanoke Co., Va.

In the DEIS published by the Commission and its consultants, it is apparent there was a total indifference on their part for heeding sound scientific evidence by a recognized expert in his field. It was clearly stated in the Kastning report that the MVP application was insufficient and unsuccessful in addressing the environmental hazards that would be created by the pipeline itself. For example, the Kastning report specifically addresses the risk of groundwater contamination that can occur due to the karst terrains, to hydrologic alterations that would be caused by the construction of the pipeline, to below ground karst features resulting in potential for surface collapse, to accelerated erosion, to slope instability, to weak soils, and to seismic risks. According to the Kastning report these geologic hazards are typical to karst in mountainous regions such as Giles County. Furthermore, the interaction of these hazards cannot be predicted, avoided or mitigated by engineering practice. Eastern Giles County, including Ripplemead, Pembroke, and Newport communities is concentrated with sinkholes, caves, and subsurface waterways. The impact of the construction of this pipeline through Giles County would cause irreparable harm.

IND 805-2 The proposed MVP route is going straight through Newport, between Mt. Olivet Church and the Newport Recreation Center. I live less than .3 miles from the Mt. Olivet Church. In 2000 the Department of Historic Resources voted to support the nomination of the Greater Newport Rural Historic District and Newport became eligible for inclusion on the National Register of Historic Places and the Virginia Landmarks Register. The National Register of Historic Places reflects the wish of Americans that "the historical and cultural foundation of the nation should be preserved as a living part of our community life and development in order to give a sense of orientation to the American people." Three-quarters of the homes within the historic Newport area are within one-half mile of the proposed pipeline. According to the National Register an environmental impact study is required for any Federally funded or state projects to determine if any project will have an adverse effect on historic buildings, archaeological sites or landscape features within a historic district. Needless to say, the pipeline would threaten buildings, archaeological sites and landscape in historic Newport and are not mitigatable.

IND 805-3 The Jefferson National Forest and its Forest Management Plan will not allow the pipeline. The Forest Service has publicly stated that in this terrain, the MVP could not be built in compliance with the current

IND805-1 See the response to comment IND62-1 regarding Dr. Kastning's report. See the response to comment LA1-4 regarding existing 42-inch-diameter natural gas pipelines in karst terrain.

IND805-2 An assessment of the Greater Newport Rural Historical District is provided in section 4.10 of the EIS.

IND805-3 See the response to comments FA8-1 and FA10-1 regarding the LRMP for the Jefferson National Forest. The ANST would be crossed by a bore. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS.

IND 805-3 cont'd

Forest Management Plan. Re-zoning part of the National Forest as suggested by FERC is unacceptable. These lands belong to the people for their enjoyment and recreation. Building the pipeline through the National Forest would significantly degrade and impair the resources of Peters Mountain Wilderness, Sinking Creek Mountain across from Kelly Knob, Dragon's Tooth, The Appalachian Trail, and Brush Mountain. The Appalachian Trail Conservancy (ATC) is strongly opposed to the proposed Mountain Valley Pipeline project, which would detract significantly from the scenic landscape of the Appalachian Trail (A.T.), produce irreversible damage to local ecosystems, and potentially lead to millions of dollars in lost revenue for communities that rely on outdoor recreation-based tourism. The Forest Management plan should not amend or reduce their standards as suggested by FERC. The impact of this pipeline on our National Forest is unacceptable and would produce irreparable harm.

IND 805-4

Finally, FERC is required to assess the need for another pipeline in this area and include that assessment in their environmental impact statement. Not providing this assessment is a violation of the NEPA process. This process requires that FERC's environmental impact statement first assess the need for the project and include reasonable alternatives to the project in addition to investigating environmental impacts.

Sincerely,
Carol Geller

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Washington, DC 20240

Joby Timm, Supervisor
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Tony Cook, USFS Southern District Regional Forest Supervisor
Forest Service – USDA
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Room 861 N
Atlanta, GA 30309

US Army Corps of Engineers
Headquarters
441 G Street NW

IND805-4 See the response to comment FA11-12 regarding need.

Washington, DC 20314 – 1000

US Army Corps of Engineers
South Atlantic Division
600 Forsyth Street SW
Atlanta, GA 30303-8801

US Army Corps of Engineers
Huntington District
502 Eighth St.
Huntington, WVA 25701

Giles County Board of Supervisors
315 N. Main Street
Pearisburg, VA 24134

Montgomery County Board of Supervisors
755 Roanoke St. Ste. 2E
Christiansburg, VA 24073

Roanoke County Board of Supervisors
5204 Bernard Dr.
4th Floor
Roanoke, VA 24018-0798

Monroe County Commission
PO Box 350
Union, WVA 24983

Other Officials:
VA Governor, Terry McAuliffe
WV Governor, Earl Ray Thomblin
Senator Tim Kaine
Senator Mark Warner
Representative H. Morgan Griffith
Representative Bob Goodlatte
VA Senator John Edwards
VA Delegate Joseph Yost

21 December 2016

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission (FERC)
888 First Street, N.E.
Washington, DC 20426

Re: Mountain Valley Pipeline proposal, Docket No. CP 16-10
Draft Environmental Impact Statement (DEIS)
Excess Rock, Soil, and Organic Debris Disposal Plans Are Deficient

Dear Ms. Bose and Members of the Commission,

IND 806-1 I am writing to express concern with the Mountain Valley Pipeline application and the associated DEIS. The DEIS is seriously deficient in numerous areas – including descriptions of plans for management and disposition of excess rock, soil, and organic debris that would be produced by the pipeline construction.

Context:

Preparation of equipment operating areas and excavation of a trench are fundamental to pipeline construction; these operations will generate large volumes of rock, soil, and organic debris in excess of what would be placed into the trench. Generation and management of these materials will result in environmental impacts, but DEIS descriptions of those practices are vague and incomplete, and encompass a wide range of potential outcomes - some of which would create greater environmental impact than others.

The DEIS has been prepared to comply with requirements of the National Environmental Policy Act (NEPA). Both FERC and NEPA policies require applicants for federal permits to avoid, when possible, adverse environmental effects, and to minimize or mitigate those effects that cannot be avoided. The DEIS descriptions of how excess rock, soil, and organic debris would be managed, if the pipeline project is approved as proposed do not comply with that mandate.

Excess Material Quantities:

Trenching: Large quantities of excess rock and soil would be generated by trenching and refilling operations if the pipeline is constructed as proposed. To estimate quantities, I assume:

- Average trench dimensions would be 6 feet width at bottom, 12 feet width at top, and 7 feet in depth;[1]
- Materials excavated from the trench will increase in volume ("swell") by 20%;[2]
- The 42-inch diameter of the proposed pipeline would displace material excavated from the trench;

With these assumptions, one can estimate that more than 1.3 million cubic yards of excess rock and soil will be generated over the pipeline's proposed 305 mile length, equivalent to approximately 4,345 cubic yards per mile. This quantity is calculated by estimating

[1] These dimensions are consistent with what is stated by the application and the DEIS.
[2] Neither the DEIS nor the application describes compaction of materials during trench refilling.

IND806-1 As discussed in section 2 of the EIS, excavated soils would be stockpiled along the right-of-way on the side of the trench away from the construction traffic ("spoil side"). ATWSs are also used for spoil storage. As stated in section 4.2 of the EIS, the Applicants would remove excess rock greater than 4 inches in all disturbed cultivated and rotated croplands, hayfields, pastures, residential areas, and at the landowner's request. An "approved landfill" refers to a landfill that acquired a permit for operation from a federal, state, or local regulatory agency. See the response to comment IND70-1 regarding erosion.

IND 806-1 cont'd

approximately 750,000 cubic yards of excess material would be generated by excavated material swell, and another ~570,000 cubic yards of material would be displaced by the buried pipe.

That estimate does not even consider the rock/soil displacement that would occur if "flowable fill", limestone dust or sand, or topsoil were to be brought in for use as trench fill or cover; [3] and it does not include the "trench breakers" that would be installed within the trenches on sloped areas, of which there are many, that would displace additional volumes of rock and soil.[4]

If compaction of trench fill is intended but is not described, such practice may reduce swell to less than 20% – but, under any scenario, the volumes of excess rock and soil generated by pipeline trenching and burial would be considerable.

Clearing and Grading: In addition, the DEIS states

> *"Clearing and grading would remove trees, shrubs, brush, roots, and large rocks from the construction work area and would level the right-of-way surface to allow operation of construction equipment".*[5]

Presumably, these operations would generate additional materials requiring disposal. Although it is difficult to estimate these volumes, it appears that hundreds of thousands of tree stumps, with attached roots, would be produced by the procedures described. The DEIS does not state clearly that clearing and grading would dislodge stumps, but does mention stumps in other sections,[6] and it does not describe operations that would prevent dislodgement of stumps and large roots when clearing and grading previously forested areas. .

The DEIS proposes to disturb 4,780 acres of forest and woodland. If the average density of trees ≥12 inches in diameter is 150/acre[7] on forested areas to be cleared, one can calculate that >700,000 stumps of trees ≥12 inches in diameter (>2300 stumps per mile), plus hundreds of thousands additional smaller stumps, would be dislodged by pipeline construction. Each stump would be associated with a rooting system, segments of of which would remain attached; and additional organic debris and excess soil would also be generated by a clearing-and-grading operation.

The DEIS descriptions of how excess rock, soil, and organic debris would be managed and handled provides no assurance that environmental impacts avoided, minimized, or mitigated as per NEPA requirements. Associated concerns with the plans proposed by the DEIS are as follows:

Disposition of Excess Rock and Soil:

As noted, >4,000 cubic yards of excess rock and soil per mile would be generated by trench-and-fill operations alone. If excess rock and soil materials generated by trenching were placed

[3] Application Resource Report 1 states that "If additional fill is brought in, it will be either flowable fill or topsoil" (p. 1-24; p. 39 of 288); and "limestone dust or sand, which is typically basic and will often aid in the cathodic protection of the pipeline, may be used as backfill material" (p. 1-24; p. 39 of 288).

[4] DEIS, p. 2-41 (p. 130 of 781).

[5] DEIS, p. 2-38 (p. 127 of 781).

[6] As stated below in the section of this letter that describes clearing and grading.

[7] Schuler TM. MA Fajvan. 1999. Understory tree characteristics and disturbance history of a central Appalachian forest prior to old-growth harvesting. US Department of Agriculture, Forest Service, Northeastern Research Station, Research Paper NE-710 (see Figure 1). Williams RA. 2003. Use of stand density index as an alternative to stocking percent in upland hardwoods. Northern Journal of Applied Forestry 20: 137-142 (see Figure 1).

IND 806-1 cont'd

in equally-sized piles spaced ¼ mile apart, each pile would contain >1,000 cubic yards -- equivalent to a pile 30 feet high, 30 feet wide, and 30 feet tall for each ¼ mile; or a pile 50 feet high, 50 feet wide, and 11 feet tall pile for each ¼ mile. Additional excess soil and excess organic debris would be generated by clearing and grading.

Where would this excess material be placed? The DEIS contains only very general information about excess rock and soil disposal; and contains multiple statements that are not consistent with one another and, collectively, are not clear. For example, the DEIS states

> *"Excess rock/stone would be disposed of within the construction right-of-way with landowner approval or at an approved landfill."*[8]

The DEIS also states that

> *"Excess rock would be trucked to approved disposal areas",*[9]
>
> *"Any excess soils would be spread evenly over the right-of-way",*[10] and
>
> *"Excess rock/stone would be disposed of within the construction right-of-way with landowner approval or at an approved landfill."*[11]

As I interpret these statements, excess soil would be spread over the right-of-way, while excess rock would be disposed at "approved" landfills – or at "approved" off-site locations. Much is left unstated:

Question 1: What will be done with materials comprised of rocks and soils mixed together? Will such materials be handled as if rock? Or as if soil?

Question 2: What is meant by the term "landfill"? Does this term refer to RCRA-certified landfills[12] such as those operated by local municipal authorities? Or does it refer to "landfills" in a more general and non-regulated fashion – as in a placement of excess material to "fill the land" and to raise its contours?

Question 3: If the term "landfills" is meant generically: Where will these landfills be placed in the steep-slope mountainous areas where the applicant proposes to displace forested ecosystems with a pipeline corridor? In such terrain, lands with the lowest slopes are often at the bottoms of slopes, where ephemeral, intermittent, or permanent streams run. Would the landfills be placed within or adjacent to ephemeral or other streams? And, if so, would Clean Water Act Section 404 permits be obtained for the stream filling? And, if so, what form of compensatory mitigation will be employed to offset the resulting stream loss?

If placement in or near streams will be avoided, will placement on steep slopes also be avoided? If yes, what will be done with such materials – will they be trucked to less environmentally sensitive areas? If so, what types of areas would these be?

Wherever the material is placed in sloped areas, will be procedures be employed to ensure geotechnical stability?

[8] DEIS, p. 2-42 (p. 131 of 781).
[9] DEIS, p. 2-39 (p. 128 of 781).
[10] DEIS, p. 2-41 (p. 130 of 781).
[11] DEIS, p. 2-42 (p. 131 of 781).
[12] The Resource Conservation and Recovery Act (RCRA) includes provisions that regulate Municipal Solid Waste Landfills.

IND 806-1 cont'd

Question 4: Will excess soil be "spread evenly over the right-of-way" in areas of steep slopes? If so, how will this be accomplished in a manner that will ensure stability, and will prevent rainfall from eroding such materials and carrying them into water bodies?[13]

Question 5: The term "approved" is used frequently in the DEIS sections that describe management of excess rocks and soils. The terms "approved landfill", "approved disposal site", and "approved disposal areas" all occur in these sections. Approved by whom? What authority will be asked to approve these practices? And what will be the criteria for approval?

In other words, many questions are left unanswered. As noted in above: DEIS descriptions are vague and could be interpreted to encompass a wide range of potential practices, some of which would create greater environmental impact than others. In contrast, it would be possible for the DEIS to

Proposed Revision 1: State clearly where excess material would be placed.

Proposed Revision 2: State clearly that placement of excess material in sensitive landscape positions – such as stream channels (including ephemeral) and slopes of sufficient steepness that geotechnical stability cannot be assured – would be avoided.

Proposed Revision 3: State clearly that all material placement on sloping areas where the ground gradient is greater than some minimum slope would be certified for geotechnical stability by a professional engineer; and that all material placement in piles with sideslopes of greater some minimum gradient would be similarly certified.

Proposed Revision 4: State clearly that all excess spoil fills would be placed and revegetated in a manner that will control erosion and prevent stream sedimentation; and that a suitable inspection regime will be instituted to ensure that this occurs.

Proposed Revision 5: Prescribe a process for ensuring that such placement would be approved by authorities that are able to act independently of the company, and qualified to ensure that such placement would, in fact, minimize adverse environmental effects.

Proposed Revision 6: Prescribe how excess rock/soil disposal piles or fills would be revegetated.

By failing to prescribe such procedures, the DEIS has failed to prescribe practicable means for reducing environmental impacts of pipeline construction relative to potential results of what is stated by the DEIS.

DEIS descriptions of excess rock and soil placement and management procedures are vague, and provide no assurance that such materials can be dispersed across the landscape in a manner that would minimize environmental impacts.

IND 806-2

Potential Acid Generation:

Geologic materials containing reduced-sulfur minerals (pyrites and sulfides) will generate acidic waters if exposed to atmospheric oxygen (O_2) and water (H_2O), unless such materials also contain minerals that will generate alkalinity in sufficient quantities to offset the acidity

[13] The Commission should not accept statements such as "material will be placed in accord with Erosion and Sediment Control Plans" as an answer to this question. Such plans, as referenced by the DEIS, are deficient – as they fail to state clearly the nature of the vegetation to be established, or if that vegetation would be adequate to control erosion – see submittal 20161121-5051 to FERC Docket CP16-10, p. 17-18 ("Erosion and Sediment Control Plans (ESC Plans) are inconsistent with other DEIS statements and Plans") and p. 24 ("More questions: Revegetation seeding").

IND806-2 As stated in section 4.1 of the EIS, acid producing rock and soils could be encountered along the pipeline in areas of active or previous mining activities and along coal bearing rocks where sulfide minerals could occur and be exposed to runoff. See also table 4.1.1-4.

IND 806-2 cont'd

generated by reduced-sulfur oxidation.[14] Waters generated by pyrite/sulfide oxidation can be highly acidic[15] and, if entering rivers and streams, can cause biological impairments.[16] Geologic strata with pyritic and sulfidic minerals, and acidified waters resulting from disturbance of such strata by mining or other activities, occur in Appalachian areas proposed for pipeline construction.[17]

The DEIS section 4.1.2.1 includes a sub-section entitled "Acid Producing Rocks" that describes practices that would be used by Mountain Valley Pipeline LLC to protect the pipe from acidity that might be generated by such rocks. That section states:

> *"Acid producing rock and soils could be encountered along the pipeline in areas of active or previous mining activities and along coal distributions where sulfide minerals could occur and be exposed to runoff. Specifically, Mountain Valley identified the Millboro and Needmore shales in Montgomery County in addition to the Ashe Formation in Franklin County as being formations that could potentially generate acid drainage during construction. Mountain Valley would coat the pipe in fusion bonded epoxy to prevent any damage or deterioration to the pipeline. Mountain Valley would segregate excavated bedrock that could potentially produce acid conditions, limiting the amount of time the materials would be exposed. Mountain Valley would also conduct periodic inspections of the cathodic corrosion prevention system to ensure proper function of corrosion mitigation."*

The cited text, however, fails to describe practices to protect the environment from potential acid generation. More generally, the DEIS fails to describe practices to avoid, minimize, or mitigate (as appropriate) adverse environmental effects in areas where there is potential to encounter acid-generating geologic strata.

Question 6: In which construction areas would the applicant expect to encounter rocks with potential to be acid generating?

Presumably, such areas include those where the Millboro, Needmore, and Ashe formations outcrop, in Virginia. Within what milepost ranges in Virginia would the applicant be expecting to encounter rocks with potential to be acid generating?

The pipeline's northern segment is proposed for a region of West Virginia where coal seams and associated acid-generating rock occur, yet no West Virginia rock strata with potential to generate acidity are mentioned. Is that because the applicant has performed a geologic assessment and found no other potentially acidic strata to be present? Or is because the applicant has failed to conduct such investigations?

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[14] See J Skousen et al. 2002. Acid–base accounting to predict post-mining drainage quality on surface mines. Journal of Environmental Quality 31: 2034-2044.

[15] Stumm W. , J.J. Morgan, J.J., 1995, Aquatic Chemistry: Chemical Equilibria and Rates in Natural Waters (3rd edition), John Wiley & Sons.

[16] US EPA recommends that water pH be maintained in the range of 6.5 – 9 in freshwater streams, for the purpose of ensuring that such streams are able to support aquatic life as required by the Clean Water Act (see US EPA, National Recommended Water Quality Criteria - Aquatic Life Criteria Table, Freshwater CCC/ chronic criteria for pH. https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table

[17] Herlihy, A.T., Kaufmann, P.R., Mitch, M.E. and Brown, D.D., 1990. Regional estimates of acid mine drainage impact on streams in the mid-Atlantic and southeastern United States. Water, Air, and Soil Pollution, 50(1-2), pp.91-107; Herlihy, A.T., Kaufmann, P.R. and Mitch, M.E., 1991. Stream chemistry in the eastern United States: 2. Current sources of acidity in acidic and low acid-neutralizing capacity streams. Water Resources Research, 27(4), pp.629-642.; Orndorff, Zenah W., and W. Lee Daniels. "Evaluation of acid-producing sulfidic materials in Virginia highway corridors." Environmental Geology 46.2 (2004): 209-216.

IND 806-2 cont'd

Within what milepost ranges within West Virginia would the applicant expect to encounter rocks with potential to be acid generating?

Question 7: When operating in areas with potentially acidic rock strata: Will excavated rock and associated geologic materials be tested for acid-generation potentials? If so, what tests will be performed? If not, will all such rock and associated geologic materials generated in such areas be handled as if acid generating?

Question 8: Where the proposed pipeline would cross former surface coal mines, where a variety of geologic materials that have been excavated and moved by coal mining operations may be encountered; and where geologic mapping of pre-mining surface outcrops is not a reliable guide to the geologic materials that might be encountered when excavating a 7-foot-deep trench; and where the upper foot or so of material is not a reliable guide to what may lay underneath since that material may have been selected and placed for the specific purpose of supporting vegetation: How would the applicant assess trench-excavated materials for acid-generation potential? Or if no procedures for assessment of acid-generation potentials are proposed: How would the applicant handle such material to avoid environmental damage?

Question 9: If disturbed rock is found or expected to be acid generating, how would it be managed? The DEIS states that rock excavated from areas with known acid-producing strata will be "segregated," and claims that such segregation will result in "limiting the amount of time the materials would be exposed". How, exactly, will this be accomplished? For what time periods would acid-producing rock be exposed to oxidizing conditions? If acidic waters were to be produced by oxidation during those times, would those waters be managed to prevent aquatic resource impairments?

Question 10: Based on the above statements, it appears that the applicant expects to manage acid-generating rock by putting them back into the trench: What procedures will be employed to ensure that the trench-emplaced rock do not generate acids and degrade environmental quality?

Question 11: If the applicant's plans for managing excavated rock fail to prevent acid generation and aquatic resource impairment: what mitigation measures will be employed?.

Concerning Question 10: On sloping areas, placement of acid-generating rock in trenches using DEIS-described procedures will not ensure against acid generation -- and, in fact, may enhance it. Burial of rocks from acid-generating strata can prevent acid generation if such burial prevents exposure to atmospheric O_2, such as would occur if the acid-generating strata were placed below the water table. However, prevention of acid generation cannot be expected when such materials are buried without preventing oxidation, as would likely occur if the trenches used for burying of such rock were on slopes and no barriers to water movement and O_2 diffusion were placed in the trenches. In fact, such burial in pipeline trenches may enhance acid generation if trench materials are not compacted and are not isolated to exclude O_2.

In contrast to the current text, it would be possible for the DEIS to:

Proposed Revision 7: State or list specific milepost segments within which there is a potential to encounter acid-generating rock – and state the sources for such designations;

Proposed Revision 8: Describe how earth materials encountered within those milepost segments would be managed. For example, the DEIS might state that

IND 806-2 cont'd

- All rock materials encountered within those milepost segments would be managed in a manner intended to minimize (or mitigate) acid generation and associated environmental impacts; or
- All rock materials encountered would be tested for acid-generating potential,[18] and those found capable of producing environmental damage would be managed in a manner intended to minimize and/or mitigate such damage;

Proposed Revision 9: State clearly that the applicant would be responsible for minimizing and/or mitigating environmental damages caused by any acidic waters produced as a result of failure to execute successfully procedures intended to prevent acid generation.

By failing to prescribe such procedures, the DEIS has failed to prescribe procedures that are practicable means for reducing environmental impacts of pipeline construction, relative to potential results of what is stated by the DEIS.

DEIS descriptions of procedures for managing potential acid-generating rock are vague, and provide no assurance that such materials would be managed in a manner that would minimize environmental impacts.

IND 806-3

Clearing and Grading - Tree Stumps and Associated Woody Debris:

As noted above, large quantities of soil and organic debris would be produced by the clearing and grading operations described by the DEIS. The DEIS does not state, directly, that tree stumps and associated roots would be within the material produced by cleared material. However, the DEIS does state that, in wetland areas,

> *"Measures that would reduce impacts on wetlands include … cutting trees to grade, but only removing stumps within 15 feet of pipe trench, or where safety dictates …"*[19]

suggesting that clearing and grading operations would remove stumps along with surface soils in non-wetland areas. The DEIS also states that, for stumps produced from clearing of Jefferson National Forest (JNF) lands,

> *"All stumps would be disposed of in coordination with the FS."*[20]

again suggesting that clearing and grading operations would remove stumps along with surface soils.

Stumps from mature hardwood trees are large and bulky; and, when removed by grading, are often remain connected to large roots and caked with soil (Figure 1). Hence, such removed stumps would constitute and considerable mass and volume of materials that require management; The DEIS, however, fails to address basic questions concerning such stumps and associated organic debris:

Question 12: Would the clearing and grading operations, when conducted in forested areas, dislodge stumps and associated roots? Or has the applicant planned a form of

[18] A common method for testing rocks for acid-generation potential is known as acid-base accounting. See J Skousen et al.., 2002. Acid–base accounting to predict post-mining drainage quality on surface mines. Journal of Environmental Quality 31: 2034-2044.

[19] DEIS Section 4.3.3, Wetlands; Sub-section 4.3.3.2, Environmental Consequences; Sub-sub-section (unnumbered), Avoidance and Minimization.

[20] DEIS, p. 4-148 (p. 385 of 781).

IND806-3 Brush clearing is discussed in section 2.4.2 of the EIS. As stated in section 2.4.2 of the EIS, vegetation would generally be cut or scraped flush with the surface of the ground, leaving rootstock in place where possible. As stated in section 2.4.2 of the EIS, brush cleared from the construction corridor would be burned (MVP only), windrowed, chipped/mulched, or trucked off to an approved disposal area.

IND 806-3 cont'd

land clearing and grading that would not dislodge stumps of trees that were growing in construction areas prior to forest clearing?

Question 13: Assuming the clearing and grading operations would dislodge stumps: What would happen to these stumps and organic debris? How would they be disposed of? How will tree stumps be managed so as to avoid or minimize degradation of environmental quality?

The DEIS does not address these questions, specifically. It does include general statements, such as

> *"Brush cleared from the construction corridor would be open burned (MVP only), windrowed, or chipped/mulched"* [21]

and includes other similar statements.

Based on language in the DEIS, it appears that options for managing organic debris on non-JNF lands are chipping and burning. I would argue that, from an environmental perspective, chipping would be preferred to burning, given that chips can be spread over disturbed areas and can aid revegetation while burning would produce air pollutants. However, as noted by the DEIS:

> *"The Applicants have proposed to conduct open burning of debris generated during construction. This would impact local air quality and has the potential to impact regional air quality".* [22]

The DEIS notes that open burning would produce CO, NOx, VOC, PM_{10}, and $PM_{2.5}$ air pollutants but describes no air pollutants that would be produced by chipping.[23] Yet, given that stumps when first excavated are large, difficult to chip, and often caked with soil, it is reasonable to expect that burning would be disposal method of least expense. Hence, it appears that many or most of the stumps and associated organic debris that would be generated by grading and clearing, if the pipeline is constructed, would be disposed of by burning.

This observation leads to another question, not addressed by the DEIS. Again assuming that stumps would be cleared if DEIS proposals are implemented:

Question 14: Why has stump clearing been proposed? Are there not other possible ways for managing stumps? For example: Why can they not be ground in place?[24]

Grinding stumps in place is practicable, as equipment exists that is capable of performing such operations (see Figure 2). Grinding stumps in place prior to soil grading and clearing would reduce environmental impacts of pipeline construction relative to the current DEIS plan:

- With stumps having been ground, it is likely that the surface-smoothing operations intended by clearing and grading could be accomplished by removing less soil than would be the case if unground stumps were to left in place.

[21] DEIS, p. 2-38 (p. 127 of 781).
[22] DEIS, p. 4-403 (p. 640 of 781).
[23] DEIS, Table 4.11.1-5.
[24] The term "ground in place" means to operate equipment with a rotating hard-steel cutter that would be placed on the stump, with downward pressure, to grind the stump *in situ* into small pieces.

IND 806-3 cont'd

- Since the grinding of stumps would enable land-smoothing via clearing and grading while removing less material, management of that removed material would produce less environmental impact.
- Since less material would be removed by clearing and grading, it is possible that some topsoil might be left in place in some areas, either *in-situ* or as respread, which would aid those areas' reforestation potential relative to subsoils exposure. Even if the upper segment of the topsoil layer were removed by clearing and grading, leaving the lower segment of the topsoil layer in place would aid reforestation potentials, relative to subsoil exposures.[25]
- The removed material would not contain large volumes of unground stumps and, hence, there would be no reason for the applicant to burn those stumps; and open-burning emissions would be reduced or eliminated.
- The resulting soil material produced by clearing and grading, if left in place or redistributed, would have increased content of organic material (chips and sawdust created by grinding) that would aid development of ecosystem processes and reforestation potentials, as that organic material would decompose in the soil.

The DEIS has failed to prescribe procedures that are practicable and, if prescribed, would reduce environmental impacts of pipeline construction relative to current DEIS prescriptions. In contrast to the current text, it would be possible for the DEIS to:

Proposed Revision 10: State clearly how stumps of trees growing in forested areas proposed for pipeline construction would be managed during grading and clearing operations.

Proposed Revision 11: Prescribe procedures that would be used by the applicant to minimize land disturbance and soil removal during clearing and grading operations, so as to leave conditions with minimized disturbance of residual soils and, hence, with improved potentials for restoration for forest plant communities within temporary workspaces relative to what is proposed.

Proposed Revision 12: Prescribe procedures that would be used by the applicant to minimize removal soil and organic debris (including stumps and associated roots) during clearing and grading operations, so as to minimize quantities of excess soil and organic debris removed; and, hence, to minimize environmental impacts such materials' management and disposal.

By failing to prescribe such procedures, the DEIS has failed to prescribe practicable means for reducing environmental impacts of pipeline construction, relative to what is stated by the DEIS.

DEIS descriptions of procedures for grading and clearing operations, and for managing stumps, associated roots, and other organic debris are vague and provide no assurance that such materials would be managed to minimize environmental impacts.

[25] These expectations are based on soil-science and reforestation principles that are described in the following peer-reviewed scientific publication: Zipper CE et al. 2013. Rebuilding soils on mined land for native forests in Appalachia, USA. Soil Science Society of American Journal 77: 337-349.

IND 806-3 cont'd

Figure 1. Tree stumps and associated roots and soils generated by a small land-clearing project in Montgomery County, Virginia, approximately 5 years after clearing. The shovel, placed for scale, is a standard digging shovel as used by adults, 56 inches in total length (top of handle to digging tip). The two stumps to the immediate right of the shovel are 13 inches and 15 inches in average diameter, respectively. The earth material behind the shovel is attached to the roots on the bottom of a third stump, approximately 18 inches in diameter where it was cut at approximately 1.5 feet above ground level. More than a half-million stumps of similar sizes would be produced from clearing of forested areas, if the pipeline is constructed as proposed. The DEIS does not describe how these materials would be managed and disposed.

IND
806-3
cont'd

Figure 2. High-capacity stump grinder produced by the Bandit Corporation, Model 2900 SP Track. As stated by a vender's product description:

> *"Power comes from a 122 horsepower diesel engine, giving the Model 2900 Track more than enough punch to quickly grind large stumps. An enormous 75-inch side-to-side cutter swing, grinding depth of 24 inches and grinding height of 31.5 inches lets the Model 2900 easily handle big projects, often completely removing 2-foot diameter stumps in just a matter of minutes."*

Larger stump-grinder models are available, including 3400 SP Track (200 horsepower, able to "*to completely remove 36-inch diameter hardwood stumps in a matter of minutes*"), and Model 3500 SP Track (275 horsepower, "*maximum grinding height of 40 inches and a grinding depth of 38 inches*").

Information obtained from http://www.kcbobcat.com/new_vehicle_compare.asp?veh2=501933&veh1=501932&go=Go and http://www.williamsequipment.com/new_vehicle_list.asp?Manufacturer=2649&Category=287&CatDesc=Grinders (Photo from KC Bobcat).

IND 806-4

Open-Burning Rationale is Not Stated:

The DEIS states that

> *"The Applicants have proposed to conduct open burning of debris generated during construction. This would impact local air quality and has the potential to impact regional air quality"*[26]

The DEIS has failed to justify the proposal for open burning as having less environmental impact than other management options for organic materials.

The DEIS states that no burning would be conducted within Jefferson National Forest; and the DEIS indicates that the Equitrans project could be completed without conduct of open burning. Therefore:

Question 15: What is the rationale for proposing open-burning on the MVP project? Given that

- Other options for management of organic debris are available (e.g., chipping, grinding); and
- The DEIS has defined forest loss as a significant impact; and, in effect, an "adverse effect";[27] and also, in effect, an "adverse environmental effect";[28] and
- Organic material, such as woody debris from forest clearing, if redistributed over disturbed areas that were previously forested (and, by extension, if left in place), can aid re-establishment of forest vegetation on such areas;[29]
- Open-burning of such materials would produce air-emissions of multiple pollutants in excess of those that would be produced by chipping and grinding of organic debris.

Question 16: If open burning were to be allowed despite the consequent environmental impacts which appear as unnecessary: What criteria would be applied by the applicant to select materials for open burning? And how would those criteria be justified in light of the environmental-impact minimization requirements of NEPA and FERC?

Burning of stumps and associated roots would produce significant air emissions, given that stumps of large living trees have high moisture contents and would be of significant mass and awkward shapes and sizes that would not burn easily and, hence, if piled up in the cleared corridor and burned, could be expected to smolder for days.

Given that Equitrans appears as able to build a pipeline in Appalachian forested terrain without open burning, it appears that MVP should be able to do so as well. Hence, pipeline construction procedures in forested terrain that include no open burning are practicable.

[26] DEIS, p. 4-403 (p. 640 of 781).

[27] The term "adverse effects" is of significance to FERC's execution of its mission (see FERC's "Certification of New Interstate Natural Gas Pipeline Facilities", FERC Docket No. PL99-3-000. Statement of Policy issued September 15, 1999. Although the DEIS does not state such, C.E. Zipper has asserted that forest impacts should be considered as an "adverse effect" under FERC policy; and, therefore, subject to mitigation and minimization – see submittal 20161121-5051 to FERC Docket CP 16-10.

[28] As per NEPA Section 102; see submittal 20161121-5051 to FERC Docket CP 16-10.

[29] Zipper CE et al. 2013. Rebuilding soils on mined land for native forests in Appalachia, USA. Soil Science Society of American Journal 77: 337-349.

IND806-4 Burning is a method often used in brush removal. As stated in section 2.4.2 of the EIS, burning would be conducted on a site-specific basis, in accordance with applicable state and local regulations and Mountain Valley's *Fire Prevention and Suppression Plan*. Emissions due to burning are estimated in section 4.11.1.3 of the EIS.

IND 806-4 cont'd

In contrast to the current text, it would be possible for the DEIS to:

Proposed Revision 13: State clearly that, despite the applicant's request, open burning of organic debris would not occur; given that other options for managing organic debris with fewer environmental impacts are available.

By failing to prohibit open burning, the DEIS has failed to prescribe procedures that are practicable means for reducing environmental impacts of pipeline construction, relative to what has been proposed by the applicant.

IND 806-5

Greenhouse Gas Emissions - Forest Clearing and Open Burning:

The Council of Environmental Quality has issued to Federal agencies "guidance on considering greenhouse gas (GHG) emissions and climate change in National Environmental Policy Act (NEPA) reviews".[30] US Environmental Protection Agency has stated that emissions of greenhouse gases, such as CO_2, "threaten the public health and welfare of current and future generations".[31] Hence, greenhouse gas emissions are relevant to NEPA concerns and, by extension, to the DEIS.

Clearing of forest would result in emissions of greenhouse gases, primarily CO_2. As noted by the application's Resource Report 9,

> *"Given these assumptions, the clearance of 4,772 acres of forest for the Project right-of-way is estimated to result in a one-time release of 626,468 metric tons of CO_2, plus an additional loss of 3,009 metric tons per year of CO_2 sequestration capacity."*[32]

The above estimate is based on a national-level dataset which averaged per-hectare estimates for carbon content of forested ecosystems, both in total and in soils. However, measurements from hardwood forests in eastern and midwestern US, including sites in both Virginia and West Virginia, yielded total-carbon estimates that are higher[33] than the estimates used by the applicant in Resource Report 9. These facts suggest that the applicant's methods have underestimated the amounts of carbon that would be released to the atmosphere as CO_2 due to forest clearing by the proposed project.

More importantly to these comments: the DEIS estimates of greenhouse-gas emissions do not include effects of forest clearing other than those that would result from open burning. Chipped and windrowed forest-residue materials can be expected to decompose and to release wood carbon to the atmosphere as CO_2. That decomposition would not be immediate but would occur over time. It is also like that soil carbon would be released due to microbial decomposition of soil organic matter within deforested areas; and that such releases would be of long duration in the right-of-way due to its maintenance in a deforested condition.

[30] Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews, as issued by CEQ on 1 Aug 2016, and as per FR 81: 51866-51867, 5 August 2016.

[31] US EPA, "Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Section 202(a) of the Clean Air Act". https://www.epa.gov/climatechange/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a

[32] Resource Report 9, p. 9-33 (p. 45 of 974).

[33] Amichev et al. (2008) estimates approximately 220 metric tonnes C per hectare, total ecosystem carbon, for VA and WV hardwood forests, vs. 150 metric tonnes per hectare in Resource Report 9. Amichev BY, JA Burger, JA Rodrigue. 2008. Carbon sequestration by forests and soils on mined land in the Midwestern and Appalachian coalfields of the US. Forest Ecology and Management 256: 1949-1959.

IND806-5 Emissions due to burning of cleared brush are estimated in section 4.11.1.3 of the EIS.

IND 806-5 cont'd

Furthermore, DEIS estimates of greenhouse gas emissions that would be produced by open burning appear to be dramatically underestimated. The DEIS states that some organic debris would be open-burned but is not clear in describing criteria for determining types or quantities of materials, that would be open burned. I will proceed while assuming that stumps of trees growing in construction areas, prior to construction, would be open-burned; and that those stumps, having been excavated by clearing and grading operations, would have some large roots attached; and that other large roots would be excavated separately by the clearing and grading operations and would be burned.

If my assumption is correct, the DEIS statement of greenhouse-gas emissions due to open burning is woefully inadequate (see Table 1). Table 1 estimates that CO_2 emissions from open burning of stumps and roots would be approximately 4 times what is by the DEIS. However, the Table 1 estimate is very conservative; and open-burning emissions of CO2 could easily be well in excess of Table 1 estimates:

- The bulk of below-ground tree carbon is likely contained in the below-ground stump and the large roots that would be excavated by clearing and grading, but Table 1 estimates that only ½ of below-ground tree carbon could be released by open burning.
- It is possible that stumps would be cut at higher than 6 inches above the ground, given that stumps are easier to dislodge if the residual stump is larger, since pushing with on a taller stump with earth-moving equipment will create greater leverage than will pushing on a shorter stump.
- The calculated estimate is based on the same national-level dataset as the CO_2 release estimated by Resource Report 9; but Appalachian forests likely contain more tree-biomass carbon than the national estimate.
- Additional materials generated by grading and clearing – such as, perhaps, tops of trees and ends of limbs that are too small for commercial harvest may also be open burned (exactly what types of materials would be open-burned is not stated).

The quantities of CO_2 that would be released to the atmosphere via forest clearing for pipeline construction appear as dramatically underestimated by the DEIS.

Question 17: What quantities of greenhouse gases, including CO_2, would be released due to deforestation of the permanent right-of-way and temporary workspaces?

Proposed Revision 14: State clearly quantities of greenhouse gases, including CO_2, that would be released due to deforestation of the permanent right-of-way and temporary workspaces.

IND 806-5 cont'd

Table 1. Alternate measures of CO_2 release due to open burning: DEIS vs. an estimate calculated assuming stumps would be cut at 6 inches in height; and that stumps and roots generated by clearing and grading would be open-burned.

Measure	Quantity	Units	Source
Calculated:			
Forest disturbed by construction	4780.4	acres	DEIS Table 4.8.1-1 (Original as issued, and October 2016 update)
Non-soil carbon in disturbed forests (as CO_2)	131.3	metric tonnes CO_2 per acre	Application, Resource Report 9, p. 9-33 (p. 45 of 974)
Non-soil carbon in disturbed forests (as CO_2)	627,667	Metric tonnes CO_2, total	Calculated
Conversion factor	1.10231131	Metric tonnes / short ton (ton)	
Non-soil carbon in disturbed forests (as CO_2)	569,409.49	short tons (tons) CO_2, total	Calculated
Above-ground biomass in stumps cut at 6 inches	2.5%	of total above-ground biomass	Jenkins et al. 2003. "in an analysis of forest biomass and productivity based on the USDA Forest Inventory and Analysis data for the mid-Atlantic region of the United States, stumps 6 in. (15.24 cm) tall comprised approximately 2.5% of aboveground biomass"
Above-ground carbon in stumps cut at 6 inches (as CO_2)	14,235	tons CO_2	Calculated from above (2.5% x 569,409.49 tons)
Below-ground biomass in roots	20%	of total above-ground biomass	Jenkins et al. 2003, Figure 5 (presumably, this figure includes below-ground segments of stumps that connect to roots)
Below-ground biomass in roots (as CO_2)	113,882	tons CO_2	Calculated from above (20% x 569,409.49 tons)
Total Carbon in stumps and roots (as CO_2)	128,117	tons CO_2	Calculated from above, by summing stumps and roots
Estimated carbon release from burning stumps and roots excavated by clearing and grading	**71,176**	**tons CO_2**	Calculated from above, by summing stumps plus half of roots
Stated by DEIS:			
Greenhouse gas emissions from open burning	**18,883**	**tons CO_2**, total years 1 and 2	DEIS, Table 4.11.1-5

IND 806-6

Open-Burning Air-Pollution Estimates Are Not Supported:

The DEIS quantifies potential emissions from open burning.[34] Yet, neither the DEIS nor supporting materials[35] provide a method to support that estimate that I am aware of.

Question 17: What is the basis for the open-burning air-emissions estimates that are in the DEIS? What method and assumptions were applied to develop these estimates?

Table 4.11.1-5 estimates air pollutant emissions, including greenhouse gas emissions, expected by FERC due to open burning. As noted above, greenhouse gas emissions due to open-burning appear to be dramatically underestimated. Hence, it is likely that other air-pollutant emissions that would be caused by open burning (carbon monoxide, nitrogen oxides, particulate matter <10 microns and particulate matter <2.5 microns, and volatile organic compounds) are underestimated as well.

Question 18: If FERC fails to reject the applicant's request to dispose of organic debris by open burning: What quantities of air pollutants would be released by open burning?

Proposed Revision 15: If FERC fails to reject the applicant's request to dispose of organic debris by open burning: State clearly quantities of air pollutants would be released by open burning, and the basis for those quantities' estimation.

IND 806-7

Invasive Species Proliferation:

As described by the DEIS for residential and agricultural areas:

> *"Topsoil would be segregated over the trench line and spoil storage areas, except in certain locations such as saturated soils (see section 4.2.2). This would allow for the existing seed bank in the topsoil to be retained and promote increased vegetation success."*[36]

However, the DEIS describes no procedures that would be employed to prevent proliferation of invasive exotic plant species through such operations. Soils with invasive exotic plant species are likely to harbor seeds or other propagules (such as roots with potential for re-sprout) of those invasive exotic plant species. Even though soil stockpiling and storage may result in the death of the individual plants that were present prior to removal, respreading of that stockpiled soil would have a highly likelihood of enabling further proliferation of the invasive exotic plant species that were growing on the soil prior to its removal. Seeds and other propagules of many invasive exotic plant species can survive in stockpiled soils for some time.

The following procedures are practicable and, if prescribed and carried out, would reduce environmental impacts relative to the non-selective soil handling and respreading that is proposed by the current DEIS:

Question 19: Why are procedures for limiting proliferation of invasive exotic plant species due to soil clearing and redistribution not addressed by the DEIS?

[34] DEIS, Table 4.11.1-5.

[35] I have searched the application's Resource Report 9, including appendices, and have found no description of methods used to estimate open burning emissions. Presumably, such methods would describe estimation of burnable material quantities, and methods for conversion of such materials into quantifiable air-pollution emissions. After scrutinizing application materials, I have not found a description of such methods.

[36] DEIS, P. 4-144 (p. 381 of 781).

IND806-6 All construction emissions results are presented as tables in the EIS, including emissions from open burning. Open burning includes fugitive emissions from burning of brush and slash from clearing. Mountain Valley utilized the following published documents in estimating emissions resulting from open burning: (1) Emissions Inventory Improvement Program, Volume III: Chapter 16, "Open Burning", Revised Final January 2016; and (2) U.S. EPA AP-42, Section 2.5 "Open Burning", Table 2.5-5 (10/92). In order to determine quantities of materials burned, it was assumed that 5% and 2% of the total disturbed acreage would be burned in West Virginia and Virginia, respectively, and a forest density of 150 metric tons per hectare was applied. The amounts of logging slash, woody debris and coniferous slash were assumed equivalent (i.e., the total tonnage was split equally into three parts). The table was revised in the final EIS to note these assumptions.

IND806-7 See the response to comment IND343-1 regarding invasive species.

IND 806-7 cont'd

Proposed Revision 16: Prior to any removal of topsoil: determine if invasive exotic plant species are present on the area of planned topsoil removal.

Proposed Revision 17: If Invasive exotic plant species are found to be present: Describe procedures for handling and managing excavated soil in a manner that will prevent their further proliferation.

Conclusions:

IND 806-8

The DEIS prepared for the Mountain Valley Pipeline application under FERC oversight is deficient. In this and other filings, I and many other commenters have identified numerous deficiencies.

Fundamental to new pipeline construction is the land clearing and excavation – and the management and disposition for excess rock, soil, and organic debris that would be produced by such operations. Even with these aspects, the DEIS is problematic. The failure of the DEIS to "get it right" when describing land clearing and excavation is emblematic of DEIS failures more generally.

The National Environmental Policy Act, Section 102, requires that when preparing documents such as the DEIS, federal agencies shall

> *"include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on --*
>
> *(i) the environmental impact of the proposed action,*
>
> *(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented"*

while Federal regulations implementing NEPA state that:

> *"Federal agencies shall, to the fullest extent possible … Use all practicable means, consistent with the requirements of the Act and other essential considerations of national policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment."*[37]

Here, I have identified 19 questions that are not answered by the DEIS. All 19 questions address issues essential to statutory function of the DEIS: Describing potential environmental impacts of the proposed action, and justifying proposed procedures as adequate to minimize or mitigate environmental impacts. By failing to provide such information, the DEIS fails to meet basic NEPA requirements.

Here, I have identified 17 proposed revisions of the DEIS that are clearly practicable; and, if implemented, would reduce environmental impacts relative to what is proposed by the DEIS. By failing to prescribe such actions – or to justify DEIS-proposed actions as less injurious to the environment than those recommended here – the DEIS fails to meet basic NEPA requirements.

Due to numerous deficiencies as noted here and in other Docket CP16-10 comments, the DEIS should be withdrawn, revised to correct deficiencies, and re-issued for public comment.

I am a registered intervenor in the Docket CP16-10 proceedings, and I am sending these comments to the full service list via e-mail as per FERC policies.

[37] 40 CFR 1500.2

IND806-8 The commentor's statements are noted. See the responses IND806-1 through IND806-7.

With regards,

Carl E. Zipper
Blacksburg Virginia 24060

Cc: US Forest Service, comments-southern-georgewashington-jefferson@fs.fed.us
US Bureau of Land Management, vcraft@blm.gov, mliberat@blm.gov
Barbara Rudnick, USEPA, Rudnick.Barbara@epa.gov
Edward Boling, Council of Environmental Quality, Edward_A_Boling@ceq.eop.gov

INDIVIDUALS
IND807 – Donald Jones

Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

Reference: Docket Number CP16-10-000

Subject: Location of Proposed MVP in Newport Virginia

To all concerned:

IND 807-1

Per DEIS: The proposed route of the Mountain Valley Pipeline Project does not, let me repeat, DOES NOT run parallel to any existing power line route in Newport, Virginia. It actually runs perpendicular to it at one location where the power line runs across a mountain where the proposed pipeline would run parallel to the mountain ridge that contains a small valley where the Rural Newport Historic District is located. FYI: The Appalachian Trail runs on the top of this ridge. Therefore, the proposed pipeline would run parallel to the AT interrupting its view shed throughout the Newport area.

Confused and agonized,

Donald W Jones
Generation 7

IND807-1 See the response to comment IND733-3 regarding the existing powerline in the Greater Newport Rural Historic District.

INDIVIDUALS
IND808 – Donald Jones

20161222-5135 FERC PDF (Unofficial) 12/21/2016 7:51:46 PM

Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington DC 20426

Reference: Docket Number CP16-10-000: Mountain Valley Pipeline

Subject: Karst geology significance in Newport VA not being taken seriously by MVP and FERC

IND 808-1

As a ASE Master Certified Technician L1 Advanced since 1982, I have an advanced knowledge base of how liquids, refrigerants and gases flow to the path of least resistance. It is an easy analysis to state that a leaking gas pipeline built in karst terrain in an active seismic no-build zone is a recipe for catastrophic disaster. It is no secret that all pipes, lines and fittings that carry gases, fluids, air, vacuums, vapors, etc. will leak eventually. They are all build not to leak, but they all still leak. The pipeline built by the Mountain Valley Pipeline Project is exactly the same. Built not to leak but it will. And they know it.

When the 300 mile MVP 42" 1400 pounds per square inch 2 billion cubic feet per day fracked gas pipeline leaks, it will be injecting the gas into the swiss cheese channels and tunnels of least resistance in the Rural Newport Historic District. These channels and tunnels are part of the maze of underground and unseen caves. Nobody knows the precise mapping or destination of these underground mazes.

So imagine a pipeline leaks into these underground channels at 1400 psi undetected by MVP. You decide to investigate one of the many caves in the area. It is a little chilly in the cave entrance so you pull out your sweater, put it on and feel the static electricity in your hair. BOOM!! It is the last thing you will ever remember. You are disintegrated. Along with anything else above the ground of the channel of least resistance underground. The blast is not going to know to only blow up whatever MVP and FERC deemed unimportant.

Have you ever tried to light your gas grill and it just will not light no matter how many times you press that little red button? Then finally after umpteen attempts, BOOM!!, it lights. Did you pull away before it singed your face, hair and hands? Well, that is a gas explosion at approximately 10 psi at very low volume in a 12X24 inch space.

Have you ever seen a building or home on TV after it exploded from a gas leak? BOOM!! Looks like a total loss, doesn't it? Those gas pipelines running to your house are enormously lower pressure, size and volume than the one proposed by MVP.

Have you ever wondered how those crazy people on the news build a bomb? Just contain pressure and ignite. BOOM!! Pretty simple really. And pretty devastating... Just like this pipeline that MVP wants to intentionally build in a volatile underground environment.

Have you ever been cruising down the interstate and hear a tractor trailer truck tire blow? BOOM!! That is an explosion of 120 psi with non-combustible air. Aren't you glad you weren't close to it when it blew?

Conclusion: Any time you contain gas vapor in a confined space with a spark there is combustion with repercussion. BOOM!!

IND808-1 See the response to comment IND2-1 regarding safety. See also the response to comment IND92-1 regarding leaks. See the response to comment IND62-1 regarding Dr. Kastning's report.

IND 808-1 cont'd

I attended the Roanoke Virginia comment process conducted by FERC on November 3, 2016. I was explaining this BOOM!! situation to Paul Friedman but 3 minutes in to the comment, he held up a STOP sign and that was it. BOOM!! I was done.

I have contacted Linda Daugherty and Karen Gentiley of the US Department of Transportation Pipeline And Hazardous Materials Administration to discuss the matter of MVP building a pipeline in the volatile karst terrain of Newport Virginia. They found the situation concerning enough to personally e-mail the Ernst Kastning geology report to Paul Friedman at the Federal Energy Regulatory Commission. Mr. Friedman verified receipt of the Kastning report. I contacted the DOT PHMSA because they are responsible for any safety issues involving pipelines. After they are built I learned. Well, at least they know it is coming... I hold all of these federal agencies responsible for the BOOM!!

Most sincerely,

Donald Wayne Jones
Generation 7

IND 809-1

As an intervener in the FERC process of reviewing the MVP DEIS I have received copies of hundreds of filings received by the agency. I concur with most all I have read and believe FERC has received more than adequate documentation of the risks and liabilities of building such a pipeline on the proposed or any of the alternate routes proposed.

Definition of Mitigation: the action of reducing the severity, seriousness or painfulness of something.

For the following reasons – not a comprehensive list – the effects of one or more 42" pipelines through the current proposed routes in Virginia and West Virginia are unacceptable. Reducing the severity of effects is not equivalent to reversing the negative impacts.

I strenuously object to the building of any fracked gas pipelines through the Virginias. I particularly object to the fact that MVP and ACP lines have been considered in isolation rather than as a group, further making it likely that overbuilding of infrastructure will happen.

The need for pipeline infrastructure of this kind has not been established.

It has been established and confirmed by officials of EQT/NextEra that the fracked gas is meant for sale overseas rather than for the benefit of the states through which these pipelines would run, despoiling the land and environment as they go.

It has been shown that Virginia and West Virginia do not need additional gas. There are published articles detailing the risks overbuilding. FERC has received other filings supporting this.

IND 809-2

It is known that the fracking process creates large amounts of methane, thereby creating as much carbon footprint as other fossil fuels even though it is cleaner than coal during end use. Any process that creates substantial greenhouse gases and therefore more damaging climate change must be stopped in favor of renewable technology for the sake of all.

A reduction rather than an increase in infrastructure to transport fracked gas to the coasts for international sale may reduce the process of fracking. Cumulative effects of fracking and infrastructure construction are required to be addressed by companies proposing such structures as part of the NEPA process – this is not addressed in the Mountain Valley DEIS

The firms seeking to construct these pipelines does not have a reputation for safe construction, as evidenced by lawsuits in Pennsylvania. A pipeline of 42" diameter has not been built and certainly has not been built over mountainous terrain. Landslides, silt runoff, and soil damage have been associated with the 12" pipeline tht crosses Peter's Mountain in Giles County for Celanese corporation use, and that

IND809-1

See the response to comment FA11-12 regarding need. See the response to comment IND2-3 regarding export. The ACP Project was evaluated as a possible alternative to the MVP in section 3.3.2 of the EIS. The ACP Project was also evaluated in the cumulative impacts section of the EIS (4.13).

IND809-2

See the response to comment IND2-3 regarding hydraulic fracturing. Renewable energy alternatives are discussed in section 3 of the EIS. See also the response to comment IND40-1 regarding renewable energy. See the response to comment LA1-4 regarding existing 42-inch-diameter natural gas pipelines in mountainous terrain. See the response to comment IND70-1 regarding erosion. See the response to comment IND152-1 regarding the FERC's third-party monitoring program. See the response to comment IND3-1 regarding drinking water.

IND 809-2 cont'd | pipeline (1/4 the diameter of the proposed MVP) have not been successfully remediated. Citizens must have the right to oppose being "guinea pigs" for feasibility of such a risky venture. We have much at stake including access to potable, safe water.

IND 809-3 | Re: water – the terrain through with the MVP and ACP would run has significant karst topology – caves, sinkholes, and underground aquafiers. Disrupting the flow of underground water would negatively impact not just the communities through which the pipelines would run, but the entire region. My land is not on the MVP route, but is within a half mile of the route. I have four springs on my property which serve three households. These springs have served for drinking water, livestock watering and farming for generations. There is no amount of "mitigation" that could return this pristine water to it's current state if it is disrupted by construction blasting or seepage of dangerous chemicals and radiation.

IND 809-4 | Tourism is a large contributor to Giles County, and the proposed pipeline(s) would negatively impact the pristine quality of the National Forest and viewsheds in the area. The USFS is mandated to protect National Forests for the use of all, and this is in direct conflict with the proposed initial 125' right of way, but much more so by the now proposed 500' utility corridor. Any jobs created during the construction of pipelines would be transitory. The development of tourism promotion in the proposed path of the pipeline has been underway for decades successfully and could be expected to grow even more over time without a pipeline compromising the qualities that bring tourists to the area. In addition most of us who live in this area have chosen to live here because of the same beauty, serenity, cleanliness of air and water that tourists are drawn to, and have developed our homes and land in ways that the introduction of such pipeline(s) would compromise.

IND809-3 The EIS provides a discussion of karst terrain in section 4.1 and water resources in section 4.3. See also the response to comment IND374-3 regarding water wells outside of 150 feet (500 feet in karst) of project areas.

IND809-4 The EIS provides a discussion of tourism in section 4.9. See the response to comment FA8-1 regarding the 500-foot-wide utility corridor on the Jefferson National Forest. See the response to comment IND281-2 regarding jobs in Virginia and PS1B2-34 regarding jobs in West Virginia.

INDIVIDUALS

IND810 – Robert Del Vecchio

20161222-5146 FERC PDF (Unofficial) 12/22/2016 12:19:00 PM

Robert Del Vecchio, Roanoke, VA.
To Whom It May Concern,

IND 810-1

I am writing to oppose the Mountain Valley Pipeline on the following grounds: pipeline specifications, lack of failure and risk statistics for the builder/operator Equitrans, and environmental impact.

I believe the pipeline specifications pose a risk to the environment and also to property owners. The specified diameter is 42 inches and the easement is set at 50 feet (125 feet during construction, maximum). I have read specifications of other pipelines which had a smaller diameter and a larger easement requirement. There is no clear reason why the easement is set this low. I believe it poses a risk to surrounding wildlife, and also property owners based on the diameter of the pipeline and the amount of gas passing through it. There does not seem to be any information on how this risk is to be mitigated.

Equitrans is noted as the primary builder for the pipeline. There do not appear to be statistics posted of failure rates or risk (of failure) mitigation processes that this company must follow. There is no list of planned materials used to mitigate common failures such as cracks and corrosion. The terrain which this pipeline crosses is not trivial. In the event that project delays occur, there does not appear to be a plan to mitigate quality degradation which may increase the failure rate.

The Draft Environmental Impact Statement provided on the FERC website for project CP16-10-000 states that there will be a significant environmental impact. There are various mitigation plans listed. The pipeline is planned to pass under the Roanoke River, which already has a sediment issue. The Mountain Valley Pipeline could pose a risk which exacerbates this sediment issue. The Roanoke River is the runoff point of many creeks and tributaries, and also feeds aquifers that exist under many property owners. If any failure were to occur in Roanoke County, there is a risk that the issue may continue down into the Roanoke River, through Roanoke County and Roanoke City. This could significantly impact most residents of Roanoke County and beyond by reducing property values. There does not appear to be any plan to mitigate this risk.

Thank you for your consideration,
Rob Del Vecchio

IND810-1

The 125-foot-wide construction right-of-way is adequate for construction of a 42-inch-diameter pipeline. See the response to comment IND2-1 regarding safety. See the response to comment IND270-1 regarding wildlife. As stated in section 4.12.1 of the EIS, the DOT Pipeline Safety Regulations require operators to develop and follow a written Integrity Management Program that contain all the elements described in 49 CFR 192.911 and address the risks on each transmission pipeline segment. The Roanoke River would be crossed via an open-cut dry waterbody crossing method. See the response to comment LA15-12 regarding sedimentation for this method. Once installed beneath the waterbody there would be no risk of sedimentation. See the response to comment IND12-1 regarding property values.

INDIVIDUALS

IND811 – Allen Johnson

20161222-5169 FERC PDF (Unofficial) 12/22/2016 12:45:16 PM

Allen JOhnson, Ft. Washington, MD.

IND 811-1 I have traveled up and down the Appalachian trail for over a decade, It shames me to think that you are proposing to destroy this historical trail, a National Treasure and one of the few places on the east coast that one can truly escape civilization, all for a Pipeline that only serves the Energy Companies, disregarding what little we have left of untouched park lands, and the American citizens who do not want this beautiful landscape to be destroyed, I beg you to please reconsider this not just only for us today but but for our children, to be able to have a natural landscape that have survived for centuries untouched, for our future generations to enjoy in the same way we and our ancestors saw it, A reminder that America IS Beautiful. Thank you

IND811-1 The ANST would be crossed by a bore. A revised visual analysis of the ANST can be found in section 4.8 of the final EIS.

20161222-5161 FERC PDF (Unofficial) 12/22/2016 12:27:18 PM

Jessica Alley, New Castle, VA.
December 22, 2016

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

RE: Draft Environmental Impact Statement, Docket No. CP16-10-000

IND 812-1 I am commenting on the Draft Environmental Impact Statement for the Proposed Mountain Valley Project and Equitrans Expansion Project (September 16, 2016), Docket No. CP16-10-000 and Docket No. CP16-13-000. First, in preparing the DEIS, the FERC failed to meaningfully address the significant concerns raised over whether or not this additional pipeline is actually needed to meet the energy demands of this region. Conversely, in a report released September 12, 2016, researchers concluded that "given existing pipeline capacity, existing natural gas storage, the expected reversal of the direction of flow on the existing Transco pipeline, and the expected upgrade of an existing Columbia pipeline, the supply capacity of the Virginia-Carolinas region's existing natural gas infrastructure is more than sufficient to meet expected future peak demand." This report can be accessed at the following link: http://www.abralliance.org/wp-content/uploads/2016/09/Synapse_Report_9-12-16.pdf. The development of additional pipelines discourages continued exploration of cleaner sources of renewable power, such as that produced by harnessing solar and wind energy, which were also not addressed in the DEIS report. Pipelines enhance the carbon footprint of man, accelerating climate change, and detailed analysis of the impacts of this pollution was lacking within the DEIS. In fact, on page 4-285, the report states that "natural gas, which is lighter than air, would dissipate into the atmosphere" at the suggestion of a pipeline break, concluding that the transmission of natural gas therefore does not pose a contamination threat, without any mention of the detrimental impacts to the environment under these conditions.

IND 812-2 Page ES-9 states that "Multiple studies indicate that the presence of a natural gas pipeline would not significantly reduce property values." Throughout the report the DEIS does not address the impact on views and how that will affect property values in the affected region even though it acknowledges that views are a substantial factor driving property values. This section also fails to mention the studies that indicate that the presence of a natural gas pipeline does significantly reduce property values, and later (on page 4-285) again asserts that conclusion while simultaneously citing multiple studies (as cited in the DEIS: Hansen et al., 2006; Simons, 1999) that describe a decrease in the sale prices of houses adjacent to pipelines following pipeline ruptures. The fact alone that this statement is included in the DEIS is disturbing as it acknowledges that natural gas pipelines do rupture. Despite company safeguards, there is evidence of numerous pipelines failing. An internet search limited to credible sources will turn up reports of hundreds of pipeline spills limited to North Dakota alone in a single year, and there is no precedent for constructing a massive pipeline across the steep,

IND812-1 Non-environmental FERC staff may review the Synapse report. The Commission Order would discuss markets for natural gas in the region. See the response to comment FA11-12 regarding need. Renewable energy alternatives are discussed in section 3 of the EIS. See also the response to comment IND40-1 regarding renewable energy.

IND812-2 A visual impacts assessment is provide in section 4.8 of the EIS. See the response to comment IND2-1 regarding safety. See the response to comment CO14-3 regarding spills.

IND 812-2 cont'd

forested Appalachian Mountains as the proposed Mountain Valley Pipeline would do. Although, as the DEIS notes, many of these pipelines are transporting crude oil as opposed to natural gas, the infrastructure and potential for failure is similar.

IND 812-3

Page 3-47 states that the proposed crossing of the Appalachian Trail would be buffered on either side by 100 feet of undisturbed forest and that this would "substantially reduce visual impacts on users" of the AT. Obviously we live in a temperate climate and leaves do not remain on the trees year-round, but there is no mention of the impact this would have on trail users during seasons when leaves are not on the trees nor is there any visual simulation of views of the pipeline during these seasons. Additionally, the MVP would threaten the views of several prominent locations along the Appalachian Trail (Angels Rest, Kelly Knob, Rice Fields, and Dragon's Tooth).

Because of the unaddressed concerns I have identified above, and other significant information gaps that have been noted by other commenters and cited within the DEIS document itself, I request that the FERC issue a new DEIS with complete and corrected information, so that the public has an opportunity to assess and comment on the potential impacts of the project prior to the issuance of the FEIS.

If the FERC does not issue a new DEIS, I request that the FERC choose the No Action Alternative.

Sincerely,

Jessica Alley
374 Cedar Rush Road
New Castle, VA 24127
alleyjr@iastate.edu
(540) 309-5584

IND812-3 The ANST would be crossed by a bore. A revised visual analysis (including a leaf-off analysis) of the ANST can be found in section 4.8 of the final EIS. The commentor's statements regarding the No Action Alternative are noted.

INDIVIDUALS

IND813 – Tina Smusz (on behalf of Liz Tuchler)

20161222-5166 FERC PDF (Unofficial) 12/21/2016 8:33:22 PM

December 20, 2016

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

Re: Mountain Valley Pipeline proposal, Docket No. CP 16-10

Dear Ms. Bose and Members of the Commission,

IND 813-1 Thank you so much for your openness to considering the views about the Mountain Valley Pipeline from citizens like me.

I am opposed to this pipeline on so many levels, but the bottom line is that the individuals and communities surrounding this pipeline bear all of the possible risks and reap none of the benefits. Some of the risks are the air and water pollution that will happen during construction and also possible leaks. I depend on a well for my water and so I am deeply worried about any contamination getting into the ground water. In our karst topography, water travels quickly and unpredictably through networks of caves, so it's hard to tell where leaked contaminants would end up. Contaminated aquifers can't be cleaned up and put back to normal!

IND 813-2 The 4 proposed amendments to the Jefferson National Forest Land and Resource Management Plan are a further insult to injury of this pipeline. Amendment 1: The difference between an 80' and a whopping 500' corridor would be a horrible scar visually, and allow that many more invasive species to enter our forests, and the soil erosion would increase with so much more land cleared of trees.

Amendment 2: This leads me to the outrage of allowing even fewer restrictions on soil and stream bank conditions! There have been much greater awareness up and down our valleys to protect the streams by planting buffers to hold that soil on the banks, and yet MVP wants to ignore proven best practices.Amendment 3: Old growth forests are precious beyond just the old trees – the old growth ecosystem is unique and scientists are still learning more about how these communities of beings work together to actually clean the air and water and provide each other (and us) with the nutrients for life. There are so few of these old growth forests, that we cannot afford to lose any more!

Amendment 4: MVP has ignored the recommendations from the Appalachian Trail Conservancy (ATC) with regard to the least damaging route across this unique national trail. This lack of respect is also evident with regard to hiker safety – the escape trail, in the case of a pipeline explosion and fire actually brings hikers closer to the pipeline.

IND 813-3 This pipeline would decrease all of our property values, threaten our health and safety, be ugly, and to all of this insult, are added these 4 amendments to further the injury to our precious community. Thank you again for considering my views and please consider rejecting this destructive pipeline project.

Respectfully,
Liz Tuchler
Blacksburg, VA
Cc: US Forest Service, comments-southern-georgewashington-jefferson@fs.fed.us

IND813-1 See the response to comment IND3-1 regarding drinking water. See the response to comment IND28-3 regarding financial responsibility. Air quality is addressed in section 4.11.1 of the EIS.

IND813-2 See the response to comment FA8-1 regarding Amendment 1. See the response to comment FA10-1 regarding Amendment 2, 3, and 4.

IND813-3 See the response to comment IND12-1 regarding property values. See the response to comment IND2-1 regarding safety. The commentor's statements on the MVP are noted.

INDIVIDUALS

IND814 – Lynda Majors (on behalf of David Ansley)

Rev. David Ansley
President, Mount Tabor Ruritan Club
610 North Main Street, #122
Blacksburg, VA 24060

December 15, 2016

Joby Timm, Forest Supervisor
George Washington and Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: Amendments to the Land Resource Management Plan and the proposed Mountain Valley Pipeline crossing of the Inventoried Roadless Area adjacent to Brush Mountain Wilderness

Dear Supervisor Timm:

IND 814-1

I am writing in reference to the September mailing request for comments on the proposed actions of the US Forest Service in response to the right-of-way (ROW) grant application submitted by Mountain Valley Pipeline (MVP) to construct and operate a natural gas pipeline across the Jefferson National Forest (JNF). The first proposed amendment (Proposed Amendment 1) is to reallocate 56 acres from Rx-4J-Urban/Suburban Interface of an Inventoried Roadless Area (IRA) to a Management Prescription 5C-Designated Utility Corridor. The proposed Rx 5C land allocation would be 500 feet wide with two exceptions: 1) the area where the pipeline crosses Rx 4A - Appalachian National Scenic Trail Corridor would remain in Rx 4A; and 2) the new 5C area would not cross into Peters Mountain Wilderness so the Rx 5C area would be less than 500 feet wide along the boundary of the Wilderness.

The proposed route would traverse through the IRA in the JNF directly adjacent to the Brush Mountain Wilderness. If approved, the route would place a 500-foot-wide utility corridor next to the wilderness. The pipeline proposes to clear a minimum 125-foot construction right-of-way, a 50-foot cleared permanent right-of-way, and access roads required to build and maintain the pipeline. This major industrial infrastructure development would result in serious degradation of the exceptional scenic value of the region; permanently damage mature, undeveloped forests and fragment the extraordinary forests around the Brush Mountain Wilderness area. The IRA and Wilderness Area on Brush Mountain are inseparably connected both physically and visually - breaking that connection will be extremely detrimental to both. Moreover, the pipeline will climb the steep and rugged topography through the IRA which guarantees erosion both during and after construction. The IRA serves a critical function in helping protect the watershed for Craig's Creek at the bottom of the mountain and **NO** mitigation plan will eliminate the excessive sediment loads that will result.

Myself and the other board members of the Mount Tabor Ruritan Club are gravely concerned about the negative impacts the MVP and proposed Amendment 1 will have on this treasured forest and wilderness. This unspoiled and tranquil forest which are enjoyed by countless hikers, bikers, hunters and runners alike will be negatively impacted for decades to come if Amendment 1 is approved. It is of utmost importance that the integrity of the IRA be maintained as an extension of the Brush Mountain Wilderness. We at the Mount Tabor Ruritan Club **oppose** the granting of a utility corridor in the JNF, which would be required if the application is approved.

IND814-1 See response to comment FA8-1 regarding Amendment 1. The crossing of Craig Creek and the crossing of the Brush Mountain IRA have been intensely studied by Mountain Valley and the FS because of the concerns in this comment. The effects are discussed in the EIS, Section 3.5.3.1, Brush Mountain Minor Route Variations. Mountain Valley has committed to restoring the riparian area along the tributary to Craig Creek with hand planted trees and shrubs.

IND 814-2 ***Additionally, the Mount Tabor Ruritan Club requests that the U. S. Forest Service undertake an evaluation of the 4J Urban/Suburban Interface which is a part of the Brush Mountain Roadless Area to determine its suitability for a 1B Wilderness Study Area which is a designation more in keeping with the spirit of the Roadless Rule.***

Respectfully Submitted,

Rev. David Ansley
President, Mount Tabor Ruritan Club

CC: Clyde Thompson, Forest Supervisor
Monongahela National Forest
200 Sycamore Street
Elkins, WV 26241

Tony Tooke, Regional Forester for the Southern Region
USDA-Forest Service
1720 Peachtree Street
Atlanta, GA 30309

IND814-2 The Brush Mountain Inventoried Roadless Area was allocated to the Rx4J-Urban/Suburban Interface because of the adjacent high density subdivision and concerns about the abilities to provide wildfire suppression on NFS lands.

INDIVIDUALS

IND815 – Robert M. Jones (on behalf of Arnold Lafon)

Date: 21 December 2016
To: Ms. Kimberly Bose, Secretary, Federal Energy Regulatory Commission
From: Arnold Lafon, Filed on his behalf by Robert M. Jones,
Registered Intervenor
Re: Mountain Valley Pipeline, Docket CP16-10-000
Subject: Put the Mountain Valley Pipeline on the Ridge of Brush Mountain

IND 815-1 My name is Arnold Lafon and I have lived on Mt Tabor Road in Montgomery County VA for many years. I am writing to say that I oppose the Mountain Valley Pipeline that is planned to come through the Mt Tabor area. The people who live in the path of the Pipeline are very concerned that the safety of their water could be destroyed if the pipeline is built here. The land here is not like the land is in many other places. This area is full of sinkholes and caves and is a very bad place to construct a forty-inch pipeline. There is water under this whole area and if an accident or spill occurs during or after construction, it will destroy the water supply for a lot of people.

The Virginia Department of Conservation and Recreation has recognized the seriousness to the threat to the water . They are especially concerned about possible harm to Slusser's Chapel Cave Conservation Site. If this site is contaminated or filled with sediment, many people will lose their water. The DCR has offered a solution to this serious problem. They that suggested that the pipeline should avoid the Slusser's Chapel Conservation Site by going on a route at the top of Brush Mountain.

I support the DCR recommendation to stay away from Slusser's Chapel Conservation Site and to go across Brush Mountain instead. Please give strong consideration to this route and help save the water.

Sincerely,

Arnold Lafon
1807 Bishop Road
Blacksburg, Va 24060

IND815-1 See the response to comment CO6-1 regarding the Mount Tabor Variation and the VADCR letter .

INDIVIDUALS

IND816 – Robert M. Jones (on behalf of Stephen Smith)

Date: 21 December 2016
To: Ms. Kimberly Bose, Secretary, Federal Energy Regulatory Commission
From: Stephen A. Smith, Filed on his behalf by Robert M. Jones, Registered Intervenor
Re: Mountain Valley Pipeline, Docket CP16-10-000
Subject: Put the Mountain Valley Pipeline on the Ridge of Brush Mountain

IND 816-1

The Virginia Department of Conservation and Recreation (DCR) made a recommendation on September 9, 2016 asking FERC to consider an alternative route to the currently proposed route of the Mountain Valley Pipeline in the Mount Tabor area of Montgomery County, VA. The DCR expressed great concern about the harm that would be done to the Slussers' Chapel Conservation Site if the pipeline were to be built in this area. The new route proposed by the DCR would avoid the Slusser's Chapel Conservation Site by traversing the top of Brush Mountain.

The Slusser's Chapel Conservation Site is an environmentally sensitive, karst terrain area which is very important to the water resources and supply of the Mount Tabor area and region beyond. If the surface or ground water is contaminated or cut off through construction of the pipeline in this area, many localities in this area as well as those downstream will lose their water. The impact on this community and region would be disastrous. The route recommended by the DCR would keep the pipeline away from the Slusser's Chapel Conservation Site.

I have lived in the Mount Tabor area for the past 25 years and I am writing this letter to support the DCR recommendation to avoid the Slusser's Chapel Conservation Site and to adopt the route along Brush Mountain. I do not want a pipeline here because of the negative impacts it will have on the ground water supply for my residence and livestock. If the pipeline is to be built, it would be best located on Brush Mountain where it will miss the Slusser's Chapel Conservation Site and also peoples homes and water supply.

Sincerely,
Stephen A. Smith, DVM, PhD
2041 Mount Tabor Road
Blacksburg VA 24060

IND816-1 See the response to comment CO6-1 regarding the Mount Tabor Variation and the VADCR letter.

INDIVIDUALS

IND817 – Sarah Brunner

20161222-5164 FERC PDF (Unofficial) 12/21/2016 8:11:09 PM

To whom it may concern,

IND 817-1 I am writing today in regards to the Mountain Valley Pipeline. I am concerned over the negative impact it would have on the Jefferson National Forest.
Under current policy the pipeline does not currently comply with the forest management plan. These standards are important to the protection of the
Jefferson National Forest and standards should not be lowered to allow for the compliance of the pipeline.Rezoning to create a 500 foot wide utility corridor
would be a visual blight on the gorgeous forrest scenery, as well as impinge on privately owned land. Please do not make any ammendments that permit for
the removal of any old growth forest as they are rare and to be treasured. Crossing of the Applachain Trail would also reduce its scenic integrity.

IND 817-2 Studies also show that current energy infrastructure meets demand. Why impact such a fragile and beautiful area when needs are already met? Not assessing the need for the pipeline is also a direct violation of the National Environmental Policy Act.

IND 817-3 I have great concern that even your best management practices won't be enough to prevent erosion and landslides through the area, which could cause a
disasterous oil spile. The current Jefferson Forest Management plan already has an good language for erosion control on steep slopes and also mentions concern
over slope failures.

The Mountain Valley Pipeline will not only be an eyesore but also pose a massive environmental risk. Please consider not building this pipeline.

Best regards,

Sarah Brunner
Radford, VA 24141

IND817-1 See the response to comments FA8-1 and FA10-1 regarding the LRMP on the Jefferson National Forest. See the response to comment FA8-1 regarding the 500-foot-wide utility corridor on the Jefferson National Forest.

IND817-2 See the response to comment FA11-12 regarding need.

IND817-3 The proposed pipelines would transport vaporized natural gas not oil. See the response to comment CO14-3 regarding spills. See the response to comment IND70-1 regarding erosion. The EIS provides a discussion of landslides in section 4.1.

INDIVIDUALS

IND818 – Alyssia Valentin

20161222-5182 FERC PDF (Unofficial) 12/22/2016 1:04:39 PM

Alyssia Valentin, charleston, SC.

IND 818-1 I am voicing my opposition to the proposed mountain valley pipeline. In an age where we should be moving away from oil and gas and addressing climate change, clearing a protected forest is foolish and only guarantees more public health problems, polluted water, and high costs for clean up when the pipeline inevitably leaks. On the subject of carbon emissions, we should be preserving forests and encouraging their growth because they help store the carbon we produce. Additionally, when we destroy forests, we release large amounts of carbon into the atmosphere that the trees have been storing, thus further perpetuating CO2 levels to rise. Also, as we have seen so often in the recent events in America, pipelines frequently burst, causing environmental destruction, costing absurd amounts of money to clean up, killing wildlife and polluting the water that both humans and wildlife drink. As a concerned citizen who has grown up in the south my whole life, has lived in this beautiful mountain range, and who has constantly returned to the Appalachian mountains for solace, hiking, and vacation, I demand this pipeline not be built.

IND818-1 Climate change is addressed in section 4.13 of the EIS. See the response to comment IND2-1 regarding safety. See the response to comment IND92-1 regarding leaks.

INDIVIDUALS
IND819 – Sharlyn Thacker

Sharlyn Thacker
PO Box 2
Eggleston VA 24086

December 22, 2016

Federal Energy Regulatory Commission
Kimberly D. Bose, Secretary
888 First St. N.E., Room 1A
Washington, D.C. 20426
RE: Docket #CP16-10-000 (Mountain Valley Pipeline)

IND 819-1 Dear Secretary Rose:

As the end of the calendar year draws near, many take time to reflect upon their accomplishments, activities, and observations from the past year in effort to set goals and create a focus for the new year. Did our family eat well? Did we manage our finances well? Did we visit with our friends and family members? Did we participate in healthy activities? Did we contribute to our community? Did we engage in activities to shepherd a healthy future for our family, our community, our world? Thankfully our family can answer a resounding, "Yes!" to all of these. Many of these activities successfully took place in Giles County because we have a local farming and arts community, engage in the beauty of the Appalachian Mountains and the New River, and take advantage of the ease of access to the beautiful Appalachian Trail. As you weigh your decision regarding the Mountain Valley Pipeline, please know how gravely the pipeline could negatively impact our community and ultimately our world.

In the fall of 2016, Giles County received $21,177 award of the Virginia Tourism Corporation Grant For Tourism Marketing for Giles County's Outdoor Destination Advertising Campaign. Giles Tourism partnered with local tourism attractions, outfitters, dining, and lodging establishments to supply $42,000 in matching funds for the project to raise awareness of Giles County as an ideal location for an outdoor lifestyle vacation, weddings, and relaxing family experiences. Giles County is doing a stellar job of promoting what most attracts those of us who live here to the area. With the pending Mountain Valley Pipeline, this will work in direct opposition to the Giles County Tourism efforts. Instead of a pristine beauty of a mountain backdrop, locals will have to go elsewhere to find views undisturbed by swaths of construction, denuded land, and potential hazards of pipeline explosions from shifting karst topography.

Is it not time to set pace for an industry that is sustainable for today and future generations? Is it not time to establish a federal foundation for an industry that will challenge each and every one of us to embrace renewable energy sources – wind and solar? Per an article in Bloomberg, April 6, 2016, clean energy investment broke new records in 2015 and is now seeing twice as much global funding as fossil fuels. Why are we even considering investing in outdated and potentially deadly systems that grossly interrupt our communities and the very lands that we rally around and celebrate as an American highlight - our national parks?


Our Wedding Photo at Wind Rock, Giles County, Appalachian Trail

As a green building professional, supporter of my local community, hiker of the Appalachian Trail, and most importantly a mother, I want to be able to look my son and his peers in the eye and tell them I did what I could to shift our country from fossil fuel to renewable energy and preserve our community. Please speak out against the Mountain Valley Pipeline.

Sincerely,

Sharlyn Thacker
540.819.5113 / sharlyn@rerootedlife.com

IND819-1 Tourism is addressed in section 4.9 of the EIS. Renewable energy alternatives are discussed in section 3 of the EIS. See also the response to comment IND40-1 regarding renewable energy. We conclude that with mitigation, the project is not likely to have significant impacts on most environmental resources (except forest). The right-of-way would be restored and revegetated following construction (see section 2.4.2 of the EIS). See the response to comment IND2-1 regarding safety.

IND 820-1

The proposed Mountain Valley Pipeline (MVP) is not in the public interest. The proposed pipeline is NOT in keeping with the existing Jefferson National Forest Management Plan. I oppose the amendments to the U.S. Forest Service Land and Resource Management Plan. In particular, a 500-foot wide "Utility Corridor" would irreparably harm the National Forest land removing old growth forests which cannot be replaced. These amendments would also compromise the integrity of the Appalachian National Scenic Trail, which is one of the region's most valuable tourism drivers. There is no valid justification for crossing the Jefferson National Forest – as alternatives have not been explored.

The proposed pipeline would cross extremely challenging terrain including steep slopes, karst hydrology, headwater streams, highly erodible soils – all near valuable natural resources which would be impacted. As the Forest Service has noted: "**Similar hazards on other smaller pipeline projects in the central Appalachians have led to slope failures, erosion and sedimentation incidents, and damage to aquatic resources."** The pipeline will irreparably damage and possibly destroy groundwater resources on which our communities rely. Impacts to these natural resources are not mitigatable and would cause irreparable harm.

The proposed pipeline creates negative impacts on historic preservation, crossing multiple historic districts. Impacts to historic places are not mitigatable.

In addition, the proposed pipeline corridor would permanently fragment wildlife habitats – causing irreparable harm to multiple wildlife species. For example, according to the Forest Service website, 60% of the approximately 200 species of birds are forest interior species and require large blocks of undisturbed forest habitat.

Moreover, in crossing through numerous counties with poverty rates above the state average, the proposed pipeline will disproportionately affect these communities.

I respectfully request FERC deny Mountain Valley Pipeline's application or, at minimum, conduct a Programmatic Environmental Impact Statement that assesses all the regional pipeline projects in one document.

Thank you.

IND820-1

See the response to comment FA8-1 regarding the 500-foot-wide utility corridor on the Jefferson National Forest. See the response to comment FA10-1 regarding the LRMP. See the response to comment CO49-8 regarding forests and old growth forests. The ANST would be crossed by a bore. A revised visual analysis (including a leaf-off analysis) of the ANST can be found in section 4.8 of the final EIS. See the response to comment IND70-1 regarding erosion. The EIS provides a discussion of karst in section 4.1, water resources in section 4.3, environmental justice in section 4.9, wildlife in section 4.5, and Historic Districts in section 4.10. The reasons the FERC did not prepare a programmatic NEPA document is explained in section 1.3.

IND 821-1

List of pipeline accidents in the United States in the 21st century

From Wikipedia, the free encyclopedia

The following is a **list of pipeline accidents in the United States in the 21st century**. It is one of several lists of U.S. pipeline accidents. See also list of natural gas and oil production accidents in the United States.

This list is incomplete; you can help by expanding it.

Years
2000s • 2000 • 2001 • 2002 • 2003 • 2004 • 2005 • 2006 • 2007 • 2008 • 2009
2010s • 2010 • 2011 • 2012 • 2013 • 2014 • 2015 • 2016

2000s[edit]

2000[edit]

- On January 10, approximately 100 barrels of jet fuel were discharged from Plantation Pipeline in Newington, Virginia, some of which entered into Accotink Creek and its adjoining shorelines. The failure resulted from a failed gasket on an interface detector.[1]
- On January 21, a Chevron pipeline leaked from a welding flaw near Corinne, Utah, spilling about 100 barrels of Diesel fuel. The product spread over 38 acres of salt flat and wetlands used by birds. About 75% to 80% of the spill was intentionally burned to eliminate it.[2][3]
- On January 21, an Equilon Pipeline Co. crude oil line was ruptured off of the Louisiana coast, by an eight-ton anchor dropped by a ship. About 94,000 gallons of crude oil were spilled, creating a slick 2 miles wide by 7 miles long.[4][5]
- On January 27, in Winchester, Kentucky, a Marathon Oil pipeline accident released about 490,000 US gallons (1,900,000 L) of crude oil. NTSB investigators found a dent on the bottom of the pipe in the rupture area. Marathon spent about $7.1 million in response to the accident.[6][7]
- On February 5, a pipeline failed and spilled over 192,000 US gallons (730,000 L) of crude oil in the John Heinz National Wildlife Refuge in Pennsylvania. The source of the spill was a break in a miter bend in the pipe, which was estimated to be at least 50 years old.[8][9]
- On March 9, an Explorer petroleum products pipeline failed in Greenville, Texas. The 28-inch pipeline ruptured and released 13,436 barrels (2,136.2 m^3) of gasoline. The released gasoline eventually reached East Caddo Creek. The banks of the tributary and creek contained the escaping gasoline as it flowed away from the ruptured pipe. The probable cause of the pipeline failure was corrosion-fatigue cracking that initiated at the edge of the longitudinal seam weld at a likely preexisting weld defect. Contributing to the failure was the loss of pipe coating integrity.[10]
- On April 7, a pipeline released fuel oil at Chalk Point near Aquasco, Maryland. The Piney Point Oil Pipeline system, which was owned by the Potomac Electric Power Company (Pepco), experienced a pipe failure at the Chalk Point Generating Station in southeastern Prince George's County, Maryland. The release was not discovered and addressed by the contract operating company, Support Terminal Services, Inc., until the late afternoon. Approximately 140,400 US gallons (531,000 L) of fuel oil were released into the surrounding wetlands and Swanson Creek and, subsequently, the Patuxent River as a result of the accident. No injuries were caused by the accident, which cost approximately $71 million for environmental response and clean-up operations.[11]
- On May 19, a Colonial Pipeline Co. line failed near Greensboro, North Carolina. At least 714 gallons (17 barrels) of kerosene spilled, some of which entered a pond that flows into a tributary of the East Fork Deep River. The kerosene spill caused a sheen about 40 feet by 40 feet in the

IND821-1 Section 4.12 of the EIS provides a discussion of safety. We note that many of the commentor's examples are for incidents involving crude oil, diesel, or other petroleum liquids, which are not particularly relevant to the proposed projects. See the response to comment IND2-1 regarding safety.

IND 821-1 cont'd

pond. As a result of this, and six other previous Colonial Pipeline accidents, the EPA fined Colonial $34 million in 2003.[12]

- On June 7, a stopple fitting weld failed on a Wolverine Pipeline Company line, causing a rupture releasing 75,000 US gallons (280,000 L) of gasoline into the environment, and causing the evacuation of more than 500 houses in Blackman Charter Township, Michigan. The failure caused the shutdown of 30% of Michigan's gasoline supplies for nine days, contaminated a creek which flows into the Grand River, and a railroad track near the failure site was shut down for a week. Later tests found 715 anomalies in this pipeline. Wolverine later agreed to pay for switching houses in the area from local water wells to a city water source.[13][14]
- On July 5, two boats hit a Southern Natural Gas pipeline off the coast of Plaquemines, Louisiana, causing a gas fire that burned five members of the boat crews. The fire could be seen at 35 miles away from it.[15][16]
- On August 19, a 30-inch diameter El Paso Natural Gas pipeline rupture and fire near Carlsbad, New Mexico killed 12 members of an extended family camping over 600 feet (180 m) from the rupture point. The force of the escaping gas created a 51-foot (16 m)-wide crater about 113 feet (34 m) along the pipe. A 49-foot (15 m) section of the pipe was ejected from the crater, in three pieces measuring approximately 3 feet (0.91 m), 20 feet (6.1 m), and 26 feet (7.9 m) in length. The largest piece of pipe was found about 287 feet (87 m) northwest of the crater. The cause of the failure was determined to be severe internal corrosion of that pipeline. On July 26, 2007, a USDOJ Consent Decree was later entered into by the pipeline owner to perform pipeline system upgrades to allow better internal pipeline inspections.[17][18]
- On August 20, a gas pipeline exploded and burned in Concord, North Carolina. A nearby shopping mall was evacuated, but, there were no injuries.[19]
- On August 24, a 6-inch pipeline operated by Chevron failed from alleged external corrosion, spilling 126,000 gallons of crude oil into an unnamed creek, near Snyder, Texas. The creek was dry at the time. Later, a Federal Court ruled that the Clean Water Act did not apply, since there was no water flowing in the creek at the time.[20][21]
- On September 8, for the second time in 24 hours, a state contractor building a noise wall along the I-475 in Toledo, Ohio struck an underground pipeline, and for a second time the contractor blamed faulty pipeline mapping for the accident. In this incident, the pipe was a 6-inch gas pipeline. The crew was digging a hole with an auger for a noise-wall support, when it hit the underground pipe less than 500 meters from the previous day's incident.
- On September 7, a bulldozer ruptured a 12-inch diameter NGL pipeline on State Route 36 south of Abilene, Texas. An Abilene police detective, with 21 years of service, was severely burned when the vapors ignited, and he later died. Nearby, a woman saved herself by going underwater in her swimming pool. Her house was destroyed by the explosion and fire. The owner of the pipeline, ExxonMobil, was later fined by the Texas Railroad Commission for the pipeline not being marked.[22][23][24][25]
- On November 3, a front end loader punctured an 8-inch pipeline carrying Diesel fuel in Lancaster County, Pennsylvania. Diesel fuel sprayed 40 feet (12 m) into the air. The fuel flowed for over 2 hours before stopping, and contaminating the area with more than 40,000 US gallons (150,000 L) of Diesel fuel.[26]

2001[edit]

- On January 17 and 18, a series of gas explosion hit downtown Hutchinson, Kansas, resulting in 2 deaths, and 2 buildings being destroyed. Later, it was discovered that gas was leaking from an underground gas storage cavern in the area.[27][28]
- On March 22, a 12-inch natural gas pipeline exploded in Weatherford, Texas. No one was injured, but the blast created a hole in the ground about 15 feet (4.6 m) in diameter and the explosion was felt several miles away.

IND 821-1 cont'd

- On April 1, a Dome Pipeline in North Dakota carrying gasoline ruptured and burst into flames a few miles west of Bottineau, North Dakota. An estimated 1.1 million US gallons (4,200 m^3) of gasoline burned before the pipeline could be shut down. The company attributed the break to damage by an "outside force", which A Bottineau County Sheriff said appeared to be frost that melted at uneven rates, twisting and breaking the pipeline.[29]
- On April 14, a 6-inch petroleum productions failed near Harwood, North Dakota, spilling 40 barrels of fuel oil. There were no injuries. The failure was due to an ERW seam failure, with this particular pipeline having had other ERW seam failures in the past in 1987 and 1993.[30]
- On May 1, a MAPCO 10-inch propane pipeline exploded and burned, in Platte County, Missouri. 13,500 barrels of propane were burned.[31][32][33]
- On May 24 bulldozer being used in Taylor County, Texas hit a petroleum pipeline, causing a large petroleum fire. There were no injuries.[34]
- On June 13, in Pensacola, Florida, at least ten persons were injured when two natural gas lines ruptured and exploded after a parking lot gave way beneath a cement truck at a car dealership. The blast sent chunks of concrete flying across a four-lane road, and several employees and customers at neighboring businesses were evacuated. About 25 cars at the dealership and ten boats at a neighboring business were damaged or destroyed.
- On July 24, a pipeline ruptured and spread burning gasoline near Manheim, Pennsylvania.[35][36]
- On August 11, at approximately 5:05 a.m. MST, an El Paso Natural Gas 24-inch gas transmission pipeline failed near Williams, Arizona, resulting in the release of natural gas. The natural gas continued to discharge for about an hour before igniting. Stress corrosion cracking was determined to be the cause of the failure.[37][38]
- On August 12, a bulldozer hit a 14-inch LP gas pipeline near Weatherford, Texas, causing a massive fire. One person was injured.[39][40]
- On August 17, an Oklahoma crude oil pipeline ruptured after being struck by a machine cleaning roadside ditches, sending oil 30 feet (9.1 m) into the air and damaging nearby cotton crops with up to 150,000 US gallons (570,000 L) spilled.[41]
- On September 3, at approximately 1 p.m. CST, a rupture occurred near the intersection of the 22-inch T-ML Pipeline and the Black Bayou in Louisiana, resulting in the release of an estimated 8.00 mmcf to 13.00 mmcf of natural gas. In addition, the liquids loss is estimated to be 15,000 gallons.[42]
- On October 4, a drunken man used a rifle to shoot a hole in the Alaskan Pipeline. More than 285,000 gallons of crude oil were spilled, costing more $13 million to clean up. The man was later convicted in Court.[43]
- On October 15, a 6-inch ConocoPhillips LPG pipeline failed near Sweeny, Texas, forcing 2 dozen residents to evacuate. About 195,000 gallons of LPG were lost.[44][45]
- On or about November 27, approximately 2,575 barrels of Jet A Kerosene (Jet Fuel) discharged from the P-62 pipeline of the TEPPCO Pipeline System into tributaries of the Neches River and the Neches River itself. The release occurred 4 miles southeast of Vidor, Texas. This spill was caused by disbonded coating and external corrosion on the pipeline. This incident was later part of a U.S. Environmental Protection Agency consent decree.[46]
- On December 14, an anhydrous ammonia spill near Algona, Iowa killed nearly 1.3 million fish, the largest fish kill on that state's record-to-date, Iowa state officials said. More than 58,000 US gallons (220,000 L) of anhydrous ammonia over a nine-hour period spilled into Lotts Creek and the Des Moines River, killing minnows, bass and other game fish. Koch Industries owned the 8-inch pipeline, and was doing maintenance work on a valve on the pipeline. The plume drifted over a six-mile (10 km) area causing officials to evacuate residents in its path.[47]
- In December 2001, a natural gas pipeline leak in Cypress, Texas near the intersection of Cypress North Houston with North Eldridge (formally Susquehannah; Tower Oaks neighborhood) caused an explosion inside of a neighborhood home with a teenager inside (minor injuries). The home was totaled and eventually a settlement was made. It took over a year for the source of the explosion to be finalized and researched by the Texas Railroad

IND 821-1 cont'd

Commission (at prompting by the home owner), during which time adjacent homes were evacuated for explosive levels of natural gas found in their homes.

2002[edit]

- On February 8, a trenching machine with a new rock bit being tested hit a 20-inch gas transmission pipeline in Noble County, Oklahoma, causing an explosion that killed the trencher operator.[48]
- On March 6, an explosion and a massive fire hit a Tennessee Gas Pipeline natural gas substation near Mount Sterling, Kentucky. 30 families in the area voluntarily evacuated. There were no injuries.[49][50]
- On March 13, a Buckeye Partners pipeline ruptured due to internal corrosion in Wren, Ohio, spilling about 1500 gallons of gasoline.[51]
- On or about March 13, approximately 20 barrels of oil or jet fuel were discharged from a portion of the Plantation Pipeline in Alexandria, Virginia, some of which entered into an unnamed tributary of Hooff Run and its adjoining shorelines. The pipeline failure appears to have resulted from a hole in the pipeline caused by high-voltage arcing between the pipeline and a utility pole anchor.[1]
- On March 15, a failure occurred on a 36-inch gas pipeline near Crystal Falls, Michigan. The failure resulted in a release of gas, which did not ignite, that created a crater 30 feet (9.1 m) deep, 30 feet (9.1 m) wide, and 120 feet (37 m) long. There were no deaths or injuries.[52]
- On April 6, a BP-Amoco pipeline ruptured and released about 100,000 US gallons (380,000 L) of oil into a coastal area known as Little Lake in Louisiana.[41]
- On May 22, an 8-inch petroleum products pipeline failed, spilling about 2,000 barrels of unleaded gasoline on to a wheat field near Ottawa, Kansas. Booms had to be deployed in nearby creeks. The pipe failed along a seam, possibly due to LF-ERW pipeline failure issues.[53]
- On June 20, PHMSA ordered Columbia Gas Transmission Company to do extensive repair to one of their gas transmission pipelines in the states of Pennsylvania and New York, after finding extensive wall thinning on sections of that pipeline system caused by external corrosion. Approximately 800 anomalies with wall thickness losses of greater than 65 percent were found during a smart pig examination, with 76 of the found anomalies having a wall thickness loss of greater than 80 percent. Many of the affected sections of pipe were older sections lacking coating, which is known to reduce external corrosion on pipelines.[54]
- On July 4, there was a rupture of an Enbridge Pipeline, and release of crude oil near Cohasset, Minnesota. The pipeline ruptured in a marsh in Itasca County, spilling 6,000 barrels (950 m^3) of crude oil. In an attempt to keep the oil from contaminating the Mississippi River, the Minnesota Department of Natural Resources set a controlled burn that lasted for one day and created a smoke plume about 1 mile (1.6 km) high and 5 miles (8 km) long. The pipe failed due to cracking caused by train shipping induced cracking of the pipe being delivered.[55]
- On July 24 a gas explosion leveled a Hopkinton, Massachusetts house, killing a 4-year-old girl and her 5-year-old sister. A failed sleeve on the gas line in the basement of the house was suspected of being the cause.[56]
- On August 5, a natural gas pipeline exploded and caught fire west of Rt. 622, on Poca River Road near Lanham, West Virginia. Emergency workers evacuated three or four families. Kanawha and Putnam Counties in the area were requested to shelter in place. Parts of the pipeline were thrown hundreds of yards away, around, and across Poca River. The fire was not contained for several hours because valves to shut down the line did not exist. The Orange Glow from the fire at 11 PM; could be seen for several miles.[57] The explosion and fire caused in $2,735,339 property damage.[58]
- On September 20, at around 22:10 a gasoline leak from an 8-inch pipeline operated by Cenex Pipeline (terminal) was discovered near Glendive, Montana. The release of bout1,000 barrels (160 m^3) of unleaded gasoline flowed into Seven Mile Creek, and then downstream to its