

**COMPANIES AND NGOs**  
**CO89 – Blue Ridge Environmental Defense League**

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CO89-38  
cont'd



Miscellaneous Knife Blades and fragments Woodland Period 2,500 to 550 AD



Miscellaneous, Fairy Stones, Unknown Period

*Esse quam videri*

# COMPANIES AND NGOs

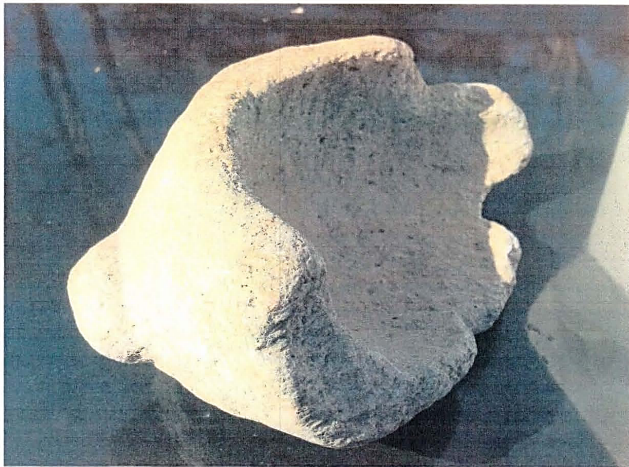
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CO89-38  
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Pottery fragments Woodland-contact Period 1,000 to 1700 AD



Hand Carved Soapstone Bowl Woodland Period 2,500 to 1600 AD

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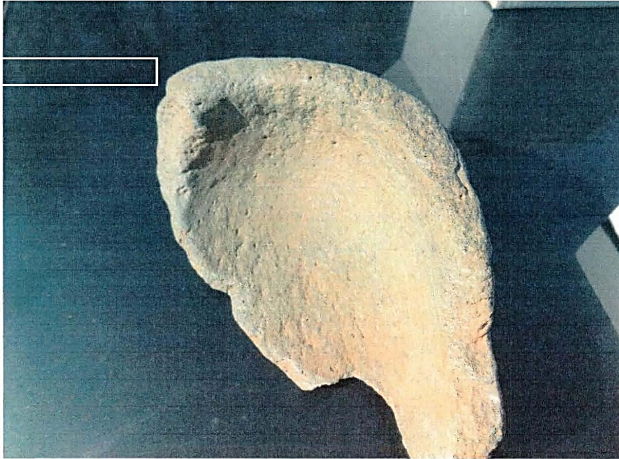


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Hand Carved Soapstone Bowl Woodland Period 2,500 to 1600 AD



Stone Axes Woodland Period 2,500 to 1600 AD

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CO89-39

### Collocation & Electromagnetic Fields

Collocation of the proposed MVP is briefly mentioned in the DEIS. Alternative routes included collocating alongside the proposed Atlantic Coast Pipeline (ACP), following highways and Interstates was also considered as well as traversing along an electric transmission corridor. All collocation alternatives were deemed by FERC as “not offering a significant environmental advantage when compared to the corresponding proposed route.” There is an environmental **disadvantage** of every proposed route of the MVP and is clearly evident based on the comments herein.

An area of specific concern with current collocation plans in the current route of the proposed pipeline is the proximity to high voltage (hv) transmission lines. In a collocation report done by the state of Maine<sup>37</sup>, research shows that pipelines near transmission lines causes electromagnetic field interference which brings multiple issues to light. Below is a detailed excerpt from the report.

When a pipeline runs parallel to a transmission or electric distribution line, the pipeline becomes part of the electrical circuit by electromagnetic and electrostatic coupling (Nelson, 1986). The impact of co-locating metallic pipelines usually buried in the earth directly underneath high-voltage transmission lines can cause electromagnetic interference, which can be grouped into three broad categories:

1. Influence, which is the sum total of the magnetic induction and ground-return currents;
2. Coupling, which is the “distance” between the source of the magnetic induction (power line) and the objects being affected (pipeline); and
3. Susceptibility, which relates to the vulnerability of the induction element (i.e. the metallic pipeline) to induced and ground-return current (Pharris and Kolpa, 2007).

<sup>37</sup> <https://www1.maine.gov/energy/pdf/LD1786%20Co-Location%20Report%20FINAL%20May%202011.pdf>

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CO89-39

Collocation is discussed in sections 2, 3, and 4 of the EIS and in appendix P. Natural gas transmission pipelines are routinely located adjacent to high voltage electric powerlines and can be operated safely.

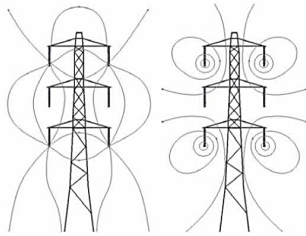
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For every situation, each of the three categories is highly variable and each co-location project must be evaluated separately. The systems' materials, construction method and design are all factors and can help to minimize overall susceptibility of pipeline systems to magnetic induction and damage due to electrolysis and lightning (Pharris and Kolpa, 2007). The figure below shows the typical electromagnetic field of a high voltage (HV) transmission line, source of induced voltages. The left shows the electric field and the right shows the magnetic field produced by a HV overhead AC power line.



Source: (Purcar and Munteanu, 2009)

The magnetic and electric fields created by a transmission line induce currents and charges in neighboring metallic objects (Purcar and Munteanu, 2009).

The potential interference problems, attributable to electricity transmission systems in close proximity to pipelines, have been studied closely by the pipeline industry. There are three mechanisms of electromagnetic interference mechanisms between buried pipelines and nearby power systems (Pharris and Kolpa, 2007):

1. Capacitive coupling;
2. Inductive coupling; and
3. Conductive coupling.

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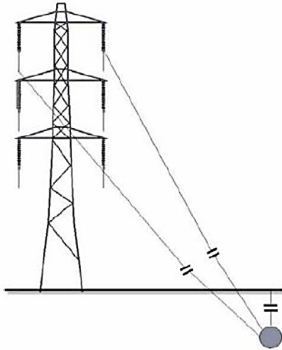
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CO89-40

### Capacitive Coupling

The electric field of the HV transmission line creates capacitive coupling by inducing electric charges in the metallic structure in close proximity. “This represents a form of capacitive coupling operating across the capacitance between the AC transmission lines and the pipeline, in series with the capacitance between the pipeline and the adjacent earth as shown in the figure below (Purcar and Munteanu, 2009).



Source: (Purcar and Munteanu, 2009)

### Inductive Coupling

Inductive interference is the most important of the three coupling mechanisms, and results from the magnetic field generated by the power lines (Purcar and Munteanu, 2009), see figure below.

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CO89-40

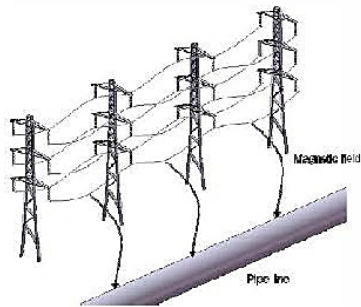
Natural gas transmission pipelines are routinely located adjacent to high voltage electric powerlines and can be operated safely.

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Source: (Purcar and Munteanu, 2009)

The electromagnetic field produced by AC power changes 120 times per second, and metallic structures are subject to the changing electromagnetic field and will exhibit an induced voltage (hence induced AC current) (Rizk and Strike, 2008). The magnitude of such currents depend on many factors such as coating condition, soil composition, power line voltage, and distance, and can cause AC corrosion of the steel and shock hazard to personnel (Rizk and Strike, 2008). Pipelines running parallel to or in close proximity to transmission lines or cables are susceptible to these induced voltages. The inductive influence is the worst in the case of faults, where the induced electromotive forces cause currents circulation on the pipeline and voltages between the surrounding earth, which may result in shock hazards to people or workers touching the pipeline or other metallic structures connected to it (Purcar and Munteanu, 2009).

### **Conductive Coupling**

The current flowing through the grounding electrode produces a potential rise of the electrode and the neighboring soil with related to the remote grounding bed, when a ground fault occurs in an installation (i.e., tower, substation, power plant) (Purcar and Munteanu, 2009). If the pipeline is directly connected to the ground electrode of the transmission

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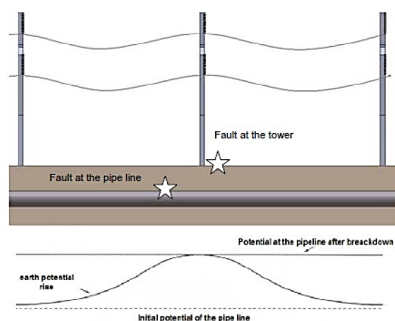
# COMPANIES AND NGOs

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system (i.e inside a power station) or if the pipeline enters the “Zone of influence” of electrical installation, conductive coupling occurs between the nearby pipeline and the electrical installation (Purcar and Munteanu, 2009).



Source: (Purcar and Munteanu, 2009)

With the use of computer models, contributions of each type of interference on pipelines have been studied using various scenarios in order to predict the effectiveness of mitigation techniques (Pharris and Kolpa, 2007). It has been determined that “during normal operating conditions of the electricity transmission system, only inductive voltages are imparted to the pipeline as a result of the magnetic field around the electric current conductors” (Pharris and Kolpa, 2007). The greater the physical separation and the angle between the power conductors and the pipeline, the less interferences exist. The greatest interference is observed when the pipeline is parallel to and directly below the electric transmission system (Pharris and Kolpa, 2007). In addition, interference increases with increasing soil resistivity and also with increasing magnitude and frequency of electric power being transmitted (Pharris and Kolpa, 2007). The Ductile Iron Pipeline Research Association has also determined additional factors that can influence the three mechanisms of

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electromagnetic interference, namely the electrically continuous length of pipeline that is parallel to transmission lines directly above, the nature and strength of the electric power, continuity of the corrosion control coating or other wrapping on the pipe, how well the pipe is electrically insulated from the ground, and construction techniques can also influence the extent of interference (Pharris and Kolpa, 2007).

It is apparent that the FERC in their DEIS has not thoroughly researched and assessed the various risks of pipelines along high voltage transmission lines; especially the fact of increased corrosion in pipelines.

CO89-41

### CONCLUSION

The Blue Ridge Environmental Defense League (BREDL) has worked for over 30 years in both rural and urban communities, knowing that *all* people matter and deserve to live in healthy, safe and clean environments. The intensity at which we are seeing the proposed build out of multiple fracked gas pipelines throughout the Blue Ridge Mountains and mid-Atlantic region threatens the communities and people within our focus area.

The impacts on the land, air and water resources which would occur if this project advances are contrary to the letter and the spirit of the National Environmental Policy Act, which is to prevent or eliminate damage to the environment and the biosphere. The draft of the Environmental Impact Study which we have reviewed in depth does not begin to alleviate the devastating effects that the Mountain Valley Pipeline would have on West Virginia and Virginia. The impacts of this cannot be mitigated.

As clearly stated above, the FERC's DEIS is flawed in many ways; in fact, other organizations and groups have voiced the lack of independent research and documentation. Andrew Downs, who is the Regional Director of Central and Southwest Virginia Appalachian Trail Conservancy, says that the

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CO89-41

The effects of the proposed MVP are discussed throughout section 4 of the EIS. See the response to FA11-2 regarding the adequacy of the draft EIS. The document was not flawed. We conclude that impacts to environmental resources can be mitigated to non-significant levels (except for the clearing of forest).

# COMPANIES AND NGOs

## CO89 – Blue Ridge Environmental Defense League

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“report is flawed, beginning with the front page” and that “he won’t comment on a document that is as inadequate as this.”<sup>38</sup>

In our continued effort to support healthy communities and clean environments, we formally conclude that the Mountain Valley Pipeline Project must be denied a permit for construction and transportation of fossil fuels.

Respectfully submitted,



Carolyn Reilly  
Blue Ridge Environmental Defense League  
www.bredl.org

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<sup>38</sup> <http://wvtf.org/post/ferc-s-pipeline-impact-statement-full-errors-say-environmental-groups#stream/0>

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# COMPANIES AND NGOs

## CO90 – Appalachian Voices

20161222-5412 FERC PDF (Unofficial) 12/22/2016 3:03:12 PM



CO90-1 AppalachianVoices.org  
outreach@appvoices.org

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**CHARLOTTESVILLE**  
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434.293.6373

**KNOXVILLE**  
2507 Mineral Springs Ave.  
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Knoxville, TN 37917  
865.291.0083 ext. 700

**NORTON**  
816 Park Avenue NW  
Norton, VA 24273  
276.679.1691

December 22, 2016

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

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

Dear Secretary Bose:

Appalachian Voices and approximately 2,750 supporters, whose names are attached below, respectfully submit the following comments on the Draft Environmental Impact Statement for the proposed Mountain Valley Project and Equitrans Expansion Project:

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.

CO90-2

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.

CO90-3

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. Among them:

**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.nts.gov/investigations/AccidentReports/Pages/pipeline.aspx>) Moreover,

CO90-1

The Commission would consider public interest and need in its Project Order (see section 1.2.3 of the EIS). The projects do not pose a threat to public health and safety (see section 4.12 of the EIS). The EIS concludes that the projects would not have significant adverse effects on the environment (except for the clearing of forest). Global climate change is discussed in sections 4.11 and 4.13 of the EIS. In fact, if natural gas is used to replace coal in power plants, it may reduce pollution.

CO90-2

The Commission would consider need in its Project Order (see section 1.2.3 of the EIS). We evaluated the use of existing or modified existing infrastructure in section 3.3 of the EIS.

CO90-3

Safety is addressed in section 4.12 of the EIS.





# COMPANIES AND NGOs

## CO90 – Appalachian Voices

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CO90-3 cont'd	studies show a spike in accidents involving new pipelines in recent years. ( <a href="http://ieefa.org/wp-content/uploads/2016/05/Risks-Associated-With-Natural-Gas-Pipeline-Expansion-in-Appalachia-April-2016.2.pdf">http://ieefa.org/wp-content/uploads/2016/05/Risks-Associated-With-Natural-Gas-Pipeline-Expansion-in-Appalachia-April-2016.2.pdf</a> )	
CO90-4	<b>2. Water Quality.</b> 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.	CO90-4 Impacts on water resources is addressed in section 4.3 of the EIS.
CO90-5	<b>3. Climate Change.</b> The DEIS fails to adequately address the greenhouse gas lifecycle of a project that enables an additional 2 bcf/day of natural gas to be shipped and burned. This is not a sufficient analysis of the full climate impacts as required under NEPA.	CO90-5 Climate change and GHG are addressed in sections 4.11 and 4.13 of the EIS.
CO90-6	<b>4. Forest and Habitat.</b> The project will permanently impact thousands of acres of prime forest and farmland and fragment habitats of species listed threatened or endangered. Yet the DEIS waves off these concerns, only saying that FERC will consult with the U.S. Fish & Wildlife Service.	CO90-6 The draft EIS did not “wave off concerns” regarding impacts to forest, rather we concluded that forest impacts would be significant. Forest resources are discussed in sections 4.4 and 4.5 of the EIS. See also the response to comment FA15-5.
CO90-7	<b>5. Air and Noise Pollution.</b> 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.	CO90-7 Air quality is discussed in section 4.11.1 of the EIS. The WVDEP is the delegated permitting agency responsible for compliance with the CAA in West Virginia. All three of Mountain Valley’s proposed compressor stations would be located in West Virginia. No compressor stations are proposed for Montgomery County, Virginia.
CO90-8	<b>6. National Treasures.</b> The pipeline would 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.	CO90-8 Historic resources are discussed in section 4.10 of the EIS. The pipeline would be bored under the Weston and Gauley Bridge Turnpike and ANST, reducing impacts. Descriptions and impact analyses for the BRP and the ANST are discussed in section 4.8 of the EIS, and Jefferson National Forest throughout section 4. The FS is a cooperating agency for the development of this EIS.



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## CO90 – Appalachian Voices

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CO90-9

**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.

For these reasons, we urge you to find that the Mountain Valley Pipeline is not in the public interest and reject its application.

We appreciate the opportunity to provide comments on this project, which stands to have enormous impacts on the Appalachian region.

Sincerely,



Tom Cormons, J.D.  
Executive Director

CO90-9

Socioeconomics and environmental justice are discussed in section 4.9 of the EIS. Safety is addressed in section 4.12 of the EIS.



**COMPANIES AND NGOs**  
**CO91 – Norfolk Southern Railway Company**

CO91-1

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**Mountain Valley Pipeline LLC** ) **Docket No. CP16-10-000**  
**Equitrans LP** ) **Docket No. CP16-13-000**  
 )  
 )

**MOTION TO INTERVENE AND COMMENTS ON  
DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED  
MOUNTAIN VALLEY PROJECT AND EQUITRANS EXPANSION PROJECT**

Pursuant to Rule 214 of the Rules and Practice and Procedures of the Federal Energy Regulatory Commission (“FERC” or the “Commission”), 18 CFR §385.214, and 18 CFR §380.10(a)(1), Norfolk Southern Railway Company (“Norfolk Southern”) moves to intervene in the above-referenced proceedings and submits comments on the proposed Draft Environmental Impact Statement (“Draft EIS”) for the projects proposed by Mountain Valley Pipeline LLC (“MVP”) and Equitrans LP (“Equitrans”) (together, the “Applicants”). As set forth in the application, Applicants plan to construct the proposed Mountain Valley Pipeline Project (“Project”), located in 17 counties in West Virginia and Virginia and comprised of, among other things, an approximately 301-mile, 42-inch-diameter natural gas pipeline (the “Pipeline”).

Norfolk Southern understands that Applicants’ proposed Pipeline would cross Norfolk Southern’s right of way in at least 6 locations and would cross at least two active rail lines at two or more of these locations. The rail lines that would be crossed by the Pipeline are part of Norfolk Southern’s railroad system in interstate commerce, including lines where hazardous materials are transported. Construction of the Pipeline and related facilities will require Applicants and their contractors to access Norfolk Southern’s right of way to conduct construction activities as well as to use and maintain pipeline facilities under operating railroad

CO91-1

The EIS has been updated regarding railway crossing safety. Non-environmental Commission staff will make a determination on whether to grant a party’s out-of-time intervention request.



# COMPANIES AND NGOs

## CO91 – Norfolk Southern Railway Company

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tracks. If not conducted appropriately and with appropriate safety precautions, these activities could impair railroad safety and operations. Norfolk Southern submits these comments seeking conditions in Applicants' certificate of public convenience and necessity ("CPCN") that would commit Applicants to adhere to Norfolk Southern's and Federal Railroad Administration ("FRA") safety-related requirements and procedures.

### **I. MOTION TO INTERVENE**

Norfolk Southern provides safe and efficient rail service for local freight customers over approximately 20,000 miles of track in the eastern US through 22 states and the District of Columbia. Norfolk Southern has almost 3,000 miles of track in Virginia and West Virginia, where this Pipeline is proposed, and in 2015 invested approximately \$243 million in track and facilities improvements in those two states alone. Norfolk Southern owns and uses extensive rights of way surrounding its railroad track system. Norfolk Southern grants pipelines access to railroad right of way if pipeline owners and operators commit, through negotiated access agreements,<sup>1</sup> to comply with the railroad's safety, engineering and operational requirements.

Safety and engineering issues are critical for Norfolk Southern, including compliance with FRA regulations and industry safety standards pertaining thereto. Norfolk Southern has common carrier obligations under federal laws to transport freight for customers upon reasonable request, and the railroad endeavors to ensure that its customers' freight shipments, which often

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<sup>1</sup> Typically, Norfolk Southern grants a license to the pipeline to use the Norfolk Southern right of way and, in addition, right of way entry agreements are executed to give the pipeline and its contractors access to Norfolk Southern property to perform construction work. Entry permits also may be required for pipeline pre-design work on Norfolk Southern property. We refer herein collectively to these and other applicable access agreements as the "right of way agreements."

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## CO91 – Norfolk Southern Railway Company

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include hazardous materials, are safely and efficiently moved from origin to destination and that the facilities it operates are safe.

Although Applicants' original application for the Pipeline did not indicate Class I railroad crossings would be needed (see Resource Report 1, at page 1-7), the Draft EIS specifies the existence of certain railroad crossings. Several of these crossings traverse Norfolk Southern right of way. As a landowner and as a common carrier that is immediately impacted by the Project, Norfolk Southern has a direct stake in the outcome of this proceeding and no other party or person can effectively represent Norfolk Southern's interests in this proceeding. In accordance with the requirements of Commission Rule 214, Norfolk Southern requests that the Commission grant its motion to intervene in this proceeding.

### II. CORRESPONDENCE AND COMMUNICATIONS

Correspondence and communications with respect to this proceeding should be sent to the following persons, who shall also be authorized to receive notice for Norfolk Southern in this docket:

Lorri J. Kleine  
General Counsel  
Norfolk Southern Corporation  
3 Commercial Place  
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### III. COMMENTS

#### A. Natural Gas Pipeline Certification Requires Consideration of Railroad Safety.

The Commission's Policy Statement on certifying new natural gas pipeline construction describes criteria that the Commission applies in deciding whether to authorize and to condition the construction of gas pipeline facilities.<sup>2</sup> After consideration of economic impact on existing customers, the Commission considers whether the applicant has made efforts to eliminate or minimize any adverse effects the project might have on, among other things, the economic interests of landowners and communities affected by the route of the new pipeline.<sup>3</sup> To that end, the Commission reviews the applicant's mitigation efforts and can direct additional mitigation efforts be taken to minimize adverse impacts on landowners such as Norfolk Southern.<sup>4</sup> The Commission does not proceed to the final step of balancing adverse effects on landowners and other interested parties against the economic benefits of the project until efforts have been made to minimize the residual adverse effects on landowners and certain other key interests.<sup>5</sup>

The FERC Policy Statement notes that the objectives of minimizing adverse impacts to landowners include "the avoidance of unnecessary disruption of the environment, and the

<sup>2</sup> *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227 (1999) ("Policy Statement"), *clarified*, 90 FERC ¶ 61,128 (2000), *further clarified*, 92 FERC ¶ 61,094 (2000) ("Clarification Order").

<sup>3</sup> FERC Policy Statement, p. 18; Clarification Order, pp. 1-2.

<sup>4</sup> FERC Policy Statement, p. 18. *See also, id.*, p. 21 ("the Commission's policy objective is to encourage the applicant to minimize the adverse impact on each of the relevant interests [including landowners]").

<sup>5</sup> *Id.*, p. 19.

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unnecessary exercise of eminent domain.”<sup>6</sup> Even though certificated pipelines possess the power of eminent domain, the Commission’s stated policy is to discourage its “unnecessary” use and to encourage consensual efforts to reduce adverse impacts to landowners.

In the Policy Statement, the Commission recognizes that “traditionally, the interests of the landowners ... have been considered synonymous with the environmental impacts of a project,” and therefore, minimization of these impacts is usually considered in the environmental assessment processes.<sup>7</sup> The Policy Statement recognizes further that landowner interests “can be distinct” and “different in character from other environmental issues considered under ... NEPA.”<sup>8</sup> Such is the case with Applicants’ “distinct” impact on Norfolk Southern and railroad safety.

Commission rules and precedent recognize that pipeline projects must not compromise railroad safety and must be constructed in accordance with applicable federal and state safety-related regulations.<sup>9</sup> Railroad safety is a paramount public interest that is highly regulated under federal law, and is not just a private economic interest or environmental interest of a landowner.

In Norfolk Southern’s experience, the installation of pipelines and other utilities is often done by a contractor working for the pipeline or utility company, who may have little to no experience with or knowledge of the safety requirements for working on or near a railroad. For

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<sup>6</sup> *Id.*, p. 2.

<sup>7</sup> *Id.*, p. 23.

<sup>8</sup> *Id.*

<sup>9</sup> See 18 CFR §380.15(b), (d): “The requirements of this paragraph do not affect a project sponsor’s obligations to comply with safety regulations of the U.S. Department of Transportation and recognized safe engineering practices for Natural Gas Act projects ...” Railroad safety is governed under U.S. Department of Transportation regulations. See, e.g., *Paulsboro Nat’l Gas Pipeline Co. LLC*, 156 FERC ¶ 61,159 at P 22 (2016).

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instance, those contractors and their workers would be subject to the Railroad Workplace Safety Rule as published by the Federal Railroad Administration, 49 CFR Part 214, and would need to understand basic railroad safety concepts such as the "foul zone" and the safety requirements when workers and machinery might be within the foul zone. Those contractors also need to be aware of the American Railway Engineering and Maintenance-of-Way Association's standards for pipe, casings, and conduit beneath a railroad, and have an understanding of what those standards actually require. Without coordinating closely with the railroad, pipeline companies and their contractors may have little or no awareness of any of these important safety requirements for working on and near railroad rights of ways.

Likewise, pipeline design and construction within and under railroad rights of ways must consider and accommodate railroad specifications. This is very important for the safe coexistence of both important transportation modes within the same corridor. Absent such considerations, the occupancy of an active railroad corridor by a pipeline could lead to significant danger to public safety and an interruption of critical service to the railroad's customers as well as to the pipeline or utility customers when weather events, accidents, and routine roadbed work occur.

The Commission has recognized that pipelines should negotiate acceptable easements and right of way agreements with railroad companies to accommodate these safety considerations.<sup>10</sup> Given that avoidance of adverse impacts on railroad safety is of paramount public interest, absent an executed agreement between Applicants and Norfolk Southern related to all crossings prior to issuance of the CPCN, the Commission should impose affirmative

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<sup>10</sup> See also *Texas Eastern Transmission, LP*, 141 FERC ¶ 61,043, P 10 (2012) (modifications in final EIS made to route and construction methods to accommodate railroad safety concerns).

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conditions upon Applicants that will ensure their adherence to railroad safety requirements and procedures. Obtaining assurances of adherence to railroad safety requirements and procedures and ensuring coordinated operations during pipeline construction, as well as after construction where and as needed, through negotiated right of way agreements or having them imposed through certificate conditions are appropriate measures to further the Commission's stated objective of minimizing pipelines' resort to use of coercive eminent domain proceedings. Obtaining contractual assurances from Applicants is particularly important to Norfolk Southern relating to this Pipeline, given that the proposed construction project will necessitate coordination with operations on active rail lines in six or more different areas, each of which may have different site-specific concerns.

CO91-2

**B. Norfolk Southern's Safety Requirements and Procedures Are Necessary.**

Norfolk Southern's extensive rail system is crossed by many natural gas, petroleum, oil, and other types of pipelines and utilities. As a railroad subject to federal rail safety standards and as a common carrier obligated to provide the safe and efficient transport of its customers' freight, Norfolk Southern requires that pipelines seeking access to Norfolk Southern's right of way affirmatively and contractually commit to adherence with both generally applicable safety requirements and procedures and locally tailored safety and operational requirements and protocols as deemed warranted by the railroad. Norfolk Southern's long-practiced policy is to negotiate and execute right of way agreements and licenses that incorporate binding safety-related contractual obligations upon pipeline owners, operators, and their contractors. Absent such binding agreements, Norfolk Southern lacks necessary and dependable assurances to meet its rail safety and common carrier obligations.

CO91-2

The comments regarding the importance of coordination and safety standards for pipeline crossing are noted.



# COMPANIES AND NGOs

## CO91 – Norfolk Southern Railway Company

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CO91-2  
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Norfolk Southern does not generally oppose pipeline crossings of railroad property, provided that the crossings and the construction relating thereto do not jeopardize rail and workplace safety and do not impair Norfolk Southern's ability to comply with applicable FRA regulations and applicable industry standards and to carry out its common carrier obligations. To that end, Norfolk Southern maintains policies and procedures for coordinating and regulating pipeline construction in a manner that does not compromise railroad safety or common carrier operations. This process is posted on Norfolk Southern's public website, and includes information on the application process, application forms, contact information, and design and engineering specifications both as to pipeline occupancies and as to wire, conduit, and cable occupancies.<sup>11</sup> For pipelines, the Specifications for Pipeline Occupancy of Norfolk Southern Corporation Property ("Safety Specifications"), which have been consistent in form and substance since 2001, provide detailed information on design, construction, and structural integrity requirements, among other things.<sup>12</sup> Norfolk Southern's safety policies are designed to ensure compliance with applicable FRA regulations and general industry safety practices and to ensure the safety and stability of railroad operations, as well as to establish a detailed framework under which the pipeline and its contractors acknowledge and understand their safety obligations.

Using this process, Norfolk Southern regularly negotiates specific right of way agreements and licenses for pipeline owners, operators, and their contractors, and the right of

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<sup>11</sup> See <http://www.nscorp.com/content/nscorp/en/real-estate/norfolk-southern-services/wire-pipeline-fiber-optic-projects.html>.

<sup>12</sup> The Specifications for Pipeline Occupancy of Norfolk Southern Corporation Property is included in Appendix A.

# COMPANIES AND NGOs

## CO91 – Norfolk Southern Railway Company

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CO91-2  
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way agreements and licenses incorporate these generally applicable Safety Specifications. These steps enable Norfolk Southern to safely and reliably coordinate third party construction activities and future use of the right of way with on-going railroad operations. Often, Norfolk Southern tailors specific safety requirements and procedures for individual pipelines and individual pipeline crossings in order to address local and site-specific safety and operational issues and requirements.

Adherence by pipelines and their employees and contractors to the Safety Specifications is necessary to ensure that Norfolk Southern's operations comply with FRA regulations and industry practices that protect the integrity of track structure and the safety of Norfolk Southern employees and contractors. Pipeline construction involving the laying of new pipe and the removal of old pipe typically involves extensive open-cut boring or drilling. These activities present known safety hazards and require extensive coordination and precautions to enable construction activities to proceed without interruption of safe and reliable rail service. Norfolk Southern's Safety Specifications and the right of way agreements ensure that pipeline construction crews fully understand how their actions affect rail safety and how to comply with appropriate safety procedures. In addition, the Safety Specifications address the necessity of close coordination between Norfolk Southern and pipeline construction crews.

Norfolk Southern recognizes that certificated pipelines may have the legal authority to commence eminent domain proceedings to secure access to railroad right of way, but, even in those circumstances, Norfolk Southern would seek appropriate safety conditions and

# COMPANIES AND NGOs

## CO91 – Norfolk Southern Railway Company

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CO91-2  
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commitments from the pipelines through judicial process.<sup>13</sup> Norfolk Southern strongly prefers consensual resolution of safety-related commitments from pipelines to coercive resolution through eminent domain.<sup>14</sup>

CO91-3

**C. Applicants' Certificate Should Not Be Approved without Safety-Related Conditions.**

The Draft EIS contains a variety of references to generalized construction and access processes and protocols within or under railroad rights of way. While Norfolk Southern appreciates that the Commission acknowledges that pipeline construction and operation for this Project within or near railroad rights of way will require special precautions, those precautions and processes may need to be separately tailored for each crossing, as explained in these comments. Accordingly, an appropriate license or right of way agreement that contemplates those site-specific considerations needs to be negotiated for each such crossing.

Applicants are aware of the Norfolk Southern license and right of way agreement process, and have begun discussions in accordance therewith for certain of the locations where the Pipeline is anticipated to cross Norfolk Southern right of way. However, in the event those discussions do not conclude with executed licenses and right of way agreements as deemed necessary by Norfolk Southern for all Norfolk Southern railroad right of way crossings prior to

<sup>13</sup> See e.g., *Texas Eastern Transmission, LP*, 141 FERC ¶ 61,043, P 10 n.10 (2012) (railroad's safety-related measures were appropriately imposed on pipeline through an eminent domain court order requiring a pipeline to comply with that railroad's safety policies).

<sup>14</sup> Federal law also governs railroad operations and certain conflicting requirements are preempted as applied to rail facilities operating in interstate commerce under the Interstate Commerce Commission Termination Act of 1995 ("ICCTA"), 49 U.S.C. §10501, and Federal Railway Safety Act of 1970 ("FRSA"), 49 U.S.C. § 20101. Norfolk Southern does not waive and expressly preserves any claims or defenses related to such ICCTA or FRSA preemption related to any such eminent domain actions or other actions of the Commission.

CO91-3 The EIS has been updated regarding railway crossing safety and railway company coordination.

# COMPANIES AND NGOs

## CO91 – Norfolk Southern Railway Company

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CO91-3  
cont'd

the Commission issuing a CPCN, that CPCN should be conditioned on satisfactory conclusion and execution of such agreements for all such crossings.

Given the paramount public interest in railroad safety and consistent with the Commission's policy that certificate applicants minimize adverse impacts to landowners, the Commission should impose as a condition of Applicants' CPCN that Applicants and their contractors must adhere to Norfolk Southern's rail safety requirements and procedures, including applicable FRA regulations, applicable industry standards, Norfolk Southern's Safety Specifications, and any necessary site-specific safety-related protocols. Absent either contractual commitments being assumed by Applicants or a condition in the CPCN enforcing safety commitments, Norfolk Southern will lack the assurances that its railroad operations can be safely and reliably performed. In order to avoid unneeded exercise of eminent domain – a stated objective of the Commission in its Policy Statement – and to ensure no impairment of railroad safety, imposing the following condition on Applicants' CPCN is in the public interest and would not detract from, and indeed would add to, the public benefits accruing from approval of the Pipeline:

Applicants must comply with all applicable FRA safety-related regulations, all applicable industry standards, Norfolk Southern's Specifications for Pipeline Occupancy of Norfolk Southern Corporation Property, and all safety requirements expressly identified by Norfolk Southern in the pipeline crossing application process. Applicants specifically agree to (1) install and operate the pipeline in such a manner that will not jeopardize the safety and support of the roadbed and railroad tracks and in conformance with the Safety Specifications and other railroad safety requirements as set forth in an agreement mutually agreed between the railroad and the Applicants, (2) coordinate construction activities with Norfolk Southern to ensure that appropriate safety measures, including without limitation flag protection, will be available where required, (3) comply with a contingency plan for the inadvertent release of hazardous materials, including oils, or non-hazardous materials, including drilling fluid, during construction and/or operation of the

# COMPANIES AND NGOs

## CO91 – Norfolk Southern Railway Company

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CO91-3  
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Pipeline, (4) reimburse Norfolk Southern for any reasonable costs that Norfolk Southern will incur in locating or relocating communications and signals or other railroad equipment, including without limitation flashing warning signals, as Norfolk Southern deems necessary to safely accommodate the Pipeline, and for any damage to roadbed and track caused by construction or operation of the Pipeline, and (5) maintain any construction areas within the railroad right of way to be free from potential hazards.

In the alternative, either as a precondition to Commission approval of the certificate or as a precondition to Applicants' commencement of construction of the new pipeline under a certificate, Applicants should be directed to negotiate in good faith with Norfolk Southern regarding safety-related requirements and procedures and, if agreement on safety-related commitments cannot be reached, Applicants must demonstrate to the Commission (i) that they reasonably did not reach agreement with Norfolk Southern on safety-related commitments in a right of way agreement and license, (ii) that they provide alternative assurances of their and their contractors' compliance with FRA and any other applicable federal, state, or local safety regulations or applicable industry safety standards under the terms of their rights to access Norfolk Southern rights of way, and (iii) that Applicants and their contractors will take all necessary actions and ensure effective coordination with Norfolk Southern so as not to impair in any way the safe and reliable operation of the Norfolk Southern rail system during Applicants' construction and operation of the Pipeline.

These requested alternative railroad safety-related conditions of Applicants' certificate are consistent with the Commission's Policy Statement, which requires minimization of public safety risks and therefore minimization of disruptions to common carrier rail service during new construction and operation of a certificated pipeline.

CO91-3  
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**D. Applicants' Certificate Should Be Conditioned upon Indemnification for any Environmental Remediation Obligation Arising out of Pipeline Construction and Operation**

Norfolk Southern requests that Applicants' certificate also be conditioned upon its indemnification of Norfolk Southern for any environmental remediation obligation arising out of or incident to Applicants' construction or operation of the Pipeline on or near Norfolk Southern's right of way. During construction of the proposed new pipe, boring, drilling, and other invasive construction activities could disturb the land and cause the release of drilling fluids, chemicals, oils, or other hazardous materials or cause a need for containment of previously undisturbed, in-situ chemicals and other materials. Any such adverse environmental impact should be the responsibility of Applicants and not of Norfolk Southern as the owner of the railroad right of way. Indemnification of Norfolk Southern is especially appropriate here where Applicants' construction project entails a new pipeline.

Accordingly, Norfolk Southern requests that the following condition be added to Applicants' certificate:

Applicants shall indemnify Norfolk Southern for any environmental remediation obligation arising out of or incident to Applicants' construction or operation of the Pipeline on or near Norfolk Southern's right of way.

**IV. CONCLUSION**

For the reasons stated herein, Norfolk Southern respectfully requests that the Commission condition approval of Applicants' certificate upon Applicants' and their contractors' adherence to safety-related requirements and procedures needed to avoid compromising the safe and reliable operation of Norfolk Southern's rail system. The Commission also should condition Applicants' certificate by requiring its indemnification of Norfolk Southern for environmental



# COMPANIES AND NGOs

## CO91 – Norfolk Southern Railway Company

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CO91-3  
cont'd

remediation obligations arising out of or incident to Applicants' construction or operation of the  
Pipeline on or near Norfolk Southern's right of way.

December 22, 2016

Respectfully submitted,

/s/ Helen M. Hart

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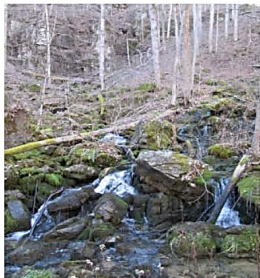
# COMPANIES AND NGOs

## CO92 – Preserve Montgomery County

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CO92-1

**Preserve  
Montgomery  
County VA**



Preserve Montgomery County VA  
PO Box 10623  
Blacksburg, VA 24062

December 22, 2016

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

**RE: Request to withdraw the DEIS**

Dear Ms. Bose, Members of the Commission,

Preserve Montgomery County VA (PMCVA) is submitting this letter to provide a list of documents submitted by Dr. Carl Zipper, Ph.D. PMCVA believes the DEIS lacks adequate information and analysis to provide the decision makers and the public with the information necessary to make an informed decision.

Draft environmental impact statements shall be prepared in accordance with the scope decided upon in the scoping process. The lead agency shall work with the cooperating agencies and shall obtain comments as required in part 1503 of this chapter. The draft statement must fulfill and satisfy to the fullest extent possible the requirements established for final statements in section 102(2)(C) of the Act. If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion. The agency shall make every effort to disclose and discuss at appropriate points in the draft statement all major points of view on the environmental impacts of the alternatives including the proposed action.<sup>1</sup>

<sup>1</sup> 40 C.F.R. section 1502.9(a).

CO92-1

See the response to FA11-2 regarding the adequacy of the draft EIS.

# COMPANIES AND NGOs

## CO92 – Preserve Montgomery County

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CO92-1  
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Dr. Zipper is a Ph.D. scientist who lives in Montgomery County and has published peer-reviewed scientific articles that concern restoration of forest vegetation in previously forested but disturbed areas of the Appalachian Mountains. He has provided meaningful documentation in many areas where both the applicant and the DEIS are deficient. A table of his submissions are provided below.

Submission #	Description
20150202-5048; PF15-3	Community and Cultural Resource Impacts
20150504-5046; PF15-3	Purpose and Need not justifiable
20150416-5050; PF15-3	Applicant claims ignorance of other planned pipelines; consideration of cumulative impacts is essential to FERC's mission
20151125-5156	Protest of the issuance of the Certificate of Convenience and Necessity
20160512-5183	No abandonment plan following cessation of operations
20161121-5045	Second Pipeline Foreseeable and the DEIS has failed to consider these adverse effects
20161121-5048	DEIS fails to consider reasonable Alternatives
20161121-5049	Visual resources evaluation is not adequate
20161121-5051	Forest Resources adversely effected and not minimized
20161201-5078	Migratory Bird Plan & Exotic and Invasive Species Control Plans are inadequate
20161213-5106	Visual impact methodology for Key Observation Points is flawed
20161221- 5134	Excess rock, soil, and organic debris Management Plans are Deficient
20161222-waiting assignment	Four Proposed Amendments to the JNF Forest Plan should be rejected

# COMPANIES AND NGOs

## CO93 – Virginia River Healers

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CO93-1	<p>Virginia River Healers, Richmond, VA. Federal Energy Regulatory Commission Secretary Bose,</p> <p>As a spokesperson for the Virginia River Healers, I am submitting comment on the DEIS for the Mountain Valley pipeline, Docket CP16-10-000.</p> <p>The FERC DEIS for the Mountain Valley Pipeline fails to recognize many irreparable threats to the environmental security of Virginians and without proper research and assessment breaches numerous federal regulatory requirements that protect citizens and our environmental rights.</p> <p>1. NEPA process requires that FERC must complete an Environmental Impact Statement (EIS) that thoroughly investigates all environmental impacts the Mountain Valley Pipeline would cause and fully assess the need for the project that includes reasonable alternatives to the project. I demand that such an assessment be conducted to the legitimacy of the NEPA process. FERC's current Draft Environmental Impact Statement grossly dismisses the irreparable harm the MVP would cause and in doing so directly compromises the health of all Virginians and the long term security of our environmental rights.</p>	CO93-1	See the response to FA11-2 regarding the adequacy of the draft EIS.
CO93-2	<p>-The DEIS does not address the immediate or long term threat this pipeline proposes to our water security.</p>	CO93-2	Water resources are discussed in detail in section 4.3 of the EIS.
CO93-3	<p>-The DEIS does not fully assess the damage to water quality the pipeline would create. The pipeline would cross more than 1,000 waterways and wetlands.</p>	CO93-3	Water resources and wetlands are discussed in detail in section 4.3 and appendices F and G of the EIS.
CO93-4	<p>-The DEIS completely dismisses the "upstream" damage that the pipeline could trigger via expanded fracking and gas infrastructure, given the 2 billion cubic feet per day of added capacity the project would create.</p>	CO93-4	The FERC does not regulate the exploration or production of natural gas; that is the purview of individual states (see section 1.3 of the EIS).
CO93-5	<p>2. The draft EIS doesn't mention cumulative impacts such as climate change. The EPA recommends that FERC addresses cumulative impacts such as climate change. Addressing the cumulative impacts of life-cycle greenhouse gas emissions the pipeline would trigger is a required part of the NEPA process.</p>	CO93-5	Climate change and cumulative impacts are discussed in sections 4.11 and 4.13 of the EIS.
CO93-6	<p>3. FERC must assess the need for the pipeline in a thorough environmental impact statement. Studies show that current energy demand can be met by existing infrastructure. We don't even need the Mountain Valley pipeline. If the need for the Mountain Valley Pipeline is not properly assessed, FERC will be violating the NEPA process and our environmental rights.</p>	CO93-6	The Commission would consider need in its Project Order (see section 1.2.3 of the EIS).
CO93-7	<p>4. I oppose the amendments proposed to the Jefferson National Forest and its Forest Management Plan. The amendments will weaken existing protections on public land so that the Mountain Valley Pipeline can be built. The Forest Service has the legal power and responsibility to tell FERC that the MVP cannot go through the National Forest. The Forest Management Plan should be upheld and not amended to sacrifice the health of the Jefferson National Forest.</p>	CO93-7	See the response to comment FA10-1 regarding Amendments 2, 3, and 4.

# COMPANIES AND NGOs

## CO93 – Virginia River Healers

20161222-5466 FERC PDF (Unofficial) 12/22/2016 4:38:18 PM

CO93-8 | In solidarity with many others, I urge you 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.

Thomas Burkett  
Spokesperson for the Virginia River Healers

CO93-8 | The reasons the FERC did not prepare a programmatic NEPA document are explained in section 1.3.

# COMPANIES AND NGOs

## CO94 – Greenbrier River Watershed Association

20161222-5468 FERC PDF (Unofficial) 12/22/2016 4:48:10 PM

CO94-1

Leslee McCarty, Lewisburg, WV.  
I am commenting today for the Greenbrier River Watershed Association, PO Box 1419, Lewisburg, West Virginia and for myself as a member of the Association. At our meeting last night we were made aware of a report by the West Virginia Division of Natural Resources called, the Greater Greenbrier Conservation Focus Area Draft Plan, part of the West Virginia Wildlife Action Plan. This plan will be a most useful document for anyone attempting to determine environmental impacts of any construction activities in the Greenbrier River Watershed. For example, the report states:

### "Wildlife

The Greenbrier Valley is recognized as a globally significant center of cave endemism and is one of the six most endemic-rich karst regions in North America. Well over one thousand caves are known, with nine caves supporting single cave endemics and 41 SGCN cave invertebrates overall. Organ Cave supports more known cave invertebrate species endemic to a single cave than any other cave in the state. Caves in the CFA also support important rare bat populations, and the world's entire populations of the the Greenbrier Cave Crayfish (*Cambarus nerterius*), West Virginia Spring Salamander (*Gyrinophilus subterraneus*), and other cave restricted invertebrates.

A substantial statewide portion of several stream habitats occur in this CFA, including about 40% of all moderate gradient, cold headwater streams. Surface streams support significant rare mussel populations including the largest known population of the Green Floater (*Lasmigona subviridis*) in West Virginia (and is also the largest segment of the Ohio Basin metapopulation); the regionally endemic New River Crayfish (*Cambarus chasmodactylus*); Eastern Hellbender (*Cryptobranchius alleganiensis*); and eight of the ten fish species recognized as endemic to the New River Basin. One of two known global populations of a newly discovered crayfish, the Meadow River Mudbug (*Cambarus pauleyi*), also occurs here. The federally listed shrub Virginia Spiraea (*Spiraea virginiana*) also occurs in riparian areas.

Dry Oak-Pine and Dry-Mesic Oak Forests in the CFA's eastern valleys and ridges and embedded Shale Barren patches support one of the largest and most diverse assemblages of the regionally endemic shale barren flora, including the federally listed Shale Barren Rockcress (*Arabis serotina*) and globally rare Nodding Wild Onion (*Allium oxiphilum*), a critically imperiled Appalachian population of Grizzled Skipper (*Pyrgus wyandot*, which may survive in West Virginia only here), and globally significant populations of Box Huckleberry (*Gaylussacia brachycera*) and Swordleaf Phlox (*Phlox buckleyi*).

A considerable portion of the state's Calcareous Cliffs and Talus and Dry Calcareous Forests,

CO94-1

Vegetation, wildlife, fisheries and aquatic resources, and threatened, endangered and other special status species are discussed in sections 4.4, 4.5, 4.6, and 4.7 of the EIS. Federally listed species are also discussed in our BA.



# COMPANIES AND NGOs

## CO94 – Greenbrier River Watershed Association

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CO94-2	Woodlands, and Glades habitats occur here, supporting three new species of locally endemic land snails, globally imperiled Tall Larkspur ( <i>Delphinium exaltatum</i> ), and other rare plants. The significant mix of forest interior, forest successional, and grassland habitats support 51 SGCN birds.	CO94-2	Forest interiors and birds are discussed in sections 4.4 and 4.5 of the EIS.
CO94-3	Intact forest blocks support many forest interior breeding birds, including Broad-winged Hawk ( <i>Buteo platypterus</i> ), Wood Thrush ( <i>Hylocichla mustelina</i> ), Cerulean Warbler ( <i>Setophaga cerulea</i> ), Worm-eating Warbler ( <i>Helmitheros vermivorum</i> ), and Eastern Whip-poor-will ( <i>Antrostomus vociferous</i> ), plus Timber Rattlesnake ( <i>Crotalus horridus</i> ), and the federally listed orchid, Small Whorled Pogonia ( <i>Isotria medeoloides</i> ).	CO94-3	Forest interior and migratory birds are discussed in section 4.5 of the EIS.
CO94-4	Early successional forest habitats support the highest densities of remaining Golden-winged Warbler and are critical to the species' continued presence in West Virginia. Grasslands associated with karst topography are among the most extensive in West Virginia and important in the state for the Loggerhead Shrike ( <i>Lanius ludovicianus</i> ), as well as Eastern Meadowlark ( <i>Sturnella magna</i> ), and Grasshopper ( <i>Ammodramus savannarum</i> ), Vesper ( <i>Poocetes gramineus</i> ) and Henslow's sparrows ( <i>Ammodramus henslowii</i> ).	CO94-4	Early successional forest habitat would result from natural regeneration of tree saplings within the restored temporary easement in formerly forested areas.
CO94-5	Conservation Objective for the Greater Greenbrier Conservation Focus Area The Greater Greenbrier Conservation Focus Area Plan is an extension of the State Wildlife Action Plan. While it is driven by local issues, the overarching goals remain the same. These include 1. Halt the decline of at-risk species and thus avoid the need for federal listing as threatened or endangered, 2. Assist with the recovery of federally listed species, 3. Keep the common species common, 4. Conserve the full array of habitat types and biological diversity in the state. The WVDNR will develop relationships with conservation partners and key stakeholders to support and promote natural resource stewardship and guide efforts that protect, restore, enhance, and otherwise benefit natural communities and processes. Only through collaboration with agency partners, non-governmental organizations, and the public can threats to Species of Greatest Conservation Need, key habitats, and unique communities be addressed."	CO94-5	Wildlife, fisheries and aquatic resources, and threatened, endangered and other special status species are discussed in sections 4.4, 4.5, 4.6, and 4.7 of the EIS. Federally listed species are also discussed in our BA. The WVDNR is a cooperating agency for the development of this EIS and has been involved in its development.
CO94-6	The report is very comprehensive in naming species of concern, and we strongly suggest that FERC staff familiarize themselves with it.	CO94-6	Threatened, endangered and other special status species are discussed in section 4.7 of the EIS and in more detail in our BA.
CO94-7	The Greenbrier River Watershed Association strongly supports the comments of WV Rivers Coalition on the MVP DEIS and further supports calls for a New DEIS on MVP, as the current product is so deficient.	CO94-7	See the response to FA11-2 regarding the adequacy of the draft EIS.
CO94-8	We are posting the report to our website at <a href="http://www.greenbrier.org">www.greenbrier.org</a> in case you have trouble locating it. I was not able to post the pdf here as part of my comments.	CO94-8	Comment noted.

# COMPANIES AND NGOs

## CO95 – Trout Unlimited

20161222-5487 FERC PDF (Unofficial) 12/22/2016 4:05:04 PM



CO95-1

December 22, 2016

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

**RE: Trout Unlimited comments regarding Draft Environmental Impact Statement on the Mountain Valley Project and Equitrans Expansion Project (FERC Docket # CP16-10 and CP16-13)**

Secretary Bose:

On behalf of Trout Unlimited and the West Virginia and Virginia councils of Trout Unlimited ("Trout Unlimited"), we offer these comments regarding the draft Environmental Impact Statement on the Mountain Valley Project and Equitrans Expansion Project issued by the Federal Energy Regulatory Commission on September 16, 2016.

Trout Unlimited, representing 150,000 anglers nationally and more than 6,000 in West Virginia and Virginia, works to conserve, protect, and restore North America's trout and salmon habitat, with a goal of rebuilding naturally sustainable fisheries. We protect high-quality headwater spawning habitat, reconnect tributaries with healthy rivers downstream, and restore stretches damaged by development so that they can once again harbor thriving trout and salmon populations. Ours is a comprehensive, science-based approach that involves identifying the most promising opportunities to conserve important coldwater resources.

These comments will focus on the proposed projects' potential to degrade a number of West Virginia and Virginia trout streams, and recommend mitigation measures to limit these impacts.

As the Commission notes in its draft EIS (sections 4.3.2.2 and 4.6.2), construction of the pipeline could have a significant impact on streams, wetlands and the fisheries

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Conserving, protecting, and restoring North America's coldwater fisheries  
(856) 834-6591 | email: [dkinney@tu.org](mailto:dkinney@tu.org) | <http://www.tu.org>

CO95-1

Water resources and fisheries, including trout, are discussed in sections 4.3 and 4.6 of the EIS, respectively.

# COMPANIES AND NGOs

## CO95 – Trout Unlimited

20161222-5487 FERC PDF (Unofficial) 12/22/2016 4:05:04 PM

CO95-1  
cont'd

they support in an area of the Appalachians that is home to robust, intact populations of wild and native brook trout.

Sedimentation can smother prime trout spawning habitat with silt and hamper fish egg development. High turbidity can cloud the water, and cause stress and reduced feeding in trout. Stream crossing construction can damage riparian habitat, strip away protective buffers, destabilize streambanks, and alter streambeds. Construction spills can do direct harm to trout, and water withdrawals and discharges can harm aquatic species by reducing stream flows or degrading water quality.

Given this list of potential harms, we ask that the Commission pay special attention to the effects of the Applicant's proposal on the coldwater resources of West Virginia and Virginia.

CO95-2

*Stream Crossings*

Among the 1,021 waterbody crossings required for these projects, a number would ford high-value trout streams and/or their tributaries.

These include the Left Fork Holly River, Hominy Creek, Meadow Creek, and Kimballton Branch in West Virginia, and Stony Creek, Little Stony Creek, Sinking Creek, Greenbrier Branch, Mill Creek, the North Fork Roanoke River, Bottom Creek, and the North Fork Blackwater in Virginia (Appendix F-5). Sixteen are home to wild trout. One, the Left Fork Holly River, is on the National Rivers Inventory of free-flowing rivers of remarkable natural or cultural values (4.3.2.1).

We at Trout Unlimited have previously relayed to the Applicant our concerns about the potential impact of the projects on these coldwater resources. We have requested site-specific plans for each of these crossings in order to be assured that construction of this pipeline would not degrade water quality in the short or long terms. We have not seen these plans, which would, at a minimum, describe which type of open-cut dry-ditch method would be used, show the alignment of the crossing, and locate temporary work spaces. Before issuing an EIS, the Commission should request these plans, release them to the public, and study them to ensure the suitability of the crossings.

CO95-3

The Commission has requested the Applicant assess the effects of its major stream crossings on sedimentation levels and turbidity, and evaluate the resulting impact on water quality and aquatic life (FERC EIR dated March 31, 2016). Despite the Applicant's reply that this is "highly dependent upon an individual waterbody's site-specific characteristics" and that many of these variables are unknown, we recommend that the Applicant also provide this modeling on the coldwater resources in question.

CO95-2

Mountain Valley's proposed stream crossing method is listed in appendix F of the EIS. Alignment sheets for the MVP, which Mountain Valley has filed and show crossing alignment, are available on our website under docket number CP16-10-000.

CO95-3

See the response to comment FA11-15 regarding sedimentation and turbidity modeling.

# COMPANIES AND NGOs

## CO95 – Trout Unlimited

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CO95-4	<p>On one of the wild trout streams in question, Bottom Creek, a 2.2-mile stretch is classified as Tier III (Exceptional State Water) by Virginia. The creek's tributaries are designated Wild Trout Streams. The proposed pipeline would cross Bottom Creek three miles upstream of this stretch, and would also cross a number of tributaries (section 4.3.2.1). The Commission should consider the cumulative effect of these multiple crossings and the potential for downstream impacts on the Tier III section. The Applicant should be required to provide more detail about what construction procedures it will follow while crossing this watershed to ensure compliance with Virginia's anti-degradation requirements for Tier III waters.</p>	CO95-4	<p>Bottom Creek is discussed in sections 4.3 and 4.6 of the EIS. Cumulative effects are discussed in section 4.13 of the EIS. Waterbody crossing methods are discussed in section 2.4 of the EIS. Mountain Valley would be required to adhere to its proposed waterbody mitigation procedures, including any requirements resulting from VADEQ or COE CWA permitting.</p>
CO95-5	<p>The Applicant proposes 50-foot setbacks for additional temporary work spaces (ATWS) necessary for waterbody and wetland crossings (sections 2.4.2.10 and 2.4.2.11). In a number of cases—Left Fork Holly Creek, Hominy Creek, Stony Creek, Little Stony Creek, Mill Creek, North Fork Roanoke River, North Fork Blackwater—these work areas are proposed <i>within</i> 50 feet of a trout stream (Appendix D-3). To protect against damage to these waters in the path of the proposed pipeline, we recommend that the Commission require setbacks of 150 feet from the streams classified as B2 in West Virginia and WT in Virginia. We note that this would match the setbacks the Applicant has already agreed to follow within another sensitive area, the Jefferson National Forest (section 4.3.2.1).</p>	CO95-5	<p>Based on site-specific conditions and crossing requirements, sometimes additional temporary extra workspace is needed within 50 feet of a stream. As noted in section 4.3.2 of the EIS, we have reviewed these type of variations to our procedures and find them acceptable.</p>
CO95-6	<p>When crossing wild trout streams, construction should not be conducted between September 15 and March 31 in West Virginia, and between October 1 and March 31 in Virginia, as required by state regulations. The Applicant reports that it may request waivers to sidestep this restriction, and that it may conduct in-stream work "if all reasonable measures are taken to minimize turbidity and sedimentation downstream" (Applicant's <i>Erosion and Sediment Control Plan</i> for West Virginia, submitted on February 26, 2016, page 6). We strongly recommend that such waiver requests be declined. We also recommend that the Commission extend the seasonal restrictions to include work on the stretches of the pipeline that run parallel to these streams, as research shows that disturbances during spawning season can have a detrimental effect on populations of naturally reproducing trout.</p>	CO95-6	<p>Seasonal instream work windows are listed in section 4.6 of the EIS.</p>
CO95-7	<p>Finally, we recommend that the Commission seek site-specific restoration plans for each crossing of these trout streams to ensure that the stream hydrology is returned to its pre-construction condition. In its planning for stream crossings, the Applicant should study and account for each stream's channel stability, scour depth, gradient, pool depth, and other unique characteristics. After completion of construction, the stream bed should have the same contours and slope, the width and depth of the channel should be unchanged, and the stream bottom should be reconstructed using native materials similar to those upstream and downstream. These plans for rebuilding this aquatic habitat should be developed in coordination with appropriate state and federal agencies.</p>	CO95-7	<p>We will not require site-specific restoration plans for each trout stream crossing, but would ensure that Mountain Valley adheres to its listed mitigation procedures through our third-party monitoring plan which is discussed in section 2.4 of the EIS.</p>
CO95-8	<p>We are encouraged that the Applicant, in discussions with the West Virginia Department of Environmental Protection, agreed to pursue "a more natural stream-</p>	CO95-8	<p>We have updated the final EIS regarding natural streambank restoration in Virginia in addition to Mountain Valley's prior commitment to consult with WVDEP regarding natural streambank restoration in West Virginia.</p>

# COMPANIES AND NGOs

## CO95 – Trout Unlimited

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CO95-8  
cont'd | bank restoration in perennial fish-bearing streams to provide pre-construction level habitat” (Responses to FERC EIR dated March 31, 2016, filed by Applicant on April 21, 2016, page 37). We recommend that the Commission seek a commitment from the Applicant to apply these same techniques to the high-value streams of Virginia.

CO95-9 | *Access Roads*

The Applicant proposes to expand or construct a number of access roads in the vicinity of these sensitive streams. We appreciate that the Commission has requested that the Applicant provide site-specific plans for any culverts to be constructed on permanent access roads (section 4.3.2.1). We recommend that these culverts be designed to allow the free movement of aquatic life. The crossings should be 120 percent of the streams’ bankfull width and feature a streambed that matches the upstream and downstream stretches. We also strongly urge the Commission to reject plans to use permanent fill in the construction of access roads in wetlands.

*Erosion, Sedimentation, and Steep Slopes*

CO95-10 | The Mountain Valley project would involve traversing 18.5 miles on slopes of between 15 and 30 percent, and another 72.6 miles on slopes greater than 30 percent (section 2.4.2.16). We appreciate that the Applicant has agreed to use enhanced erosion and sediment controls in areas exceeding 30 percent slope, including wire-reinforced silt fences (or “super silt fences”) and slope breakers (or “interceptor diversions”). However, we recommend that the Commission require these enhanced measures on slopes greater than 15 percent.

CO95-11 | We recommend that the Commission also require the Applicant to employ enhanced sedimentation controls, including super silt fences and compost filter socks, in the vicinity of the trout streams in question. We note that the Applicant has agreed to follow these practices elsewhere at the request of state agencies.

CO95-12 | In addition, the Applicant proposes a 15-foot buffer in areas where the pipeline right-of-way runs parallel to a waterbody (EQT’s 2016 *General Erosion & Sedimentation Control Specification for Virginia*, filed on February 26, 2016, page 20). This narrow a stream buffer is not protective of water quality and aquatic life, and is not sufficient to protect the installed pipeline from even minor stream erosion and meandering over time. We recommend that the Commission require 50-foot buffers between the pipeline and the affected trout streams—and larger buffers on steep slopes.

CO95-13 | *Test Water Discharges*

The Applicant proposes to discharge nearly 2.8 million gallons of hydrostatic testing water into Hominy Creek, and nearly 4.8 million gallons into Sinking Creek and/or New River. Hominy Creek has a Trout Waters designation from West Virginia; Sinking Creek is a Virginia-designated Wild Trout Stream. Given the sensitivity of these

CO95-9 | Our Procedures require that Mountain Valley construct bridges (including culverts) in a manner that does not restrict flow. We conclude that this requirement would also allow for free movement of aquatic life. See section 2.4 of the EIS and our Procedures regarding access roads and bridges/culverts.

CO95-10 | Construction methods when crossing steep slopes are addressed in sections 2 and 4.1 of the EIS.

CO95-11 | We found Mountain Valley’s proposed erosion controls would reduce sedimentation into trout streams.

CO95-12 | The 15-foot riparian buffer is based on standard FERC policy, which was reviewed and updated by the FERC staff in May 2013, see the FERC’s Procedures section V.B.3.c.

CO95-13 | We have updated the EIS regarding hydrostatic discharge into trout waters.

# COMPANIES AND NGOs

## CO95 – Trout Unlimited

20161222-5487 FERC PDF (Unofficial) 12/22/2016 4:05:04 PM

CO95-13  
cont'd

receiving waters, we recommend that the Commission *not* permit these discharges. This, too, would match restrictions the Applicant has agreed to follow within the Jefferson National Forest (section 4.3.2.1). If such discharges are allowed in these waters, however, the Commission should not permit the practice from September 15 through March 31 to protect spawning trout, and should require the Applicant to use dewatering structures and filtration barriers to ensure that discharges do not cause undue sedimentation, turbidity, and rapid water temperature changes.

CO95-14

### *Monitoring*

We recommend that the Commission require the Applicant to collect baseline data for each of the impacted trout streams before construction, and to produce a post-construction monitoring plan for identifying long-term effects. These steps should be required to demonstrate that the projects have not degraded these sensitive trout waters in and along the pipeline right of way.

We thank the Commission for taking these remarks into consideration, and respectfully request that before issuing a final EIS, it seek additional information from the Applicant about what impact the construction of these projects would have on water quality in the high-value trout streams of West Virginia and Virginia. We look forward to discussing these concerns further.

Questions may be directed to David Kinney, Trout Unlimited Mid-Atlantic Policy Director, at 856-834-6591 or dkinney@tu.org.

Sincerely,

**David Kinney**  
*Mid-Atlantic Policy Director*  
*Trout Unlimited*

**Graham Simmerman**  
*Virginia Representative*  
*TU National Leadership Council*

**Kevin Daniels**  
*Chair*  
*Virginia Council of Trout Unlimited*

**Lee Orr**  
*Chair*  
*WV Council of Trout Unlimited*

**Tom Benzing**  
*Conservation Chair*  
*Virginia Council of Trout Unlimited*

**Randy Kesling**  
*Conservation Chair*  
*WV Council of Trout Unlimited*

CO95-14

We conclude that a pre- and post-construction trout stream study is not warranted.

# COMPANIES AND NGOs

## CO96 – Indian Creek Watershed Association

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Indian Creek Watershed Association  
P.O. Box 711  
Union, WV 24983  
[www.IndianCreekWatershedAssociation.org](http://www.IndianCreekWatershedAssociation.org)

December 22, 2016

CO96-1

Ms. Kimberly Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street NE, Room 1A  
Washington, D.C. 20426  
(Via e-filing)

RE: Docket No. CP16-10-000

Dear Ms. Bose,

Indian Creek Watershed Association hereby files the attached supplemental information to Docket CP16-10-000 concerning the springs in the Greenville-Ellison Ridge-Hans Creek area of Monroe County, WV.

Please file in the appropriate manner.

Respectfully submitted,

**Indian Creek Watershed Association Board of Directors**

Judy Azulay, President; Scott Womack, Vice President;  
Howdy Henritz, Treasurer; Nancy Bouldin, Secretary

*Email:* [info@IndianCreekWatershedAssociation.org](mailto:info@IndianCreekWatershedAssociation.org)

CO96-1

Groundwater resources, including springs, are discussed in section 4.3 of the EIS.



# COMPANIES AND NGOs

## CO96 – Indian Creek Watershed Association

20161222-5499 FERC PDF (Unofficial) 12/22/2016 4:17:45 PM

CO96-1  
cont'd

**CC: U.S. Environmental Protection Agency, Region 3**  
Mr. Jon M. Capacasa, Director, Water Protection Division  
Barbara Rudnick, NEPA Team Leader

**US Forest Service—George Washington and Jefferson National Forests**  
Joby Timm, Forest Supervisor  
Jennifer Adams, Special Project Coordinator

**U.S. Army Corps of Engineers, Huntington District**  
Mike Hatten, Regulatory Permits – Energy Resources  
Christopher L. Carson

**West Virginia Department of Environmental Protection**  
Randy Huffman, WVDEP  
Scott Mandirola, Division of Water and Waste Management  
Wilma Reip [401 Certification Program]  
Nancy Dickson [Stormwater Permit]  
Wendy Radcliff

**West Virginia Dept. of Health and Human Resources—Compliance and Enforcement Program**  
Meredith Vance

**West Virginia Department of Natural Resources**  
Robert Fala, Office of Land and Streams  
Danny Bennett

**WV Bureau for Public Health**  
William Toomey, Unit Manager, Source Water Assessment and Wellhead Protection Program  
Environmental Engineering Division

# COMPANIES AND NGOs

## CO97 – Indian Creek Watershed Association

20161222-5513 FERC PDF (Unofficial) 12/22/2016 4:24:17 PM



Indian Creek Watershed Association  
P.O. Box 711  
Union, WV 24983  
[www.IndianCreekWatershedAssociation.org](http://www.IndianCreekWatershedAssociation.org)

December 22, 2016

CO97-1

**RE: Hydrogeological Assessment of Impacts Caused by Constructing the Mountain Valley Gas Pipeline Across the Greenbrier River at Pence Springs, Summers County, West Virginia Docket No. CP16-10-000**

**TO: Ms. Kimberly Bose, Secretary, Federal Energy Regulatory Commission (via e-filing)**

Indian Creek Watershed Association hereby files the following report: "Hydrogeological Assessment of Impacts Caused by Constructing the Mountain Valley Gas Pipeline Across the Greenbrier River at Pence Springs, Summers County, West Virginia" by Pamela C. Dodds, Ph.D., Licensed Professional Geologist.

In preparing the DEIS, the FERC failed to meaningfully address the significant concerns raised in Dr. Dodds' earlier hydrogeological report, which provided a preliminary assessment of impacts caused by construction of the MVP in Monroe and Summers Counties (August 2016, Accession #20160815-5135).

For her further analysis of the impacts on Summers County, Dr. Dodds has selected three representative sites: the Lick Creek Valley, the headwater areas of the Hungard Creek Watershed which originate on Keeney Mountain, and the crossing of the Greenbrier River at Pence Springs (the subject of this report).

These site reports provide exactly the sort of empirical evaluations missing from the materials in the Draft Environmental Impact Statement for the Mountain Valley Pipeline. Dr. Dodds provides sufficient details on geological principles for the reader to fully understand their implications when they are subsequently applied to the particulars of each site. Her reports also make clear the cumulative impacts of stream crossings, excavation, and other construction activities on the accumulating sediments so damaging to the county's water resources.

**The conclusions of this report reinforce our request for (1) detailed, on-the-ground hydrogeological studies, (2) a Revised Environmental Impact Statement for the MVP, and (3) individual 401, 404, and Stormwater permits, rather than general permits.**

**If the FERC does not require such studies, with an opportunity for public comment, we request that the FERC choose the No Action Alternative.**

Respectfully submitted,  
**Indian Creek Watershed Association Board of Directors**  
Judy Azulay, President; Scott Womack, Vice President;  
Howdy Henritz, Treasurer; Nancy Bouldin, Secretary

*Email:* [info@IndianCreekWatershedAssociation.org](mailto:info@IndianCreekWatershedAssociation.org)

CO97-1

See the response to CO34-1 regarding hydrogeologic studies. See the response to FA11-2 regarding the adequacy of the draft EIS. In March 2017, the WVDEQ issued a Water Quality Certificate to Mountain Valley to comply with Section 401 of the CWA.

# COMPANIES AND NGOs

## CO97 – Indian Creek Watershed Association

20161222-5513 FERC PDF (Unofficial) 12/22/2016 4:24:17 PM

CO97-1  
cont'd

**CC:** **U.S. Environmental Protection Agency, Region 3**  
Mr. Jon M. Capacasa, Director, Water Protection Division  
Barbara Rudnick, NEPA Team Leader

**U.S. Army Corps of Engineers, Huntington District**  
Mike Hatten, Regulatory Permits – Energy Resources  
Christopher L. Carson

**West Virginia Department of Environmental Protection**  
Randy Huffman, WVDEP  
Scott Mandirola, Division of Water and Waste Management  
Wilma Reip [401 Certification Program]  
Nancy Dickson [Stormwater Permit]  
Wendy Radcliff

**West Virginia Dept. of Health and Human Resources—Compliance and Enforcement Program**  
Meredith Vance

**West Virginia Department of Natural Resources**  
Robert Fala, Office of Land and Streams  
Danny Bennett

**WV Bureau for Public Health**  
William Toomey, Unit Manager, Source Water Assessment and Wellhead Protection Program  
Environmental Engineering Division

# COMPANIES AND NGOs

## CO98 – Virginia Chapter of the American Fisheries Society



Department of Fish and Wildlife Conservation  
Virginia Tech, Blacksburg, VA 24061  
[ehallerm@vt.edu](mailto:ehallerm@vt.edu) 540-231-3257

22 December 2016

CO98-1

FERC Commissioners,  
c/o Ms. Kimberly Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street NE, Room 1A  
Washington, DC 20426

**Re: The DEIS for the Mountain Valley Pipeline Project Needs Further Analysis**

Dear Commissioners,

In a letter of 23 February 2015, the Virginia Chapter of the American Fisheries Society expressed to you our concern that protection of valuable aquatic resources in Virginia needs to be a primary consideration of your agency as you evaluate the proposals for two massive natural-gas-pipeline projects (The Mountain Valley Pipeline [MVP], and the Atlantic Coast Pipeline) that would cross severe terrain and a multitude of sensitive aquatic habitats in the Commonwealth of Virginia. In that letter, we detailed a series of recommendations relative to how aquatic resources in Virginia could be best protected (see attached).

Some of our members have reviewed the Draft Environmental Impact Statement (DEIS) for the MVP project issued by your agency in September of 2016. We note that while some of the recommendations that we offered were addressed to some extent in the current DEIS, we also note that a number of critical issues remain to be fully analyzed before valid conclusions can be reached about the full potential impacts of the MVP project. We are concerned that the DEIS has already offered the sweeping conclusion that construction and operation of the pipeline “would result in limited adverse environmental impacts, with the exception of impacts on forest,” before some significant data inputs were received and before the pipeline route itself was even finalized. In particular, we call attention to the following issues that hold strong potential for significant impacts on aquatic resources and have yet to be fully evaluated.

1. Detailed explanation and demonstration of how erosion can possibly be prevented on the extremely steep slopes that the MVP proposes to cross. Such detailed analysis was requested by the U.S. Forest Service (USFS), but has yet to be provided by MVP to either USFS or FERC.

CO98-1

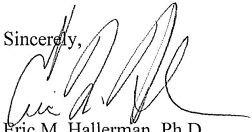
Sedimentation effects and mitigation measures, including consideration of steep slopes, aquatic habitats, and long-term maintenance are discussed in sections 2, 4.1, 4.3, and 4.6 of the EIS.

# COMPANIES AND NGOs

## CO98 – Virginia Chapter of the American Fisheries Society

- CO98-2 | 2. Well-referenced analysis of the potential impacts of inevitable sedimentation from project construction and operation on aquatic organisms, including several endangered freshwater mussels and fish species found in the project area.
- CO98-3 | 3. A thorough explanation and justification of MVP’s sweeping conclusion that all streams should be crossed by open-cut construction, which holds the potential for numerous impacts on aquatic organisms. MVP should be expected to provide a detailed explanation of construction and mitigation methods that will be used to prevent negative impacts on stream organisms.
- CO98-4 | 4. A detailed analysis of the very recent announcement (16 December 2016) that MVP will indeed use herbicides for maintenance of the permanent pipeline right-of-way (ROW), in contradiction to what they have told the public for almost two2 years. Such action will inevitably result in these pesticides winding up in streams that receive ROW runoff, and the potential impacts of these pesticides on local aquatic organisms, including endangered species, needs to be fully evaluated.

CO98-5 | In the interest of conserving the environmental quality of Virginia’s waterways, which play a crucial role in a wide array of ecosystem services that are critical to the well-being and quality of life for Virginians, we ask again that you take all steps necessary to guarantee both through assessment of potential impacts of the MVP project and, if ch project reaches approval, that you require whatever design and mitigation steps necessary to protect these resources that are highly valued by the citizens of Virginia and the USA.

Sincerely,  


Eric M. Hallerman, Ph.D.  
Professor of Fisheries  
Past President, Virginia Chapter of the American Fisheries Society  
Fellow of the American Fisheries Society

CO98-2 | Our BA contains detailed information regarding sedimentation and potential impacts to federally listed aquatic species.

CO98-3 | Methods for waterbody crossings and potential impacts and mitigation for aquatic species are discussed in sections 2.4, 4.3, 4.6, 4.7 of the EIS and within our BA. Individual waterbody crossing information and methods are provided in appendix F of the EIS.

CO98-4 | See the response to CO55-5 regarding herbicides.

CO98-5 | Comment noted.

# COMPANIES AND NGOs

## CO99 – West Virginia Rivers

20161222-5535 FERC PDF (Unofficial) 12/22/2016 4:44:01 PM



CO99-1

December 22, 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

Dear Secretary Bose,

West Virginia Rivers Coalition, along with the organizations signed below, respectfully submit the following comments on the Draft Environmental Impact Statement (DEIS) for the Mountain Valley Pipeline (MVP), Docket No. CP16-10-000.

We found the DEIS lacking of the critical information needed to fully analyze the significant impacts of the project. Due to the lack of adequate information, we are unable to provide a comprehensive analysis of the DEIS. According to a statement made by a FERC representative at the public meeting in Summersville, WV on November 2, 2016, "the DEIS is 80% complete". However, the other 20% is vital to assess the adverse environmental impacts of the project and ensure that the mitigation measures proposed are adequate. Because of this deficiency, we request a revised DEIS to be issued for the proposed project with all the necessary information to meet the requirements of the National Environmental Policy Act (NEPA). Specifically, the regulation explains that "NEPA procedures must ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA."

CO99-2

The gas industry in general, and MVP in particular, consistently display an attitude of arrogance and constantly violate environmental rules and requirements. Even those conditions agreed to by industry go by the wayside when economic conditions encourage, or lax monitoring allow, the company to ignore those requirements. As such, FERC must assume a worst-case scenario as the most probable outcome for any impacts not fully mitigated by enforceable requirements.

CO99-3

Additionally, we request the following to be addressed in the revised DEIS:

Executive Summary

While the intent of the Executive Summary (ES) is to articulate the main findings of the document. We found several statements within the ES to be misleading, contain contradictory information, and use vague generalizations often marginalizing the impacts of the project.

CO99-1

See the response to FA11-2 regarding the adequacy of the draft EIS. We will not be producing a supplemental draft EIS. The final EIS addresses new information and comments on the draft.

CO99-2

The Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the MVP. The FERC would ensure that Mountain Valley adheres to its listed mitigation procedures through our third-party monitoring plan which is discussed in section 2.4 of the EIS.

CO99-3

The ES is not misleading; it summarizes finding in the body of the EIS.

*Conserving and Restoring West Virginia's Exceptional Rivers and Streams*

3501 MACCORKLE AVENUE SE #129 CHARLESTON, WEST VIRGINIA 25304 • 304-637-7201 • WWW.WVRIVERS.ORG

# COMPANIES AND NGOs

## CO99 – West Virginia Rivers

20161222-5535 FERC PDF (Unofficial) 12/22/2016 4:44:01 PM

CO99-4	1. <b>Groundwater, Surface Waterbody Crossings, and Wetlands, page ES-5: The DEIS fails to provide adequate analysis of water resource impacts.</b> The DEIS states, “there will be no net losses of wetlands”; however, on page 4-89 the DEIS states that MVP has not supplied information regarding their proposal to permanently fill 44 wetlands along access roads. This discrepancy must be clarified in the DEIS.	CO99-4	See the response to comment IND209-1 regarding the permanent fill of wetlands.
CO99-5	2. <b>Land Use and Visual Resources, page ES-8: The DEIS fails to adequately address land use impacts.</b> The DEIS states, “Most of the facilities are located in rural areas, some distance from residences. This statement is vague and needs to be more descriptive of the actual impacts. The term “most” should instead be specified as a percentage. “Some distance” should instead be defined by a line-of-sight analysis which lists the number of receptors in the view shed and the number of residents and visitors with line-of-sight impacts from facilities, and disturbed right of way for the MVP. Because tourism is a major employer, the number of visitors impacts must also be addressed. The percentage of aboveground facilities and their distance from residences should not be described with such vague generalizations.	CO99-5	Land use characteristics of the project area are quantified in detail in section 4.8 of the EIS, along with an assessment of visual resources which has been updated as applicable for the final EIS. Tourism is discussed in section 4.9 of the EIS. The distance of compressor stations to nearby houses is explicitly stated in section 4.11.
CO99-6	3. <b>Land Use and Visual Resources, page ES-8: The DEIS fails to adequately analyze visual impacts.</b> The DEIS states, “Visual impacts for the aboveground structures would generally be reduced by topography and vegetation surrounding the sites, which screen the facilities from most viewers.” Visual impacts of aboveground facilities will still be significant in rural areas. Because these rural areas are not industrialized, the impacts will be even more significant. Visual impacts should not be marginalized merely because the area is rural; this statement alludes to larger environmental justice issues in rural areas. The statement should be re-phrased in the DEIS to account for visual impacts in rural areas. The DEIS should suggest that the scale of the impacts is actually greater in rural areas because these impacts so dramatically change the character of those rural areas.	CO99-6	Our visual impacts analyses is contained in section 4.8 of the EIS.
CO99-7	4. <b>Socioeconomics and Transportation, page ES-9: The DEIS fails to adequately analyze Environmental Justice issues.</b> The Environmental Justice analysis is flawed. The DEIS uses county wide poverty rates; however, the proposed route goes through some of the poorest communities in the counties. Using county-level poverty rates skews the data analysis. Instead, demographics should be analyzed by the affected communities along the proposed route.	CO99-7	See section 4.9 of the EIS, where we discuss economic characteristics at the census block level, not just the county level.
CO99-8	5. <b>Socioeconomics and Transportation, page ES-9: The DEIS fails to provide an in depth analysis of Socioeconomics.</b> The DEIS references a study conducted by the industry FERC is tasked with regulating for the effect on property values. “One recent study conducted for the Interstate Natural Gas Association of America found that there was little difference in adjusted sale prices for houses adjacent to a pipeline easement and those further away in the same subdivision.” The DEIS must reference studies conducted by an independent third party before drawing conclusions; referencing a biased report is not a sufficient analysis.	CO99-8	See section 4.9 of the EIS, where we discuss studies other than the INGAA report regarding the impact of pipeline on property values.
CO99-9	6. <b>Air Quality and Noise, page ES-11: The DEIS fails to adequately address air quality and noise impacts.</b> The DEIS states, “Noise from planned or unplanned blowdown events could exceed the noise criteria but would be infrequent and of relatively short duration.” This statement is vague; the frequency of blowdown events based on other compressor station operations should be defined. Additionally, the approximate duration in a measured increment should also be defined. Infrequent loud noises are among the most impacting and can produce significant	CO99-9	Unplanned blowdown events can’t be predicted, but can be accurately characterized as “infrequent and of relatively short duration.” Additional information regarding blowdowns is located in section 4.11.2 of the EIS.

# COMPANIES AND NGOs

## CO99 – West Virginia Rivers

20161222-5535 FERC PDF (Unofficial) 12/22/2016 4:44:01 PM

CO99-9 cont'd	disturbances to quality of life. The DEIS must include mitigation criteria to assure that sensitive receptors such as schools, hospitals and churches are not adversely impacted, and that warnings are issued prior to planned blowdown events. The DEIS should describe the air quality impacts from the EEP as adversely impacting air quality in nonattainment areas of Pennsylvania, and that cumulative impacts would be significant in West Virginia. While individual compressors would not exceed the "Major Source" threshold, these compressors do not have independent utility, and must be considered for their aggregate emissions. The DEIS must also analyze and discuss greenhouse gas emissions as a significant impact. The current draft minimizes only the construction-related impacts as minimal, but fails to address the 48 million tons of greenhouse gases per year from the gas being transported. While later sections indicate that, by replacing coal, the gas emissions may reduce cumulative greenhouse gas emissions, nowhere does the DEIS assess whether the MVP-related emissions are "in place of" or "in addition to" existing emissions in the region.
CO99-10	
CO99-11	
CO99-12	7. <b>Cumulative Impacts, page ES-13: The DEIS fails to adequately analyze cumulative impacts.</b> Cumulative impacts should be assessed for all 12-16 proposed pipeline projects under FERC's jurisdiction. Examining only two other pipeline projects for cumulative impacts is not adequate, all pipelines under FERC's jurisdiction must be assessed for cumulative impacts. Impacts should be assessed on a watershed scale. While MVP claims that their contracts to purchase the gas is evidence of need, there is no analysis of whether this pipeline is needed to deliver that gas. If there is no actual Need for the pipeline, the adverse impacts of the pipeline are not justified.
CO99-13	
CO99-14	<u>2.4.4.2 Post-Approval Variance Process</u> 1. We request that public notice and comment period be included in the procedures used for variance requests involving route realignments, shifting or adding new extra workspaces or staging areas, adding additional access roads, or modifications to construction methods that have not been evaluated in the DEIS.
CO99-15	<u>4.1.1.5 Geologic Hazards</u> 1. <b>Soil Liquefaction, page 4-25: The DEIS fails to adequately analyze the severity and risk posed by soil liquefaction.</b> Table 4.1.1-9 of the DEIS identifies flood zones crossed by MVP where soil liquefaction due to saturated soils is a potential. Recent flooding in WV raises a great concern and has significant potential to compromise the integrity of the pipeline during flooding. The DEIS must analyze the severity of this issue and require the Class 3 pipe with the thickest walls in these flood prone areas.
CO99-16	2. <b>Karst Topography, page 4-35: The DEIS fails to adequately analyze avoidance measures for karst topography.</b> The DEIS identifies 94 karst features within the project area and states, "Construction over karst features could result in damage to natural resources, differential settlement, and pipeline instability. Due to underground stream flow, the potential to inadvertently discharge to groundwater exists." The DEIS must include final route adjustments that avoid karst features.
CO99-17	<u>4.1.2.4 Slopes and Landslide Potential</u>

CO99-10	Air quality including cumulative effects are discussed in sections 4.11.1 and 4.13 of the EIS.
CO99-11	GHG emissions are discussed in section 4.11 and 4.13 of the EIS.
CO99-12	Cumulative impacts are discussed in section 4.13 of the EIS.
CO99-13	The Commission would consider need in its Project Order (see section 1.2.3 of the EIS).
CO99-14	We do not seek public comment prior to our compliance team's review of relatively minor (Level 1 or 2) variance requests, but the public could comment on more significant Level 3 variance requests which must be filed on the FERC docket. All variance approvals are reported in our weekly compliance reports, also filed on the FERC docket, on which the public could comment.
CO99-15	Flooding is discussed in sections 4.1, 4.2, and 4.3 of the EIS; including a reference to recent heavy rainfall events in West Virginia. We conclude that the pipe class designations proposed by Mountain Valley are consistent with DOT requirements.
CO99-16	Section 3.5 of the final EIS has been updated to provide additional information regarding alternatives for crossing the Mount Tabor Sinkhole Plain. The Mount Tabor Variation was adopted by Mountain Valley in October 2016. Section 4.1 of the final EIS has been revised to provide additional details regarding karst features in the project area.
CO99-17	Mountain Valley filed a revised <i>Landslide Mitigation Plan</i> in March 2017. Landslides and mitigation measures are discussed in updated section 4.1 of the final EIS. Factors that could potentially contribute to landslides are provided in appendix N.



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## CO99 – West Virginia Rivers

- CO99-17 (cont'd) | 1. **Mountain Valley Project, page 4-47: The DEIS fails to provide detailed information on landslide mitigation.** Because the revised *Landslide Mitigation Plan* has not been completed and is unavailable for public comment, we request that the Plan be included in a revised DEIS with an additional a 90-day comment period and opportunity for public meetings.
- CO99-18 | 2. **Mountain Valley Project, page 4-47: The DEIS fails to provide adequate information on construction monitoring.** The DEIS states, "Technical experts would be onsite during construction in areas of steep slopes and would be hired based on target skill sets. Mountain Valley would conduct additional analysis of a work area should an inspector document tension cracks, slumping, erosion, or seeps during construction or restoration." With 78% of the pipeline route being highly susceptible to landslides, the DEIS must specify how many technical experts will be hired for each 20-40 mile spread of pipeline to have an expert onsite for each construction area on steep slopes.
- CO99-19 | 3. **Mountain Valley Project, page 4-47: The DEIS fails to adequately identify landslide prevention.** The DEIS must also provide an analysis of how landslides will be prevented along fill slopes. The potential for landslides is a very significant risk to the overall feasibility of the MVP. FERC must not rely on vague assurances from the project applicant, and the DEIS must include independent analyses as to risks of landslides during construction, and risks of landslides over the operational life of the MVP.
- CO99-20 | 4.1.2.5 Karst Terrain  
1. **Mountain Valley Project, page 4-48: The DEIS does not adequately mitigate karst impacts.** The DEIS states, "Mitigation of sinkholes would involve reverse gradient backfilling of the sinkhole to stabilize the sinkhole from collapse." WV Rivers does not agree with this method to mitigate sinkholes. Sinkholes may develop from underground flows or springs. The DEIS should specify a plan for investigating sinkholes to determine if there is flowing water that is associated with the sinkhole. Additional measures may be needed to control the water flow and reroute it to a suitable area to avoid additional erosion.
- CO99-21 | 2. **Mountain Valley Project, page 4-48: The DEIS does not adequately identify erosion controls for karst terrain.** The DEIS list BMPs associated with the *Karst-specific Erosion and Sediment Control Plan*. The BMPs listed are either already required sediment and erosion control measures, such as placing BMPs around staging areas, or do not provide adequate protection, such as placing straw bales upslope of karst features. Straw bales are not a suitable form of erosion control. Additional measures above and beyond those already required must be defined to address sediment and erosion control specifically for karst features. If additional measures cannot be identified that minimize impacts, then karst features should be avoided.
- CO99-22 | 4.2.2.1 Soil Limitations  
1. **Erosion Potential, page 4-65: The DEIS does not adequately address erosion controls.** The DEIS states that MVP would follow BMPs to prevent soil erosion. In table 4.2.1-1 over 5,000 acres have an erosion hazard criteria as severe or very severe; however, the BMPs listed are standard erosion control measures for any soil type. Straw bales are not considered adequate erosion

- CO99-18 | Section 4.1.2 of the EIS states that "Mountain Valley would employ geotechnical inspectors who would conduct *daily* (emphasis added) inspections during construction in areas of potential subsidence or landslide concern." Mountain Valley would be required to employ the number of geotechnical needed to fulfil their commitment and our monitoring team would ensure compliance.
- CO99-19 | Landslides and mitigation measures as described in Mountain Valley's revised *Landslide Mitigation Plan* are discussed in updated section 4.1 of the final EIS. Factors that could potentially contribute to landslides are provided in appendix N.
- CO99-20 | Sinkholes are addressed in section 4.1 of the EIS. Mountain Valley's *Karst Mitigation Plan* is described in sections 2.4, 4.1 and 4.3 of the EIS.  
  
As stated in sections 2.4 and 4.1, Mountain Valley has developed a *Karst-Specific Erosion and Sedimentation Plan*. Mountain Valley's *Karst Mitigation Plan* includes measures that could be considered beyond routine, such as indicated in section 4.1 of the EIS: "If a significant previously unknown karst feature is discovered during construction Mountain Valley *would first attempt to avoid the feature through minor route changes* (emphasis added) before attempting to stabilize and mitigate any discovered features" for example.
- CO99-21 |
- CO99-22 | Erosion control measures would be employed as specified in the FERC's Plan.

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CO99-22  
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control measures. The DEIS must identify additional measures, above and beyond standard practices, that will be used to control severely erodible soils.

CO99-23

4.3.1 Groundwater

4.3.1.1 Affected Environment

1. **Groundwater in Karst Terrain, page 4-73: The DEIS does not adequately identify groundwater resources potentially impacted.** Table 4.3.1-2 of the DEIS identifies 9 springs and swallets within 500 feet of the project work area. No springs were identified in Monroe County. The information on springs in the DEIS is grossly inadequate. One landowner has identified 11 springs within a one-mile section of the pipeline route on his property alone. A thorough investigation of springs within 500 feet of project work area must be included in a revised DEIS.

CO99-24

4.3.1.2 Environmental Consequences

1. **Aquifers, page 4-78: The DEIS does not provide adequate information on aquifer impacts.** The DEIS states, "If disturbed by construction, wells completed in near-surface aquifers would typically quickly re-establish equilibrium, and turbidity levels would rapidly subside, such that impacts would be localized and temporary." The description provided is inadequate using relative terms such as 'typically quickly re-establish equilibrium' and 'rapidly subside'. Springs and wells with degraded water quality may take months or years to reach equilibrium following a disturbance. The DEIS must provide actual data on the time it will take for groundwater to equilibrate and turbidity levels to subside. The DEIS must cite peer-reviewed studies to back up these statements.

CO99-25

2. **Karst Terrain, page 4-80: The DEIS does not contain the results of the fracture trace/lineament analysis.** This information is necessary to understand the connectivity between the karst terrain and impacts to drinking water sources. The analysis must be included in the revised DEIS. We request a 90-day comment period to have adequate time to review this analysis and additional public meetings to provide ample opportunity for the public to comment on the analysis.

CO99-26

3. **Water Supply Wells, Springs, and Swallets, page 4-80: The DEIS does not contain the location of all private domestic water supply wells within 150 feet (500 feet in karst) of the construction work areas.** This information must be included in the DEIS. If MVP cannot acquire this information for the DEIS due to lack of access, then a supplemental EIS containing this information must be provided.

CO99-27

4. **Water Supply Wells, Springs, and Swallets, page 4-80: The DEIS does not provide an adequate contingency plan for drinking water impacts.** The DEIS states, "If suitable potable water is no longer available due to construction-related activities, Mountain Valley and Equitrans would provide adequate quantities of potable water during repair or replacement of the damaged water supply." The DEIS must specify how the company plans to replace a damaged water supply.

CO99-28

5. **Wellhead and Source Water Protection Areas, page 4-81: The DEIS does not provide adequate justification that water resources will not be impacted.** The DEIS states in the previous section that "The MVP would be within 0.1 mile of two wells for public supplies: one in Greenbrier County, West Virginia (the Greenbrier County Public Supply District #2) and the other in

CO99-23

Section 4.1 discusses karst terrain and section 4.3 of the EIS discusses groundwater, springs, and water supplies. In an EIR dated January 26, 2017, we asked Mountain Valley to provide the location of all water wells, springs, and swallets within 150 feet of construction workspaces (500 feet in karst). The final EIS was revised accordingly.

CO99-24

Our assessment of wells following disturbance is based on our project experience with similar projects in similar regions. Mountain Valley offered to conduct pre-construction and post-construction testing of subject wells and perform mitigation if needed as discussed in section 4.3.1 of the EIS.

CO99-25

In an EIR dated January 26, 2017, we asked Mountain Valley to revise the trace/lineament study it filed in October 2016. Those data were added to analysis in the final EIS.

See response to comment CO90-23.

CO99-26

As noted in section 4.3.1 of the EIS, damaged water supplies would be repaired or replaced by Mountain Valley. The repair method would depend on the specific damage type and replacement could involve drilling a new well or a new connection to a public water supply system, for example.

CO99-27

CO99-28

Since the MVP pipeline route would not cross the designated source water protection areas, it is reasonable to conclude that potential impacts on the public water supplies would be avoided.

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CO99-28  
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Pittsylvania County, Virginia (the Robin Court Subdivision).” Then the DEIS states, “The projects would not cross any source water protection areas for groundwater resources, therefore impacts on these resources are not expected.” While the project does not directly cross the source water protection area, it comes within close proximity. The DEIS must provide an analysis of how it comes to the conclusion that impacts to the resources are not expected.

CO99-29

6. **Groundwater Use, page 4-83: The DEIS does not identify water withdrawal locations for dust control.** The DEIS states, “Mountain Valley would obtain water from municipal, surface water, or groundwater sources for dust-control purposes.” The DEIS must specify the exact locations where MVP plans to withdrawal water for dust control.

CO99-30

4.3.2 Surface Water Resources

4.3.2.1 Affected Environment

1. **Surface Waters, page 4-89: The DEIS does not contain a wetland mitigation plan.** The DEIS states, “Mountain Valley is currently evaluating using permanent fill at 44 wetlands along permanent access roads.” The DEIS must include alternatives to avoid and minimize the permanent filling of all wetlands. A detailed mitigation plan for any permanent impacts to wetlands must be included in the DEIS.

CO99-31

2. **Surface Water Use Classifications, page 4-89: The DEIS fails to identify impacts to Tier III Streams.** The DEIS states, “Neither the MVP nor the EEP would cross Tier III waterbodies in West Virginia.” While the MVP may not directly cross Tier III waterbodies, Tier III waterbodies in the Upper New watershed will still be impacted from construction. The DEIS must include an analysis of impacts to Tier III waterbodies in close proximity to MVP AOI, for example where stormwater runoff will enter a Tier III stream. When Tier III streams are identified within the impact area, the DEIS must also identify additional measures to avoid or minimize impacts to Tier III streams.

CO99-32

3. **Water Appropriations, page 4-101: The DEIS fails to identify discharge limitations.** Discharges associated with hydrostatic testing water in West Virginia must receive an NPDES permit issued by the WVDEP. The DEIS states, “There are no actionable levels for oil and grease, TSS, or pH.” WVDEP’s NPDES General Permit establishes discharge limitations for permittees, including pH. The DEIS should reflect the discharge limitation for pH.

CO99-33

4. **Water Appropriations, page 4-101: The DEIS fails to address monitoring and treatment of municipal water used for hydrostatic testing.** The DEIS states, “In the event that a waterbody is not capable of supplying the requisite volume of water, Mountain Valley would purchase water from a municipal source.” There are additional discharge limitations in WVDEP’s NPDES permit if chlorinated potable water is used as the source water for hydrostatic testing. The DEIS must include the additional monitoring and treatment needed for municipal sources.

CO99-34

5. **Water Appropriations, page 4-101: The DEIS fails to address source water for dust control.** The DEIS states, “Mountain Valley has not yet determined whether water for dust control would be obtained from surface water, groundwater, or municipal sources.” The DEIS must identify the sources of water for dust control and the approximate amount of the withdrawal from each water source. The DEIS must identify restrictions on withdrawals and other limitations needed to protect aquatic biota in water bodies during low-flow periods.

CO99-29

Mountain Valley would obtain water for dust control mainly from municipal sources. It is not necessary that Mountain Valley indicate exactly where water would be obtained for dust control purposes at this time. However, the FERC compliance program staff would ensure that dust-control is conducted in compliance with Mountain Valley’s filings and all applicable federal, state, and local requirements.

CO99-30

Section 4.3 of the final EIS has been updated regarding Mountain Valley’s proposed wetland mitigation plans and permanent fill of wetlands.

CO99-31

The MVP pipeline route would not cross any Tier III waterbodies. Erosion control measures would be employed as specified in the FERC’s Plan. We conclude that implementation of these measures would adequately protect the watersheds draining to Tier III waterbodies.

CO99-32

Hydrostatic test water discharge locations were listed on table 4.3.2-10 of the draft EIS. The final EIS has been updated regarding the WVDEP pH requirements of hydrostatic discharge water as applicable.

CO99-33

If a municipal water supply was used for hydrostatic testing, the releases would be tested for residual chlorine as discussed in section 4.3.2 of the EIS.

CO99-34

See response to CO99-29.

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CO99-35

### 4.3.2.2 Environmental Consequences

1. **General Impacts and Mitigation, page 4-109: The DEIS does not address impacts associated with out-of-basin water transfers.** The DEIS states, "The hydrostatic test water would be discharged through an energy dissipation device, typically in the same watershed as the source from which it was obtained." Table 4.3.2-10 in the DEIS shows the withdrawal and discharge watersheds for the hydrostatic testing water and identifies at least 7 instances of out-of-basin discharges for the 17 testing segments in WV. The term 'typically' does not apply in this scenario where almost half of the withdrawals are not 'typically' discharged into the same watershed. The impacts of the out-of-basin transfers, where millions of gallons of water are transferred to another watershed, must be analyzed in the DEIS.

CO99-35

The description regarding the location of hydrostatic discharge locations relative to possible inter-basin transfer has been updated in the final EIS, as applicable.

CO99-36

2. **Wet Open-Cut Crossings of Major Waterbodies, page 4-110: The DEIS does not provide justification for wet crossing methods.** MVP is proposing to cross the Elk, Gauley and Greenbrier using the wet crossing method. The DEIS states, "Mountain Valley performed a quantitative modeling assessment for each of the three crossings to quantify the amount of turbidity and sediment that would be expected downstream of the crossings. Results of the assessment estimate that monthly sediment loads would increase by 49 to 81 percent, 15 to 26 percent, and 19 to 52 percent for the Elk River, Gauley River, and Greenbrier River, respectively." The DEIS contains no analysis of why this is the preferred method of crossing. FERC must require this type of analysis for each crossing method and select the least environmentally damaging method to reduce impacts.

CO99-36

In October 2016, Mountain Valley indicated it would not use wet open-cut methods to cross the Elk, Gauley, and Greenbrier Rivers; but would instead use dry open-cut methods with a coffer-dam. The final EIS has been updated accordingly.

CO99-37

3. **Wet Open-Cut Crossings of Major Waterbodies, page 4-110: The DEIS does not adequately address impacts of wet crossings.** The DEIS states "Mountain Valley's analysis does not quantify the duration, extent, or magnitude of estimated turbidity levels". FERC has requested this information and additional information prior to construction; however, this information is critical for assessing the impacts of this crossing method because turbidity impacts drift downstream far outside the construction corridor and adversely affect aquatic life, recreation, and public water supply uses. This information must be included in the DEIS.

CO99-37

See the response to comment CO99-36.

CO99-38

4. **Blasting, page 4-110: The DEIS does not adequately address blasting in streams and karst terrain.** The DEIS states, "Mountain Valley would obtain all necessary permits if blasting were required within streams." The DEIS must identify streams where blasting is likely to occur based on shallow bedrock. FERC cannot allow blasting in karst streams. All efforts to avoid blasting in karst streams must be specified in the DEIS.

CO99-38

Mountain Valley stated that it would attempt to avoid blasting in waterbodies if possible by trying to mechanically rip bedrock first. The definitive need for blasting would be determined based on site conditions at the time of crossing. See the response to CO14-1.

CO99-39

5. **Scour, page 4-111: MVP has not provided updated information on the scour analysis.** This information could identify fatal flaws in pipeline construction and operation plans, and is critical when assessing the impact of the stream crossing. The updated analysis must be provided in the DEIS. Scour analysis must be based on worst-case scenarios assuming increased storm event frequencies in a warming climate. Mitigation measures also must be designed for more frequent severe floods predicted in a warming climate over the operational life of the pipeline.

CO99-39

Mountain Valley provided an updated scour analysis prior to the end of the draft EIS comment period and the final EIS has been updated accordingly.

CO99-40

6. **Surface Water Protection Areas and Public Supply Intakes, page 4-111: The DEIS does not adequately address impacts to drinking water utilities.** The DEIS states, "Due to the short-term nature of construction activities and with the implementation of our recommendation above, impacts on surface water protection areas are not anticipated for the MVP." There was no

CO99-40

The EIS assesses potential impacts to applicable source water protection areas and public water intakes in section 4.3.2.

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CO99-40 cont'd	recommendation listed above as to how MVP will avoid impacting the source water for Red Sulphur Public Service District (PSD). Also, there was no mention of the other water systems potentially impacted; Burnsville PSD, Craigs ville PSD, Summersville PSD Big Bend PSD, Red Sulphur PSD, Sistersville Municipal Water, and Pine Grove Water.
CO99-41	<b>7. Surface Water Protection Areas and Public Supply Intakes, page 4-111: The DEIS does not provide an adequate contingency plan in the event of water contamination.</b> FERC recommends that "Mountain Valley should file with the Secretary contingency plans outlining measures that would be taken to minimize and mitigate potential impacts on public surface water supplies with intakes within 3 miles downstream of the crossing of the MVP pipeline, and ZCC within 0.25 mile of the pipeline. The measures should include, but not be limited to, providing advance notification to water supply owners prior to the commencement of pipeline construction." We agree with this recommendation with a request for additional information to include a contingency plan in the event of water contamination where the water system is unable to provide water to its customers. MVP and EEP must specify how they plan to provide temporary or permanent alternate water supplies. This information must be included in the DEIS.
CO99-42	<b>8. First-order Streams, page 4-112: The DEIS does not adequately address impacts to headwater streams.</b> The DEIS states, "The Applicants would minimize impacts on first-order streams by adhering to the Mountain Valley and Equitrans Procedures." This statement does not adequately address the issue. First-order or headwater streams are vitally important to the health of the watershed. The overall health of a watershed is dependent on its network of tributaries. Further analysis is needed to understand the impacts to headwater streams. A project of this magnitude that impacts multiple watersheds must be assessed at a regional scale. The DEIS must contain an analysis on the project's total impacts within each watershed to determine the overall impacts of the project. MVP must provide an analysis for each watershed including information on the number of headwater stream crossings by watershed and the number of stream crossings on each stream if waterbodies are crossed multiple times. At the landscape level, impacts from the ROW are exacerbated by the cumulative impacts of the proposed access roads. There is a negative correlation between road miles within a watershed and water quality. An analysis of the pre-construction vs. post-construction ratio of roads within a basin must be included in the DEIS to adequately assess the impacts from the proposed project.
CO99-43	<b>9. Modification to the Procedures, page 4-114: The DEIS does not provide adequate justification for not following FERC procedures.</b> In multiple instances the DEIS states that impacts will be minimized by following FERC's procedures. One of those procedures is that Alternative Temporary Workstations will be located at least 50 feet from waterbodies and wetlands. The DEIS states that "366 ATWS that Mountain Valley has proposed within 50 feet of a waterbody and wetland" and that "We have reviewed these and find them acceptable." We find this decision unacceptable. These procedures are in place to protect our water resources. Accepting 366 ATWS to be placed within 50 feet of a stream does not minimize impacts. The DEIS should include an analysis of how ATWS have been strategically placed to minimize impacts to streams and why less impacting alternatives would not be feasible.

CO99-41 Our recommendation is adequate to mitigate impacts on surface water protection areas and public water supply intakes.

CO99-42 The same protective Procedures would apply to all waterbodies regardless of size, including headwater streams. The potential impacts of access roads upon water resources are assessed throughout section 4.3 of the EIS.

CO99-43 Based on site-specific conditions and crossing requirements, sometimes additional temporary extra workspace is needed within 50 feet of a stream. As noted in section 4.3.2 of the EIS, we have reviewed these type of variations to our Procedures and find them acceptable.

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- CO99-44 4.3.3 Wetlands  
4.3.3.2 Environmental Consequences  
1. **General Impacts and Mitigation, page 4-127: The DEIS does not adequately address flooding impacts.** A wetland function and value that the DEIS fails to mention is water storage for flood prevention. The DEIS must provide an analysis of the disruption of water storage for flood control. The analysis must include watershed-based wetland impacts with details on the acres of impacted wetlands by watershed to determine whether flooding within the watershed has the potential to significantly increase as a result of the loss of wetland functions during construction and operation of the pipeline. The flood mitigation analysis should consider the increased frequency and severity of flooding anticipated in this region with a warming climate.
- CO99-45 4.3.3.3 Compensatory Mitigation  
1. **Mitigation Plan, page 4-129: The DEIS does not include a wetland mitigation plan.** The DEIS mentions that MVP “submitted their compensatory mitigation plan to the COE in February 2016”; however, the plan is not included in the DEIS. The mitigation plan must be included in the DEIS to ensure that the mitigation proposed adequately addresses the impacts from the project. Mitigation must be initiated in the watershed where the impacts occur. Numerous studies demonstrate that the proposals for wetland mitigation are often not implemented, and replacement wetlands frequently fail to achieve the wetland values they are supposed to replace.
- CO99-46 4.6 Fisheries and Aquatic Resources  
4.6.1.1 Fisheries of Special Concern  
1. **Mountain Valley Project, page 4-172: The DEIS fails to identify species of concern.** Table 4.6.1-1 of the DEIS should include the Candy Darter and Diamond Darter fish in WV.
- CO99-47 2. **Mountain Valley Project, page 4-172: The DEIS does not assess impacts on crayfish and methods to avoid impacts.** The *Cambarus pauleyi* is a new species of crayfish endemic to the high elevation wetlands in the Meadow and Greenbrier River Watersheds in Greenbrier and Monroe counties, West Virginia. *Cambarus pauleyi* has an extremely narrow geographic distribution and has possibly experienced a significant range reduction due to the conversion of wetlands into pastures, and should be considered "Endangered" according to American Fisheries Society listing criteria. Impacts to this species and avoidance and minimization of impacts must be described within the DEIS.
- CO99-48 3. **Mountain Valley Project, page 4-172: The DEIS does not address all species of concern.** The WV Division of Natural Resources has identified additional species of concern in their report, cited “WVDNR (West Virginia Division of Natural Resources). 2016. Greater Greenbrier Conservation Focus Area Plan (CFA Plan) (1 November 2016).” The DEIS must evaluate impacts to each species listed in this report.
- CO99-49 4.6.2.1 Sedimentation and Turbidity  
1. **Sedimentation and Turbidity, page 4-176: The DEIS fails to provide analysis of sedimentation and turbidity.** The DEIS states, “conclusions cannot be drawn regarding the effects of sedimentation and turbidity on fisheries and aquatic resources due to the wet open-cut

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- CO99-44 Flooding is discussed in sections 4.1 and 4.3 of the EIS. Section 4.3.3 of the draft EIS stated: “Wetlands serve several functions including, but not limited to *flood control* (emphasis added)...” Wetlands would be restored following construction and we conclude that the MVP would not adversely affect wetlands in regard to flood control. The COE, the federal agency responsible for wetland permitting under the CWA, is a cooperating agency for the development of this EIS.
- CO99-45 Mountain Valley’s compensatory mitigation plan for wetlands is still in development in coordination with the COE, who as the federal agency administering Section 404 of the CWA must approve the plan as part of the permitting process. The COE is a cooperating agency for the development of this EIS.
- CO99-46 The candy darter was discussed in section 4.7 of the draft EIS. In an EIR dated January 26, 2017, we asked for additional information about the candy darter and the diamond darter. We have updated the final EIS as applicable.
- CO99-47 Section 4.7 has been revised to discuss the crayfish *Cambarus pauleyi*.
- CO99-48 The WVDNR is a cooperating agency for the development of this EIS and has input regarding which special status species should be included in the EIS analyses.
- CO99-49 The final EIS was revised regarding sedimentation and turbidity, based on Mountain Valley’s plans to not cross any rivers using wet open-trench methods.

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CO99-49 cont'd	crossings.” This information is vital for understanding the impacts to aquatic resources. Without this information FERC and the public cannot assess the wet crossing method impacts on aquatic resources. Because of this lack of critical information in the DEIS, we request a revised DEIS to be issued with this information included. Such impacts flow downstream and affect aquatic biota and habitats far outside the construction corridor. While the MVP would not be the only source of such impacts, it is expected to be a large one and the DEIS should not minimize the impacts simply because other sources exist.
CO99-50	<u>4.6.2.2 Loss of Stream Bank Cover</u> 1. <b>Loss of Stream Bank Cover, page 4-177: The DEIS fails to analyze stream bank impacts.</b> The DEIS states, “Mountain Valley and Equitrans would minimize impacts on riparian vegetation by narrowing the width of its standard construction right-of-way at waterbody crossings to 75 feet, and by locating as many ATWS as possible at least 50 feet from waterbody banks.” Previously, it was mentioned that 366 ATWS will be within 50 feet of waterbodies. This increased impact of loss of stream bank cover on aquatic resources should be addressed within the DEIS.
CO99-51	2. <b>Loss of Stream Bank Cover, page 4-178: The DEIS does not provide adequate watershed scale analysis of impacts.</b> The DEIS should include an analysis of stream bank cover on a watershed scale to determine the % loss of stream bank cover by watershed to provide a better understanding of the potential impacts of the project.
CO99-52	<u>4.6.2.4 Hydrostatic Testing and Water Withdrawals</u> 1. <b>Hydrostatic Testing and Water Withdrawals, page 4-178: The DEIS does not address the out-of-basin water withdrawals and the impact on aquatic life.</b> Permanently removing millions of gallons of water from a watershed may impact aquatic life and should be analyzed within the DEIS.
CO99-53	<u>4.6.2.7 Fisheries of Special Concern</u> 1. <b>Mountain Valley Project, page 4-180: The DEIS does not state how MVP plans to adhere to recommended work windows for in-water construction.</b> Requesting a work-window modification does not necessarily mean that it will be granted. Work window modifications will increase impacts to aquatic resources and must be avoided.
CO99-54	<u>4.6.2.8 Conclusion</u> 1. <b>Conclusion, page 4-181: The DEIS fails to adequately analyze impacts to aquatic resources.</b> The DEIS states, “Based on our review of the potential impacts discussed above, we conclude that constructing and operating the MVP and the EEP would not significantly impact fisheries and aquatic resources”. Based on the issues mentioned above, this conclusion is incorrect because it is not drawn with completed information. Until the issues mentioned above are addressed within the DEIS, FERC is unable to draw a conclusion on the impacts to aquatic resources.
CO99-55	<u>4.7.1 Federally Listed Threatened, Endangered, and Other Species of Concern</u> <u>4.7.1.1 Mountain Valley Project</u>

CO99-50	Based on site-specific conditions and crossing requirements, sometimes additional temporary extra workspace is needed within 50 feet of a stream. As noted in section 4.3.2 of the EIS, we have reviewed these type of variations to our procedures and find them acceptable.
CO99-51	Impacts to vegetation including riparian areas are discussed in sections 4.3, 4.4, and 4.5 of the EIS.
CO99-52	The description regarding the location of hydrostatic discharge locations relative to possible inter-basin transfer has been updated in the final EIS as applicable.
CO99-53	Mountain Valley would adhere to the seasonal work windows specified in section 4.6 of the EIS.
CO99-54	Based on our analyses and updated information in the final EIS, we conclude that constructing and operating the MVP and the EEP would not significantly impact fisheries and aquatic resources.
CO99-55	See response to comment CO99-46.

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## CO99 – West Virginia Rivers

CO99-55 cont'd 1. **Fish, page 4-187: The DEIS does not identify candy darter species in WV.** The DEIS states, "The candy darter, a federal species of concern, is known to occur in a single stream along the MVP in Virginia (Stony Creek)." This statement is incorrect. The Candy Darter is also known to occur in WV within the New River Watershed and its tributaries, specifically the Gauley and Greenbrier drainages. The DEIS should include reference to this oversight and include these river systems in the construction restriction window.

CO99-56 2. **Fish, page 4-187: The DEIS fails to address the Diamond Darter.** On July 26, 2013, the United States Fish and Wildlife Service formally designated the diamond darter as an endangered species. As of 2008, the fish is only known to live in the Elk River. An open cut wet crossing is currently proposed for the Elk River. Any potential impacts on the Diamond Darter must be assessed within the DEIS.

CO99-57 4.8 Land Use, Special Interest Areas, and Visual Resources  
4.8.1.2 Land Use Types  
1. **Cathodic Protection, page 4-210: The DEIS fails to address impacts from cathodic protection sites.** The DEIS states, "According to alignment sheets filed by Mountain Valley, many of the cathodic protection groundbeds would be located outside of Mountain Valley's environmental survey corridor." Water Resource impacts for cathodic beds are not addressed in the DEIS. "Of the 31 locations, 27 would be surface groundbeds that would run perpendicular to the pipeline and require a construction area 25 feet wide and 500 feet long. The remaining four locations would be deep well groundbeds"; the impacts of the surface and deep well groundbeds must be addressed in the DEIS.

CO99-58 4.8.2.4 Recreational and Special Interest Areas  
1. **Weston and Gauley Bridge Turnpike, page 4-248: The DEIS does not contain adequate information on COE consultations.** The DEIS states, "Mountain Valley has not documented communications with the COE about impacts on the trail." The DEIS must include consultations with federal agencies with jurisdiction over the project. The consultation with the COE on the Turnpike must be included in the DEIS.

CO99-59 2. **Appalachian National Scenic Trail, page 4-249: The DEIS contains conflicting information as to the location of the ANST crossing.** In table 4.8.1-10 the crossing is listed as within Monroe County, WV; however, on page 4-249 the crossing is listed as Giles County, VA. The description of the crossing location should be consistent throughout the DEIS. Additionally, visual impacts of the selected crossing location have not been completed. The visual simulations of the crossing must be included in the DEIS.

CO99-60 3. **North Bend Rail Trail, page 4-252: The DEIS does not contain information on DOH consultations.** The DEIS states, "Mountain Valley has not documented that it provided its North Bend Rail Trail and Highway 50 Crossing Plan to appropriate state agencies for review." The review and approval of crossing plans by state agencies is critical information and must be included in the DEIS.

CO99-61 4.8.2.6 Land Use on Federal Lands

CO99-56 See response to comment CO99-46.

CO99-57 In an EIR dated January 26, 2017, we requested that Mountain Valley provide the results of all environmental surveys for areas that would be affected by cathodic protection installations. The final EIS was updated accordingly.

CO99-58 In the draft EIS, we included a recommendation immediately below the excerpted text that Mountain Valley document consultation with the COE regarding this trail prior to construction.

CO99-59 The location of the ANST and the associated visual screening analysis has been updated and clarified in the final EIS.

CO99-60 In the draft EIS, we included a recommendation immediately below the excerpted text that Mountain Valley document consultation with the state agencies regarding this trail prior to construction.

CO99-61 Given the relatively fixed starting and ending points of the MVP pipeline, dictated by access to natural gas production and end user preferences, and the location of NFS lands, avoidance of NFS lands is not reasonable or practical.



# COMPANIES AND NGOs

## CO99 – West Virginia Rivers

CO99-61 cont'd	1. <b>Land Use Impacts on Jefferson National Forest, page 4-259: The DEIS fails to meet the regulatory standard to justify crossing the Jefferson National Forest.</b> The applicant is required to show that there is no reasonable alternative to crossing Forest Service lands or the request must be denied. The applicant and FERC have given the opinion that the route crossing the Forest is preferable which does not satisfy the law.	
CO99-62	2. <b>Proposed Amendment 1, page 4-261: We oppose the amendment to reallocate 186 acres to a 500-foot wide designated utility corridor.</b> The amendment would permanently remove 19 acres of designated Old Growth Forest habitat.	CO99-62
CO99-63	3. <b>Proposed Amendment 2, page 4-262: We oppose the amendment to remove restrictions on soil and riparian corridor conditions.</b> These restrictions are in place to protect the resources within the National Forest and they should be strictly enforced, not removed to accommodate the project. Given the steep slopes, erosion-prone soils, and sensitive streams being affected, those restrictions are especially critical at those sites. Removing those restrictions should be viewed as evidence that the worst-case scenarios for impact predictions are most likely.	CO99-63
CO99-64	4. <b>Proposed Amendment 3, page 4-263: We oppose the amendment to allow the removal of old growth trees within the construction corridor.</b> There are limited locations where old growth remains; these areas should be preserved for future generations.	CO99-64
CO99-65	5. <b>Proposed Amendment 4, page 4-264: We oppose the amendment to allow MVP to cross the ANST on Peters Mountain.</b> Peters Mountain is an ecologically sensitive area where groundwater resources are not fully understood. This area should be avoided.	CO99-65
CO99-66	<u>4.9.1.4 Tourism</u> 1. <b>Mountain Valley Project, West Virginia, page 4-277: Table 4.9.1-5 incorrectly lists the Carnifex Ferry Battlefield State Park as the Carbufax Ferry Battlefield State Park.</b> This discrepancy should be corrected in the DEIS.	CO99-66
CO99-67	<u>4.13.1.2 FERC-jurisdictional Natural Gas Interstate Transportation Projects</u> 1. <b>FERC-jurisdictional Natural Gas Interstate Transportation Projects, page 4-495: The Cumulative impacts analysis fails to consider all projects.</b> The cumulative impacts analysis for the FERC-jurisdictional projects should also include the Leach Xpress, the Mountaineer Xpress, Line WB2VA Integrity, Utica Access, Clarington, Monroe to Cornwell, Ohio Valley Connector, and Broad Run Expansion. The DEIS should also include a detailed analysis of indirect effects of pipeline construction on areas outside the pipeline corridor. In particular, a reasonable expectation is that pipeline construction would spur additional gas drilling in source areas, with associated impacts from forest fragmentation, water and air pollution and soil and stream impacts.	CO99-67
CO99-68	In conclusion, for the reasons outlined above, we request a revised DEIS to be issued with complete and accurate information in order to comply with the NEPA requirements. The current DEIS does not include sufficient evidence to demonstrate that the significant impacts from the project will be mitigated. We appreciate the opportunity to submit these comments and look forward to further participation in this proceeding.	CO99-68

# COMPANIES AND NGOs

## CO99 – West Virginia Rivers

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CO99-68  
cont'd

Respectfully Submitted,

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West Virginia Rivers Coalition

Anna Osborne & Chris Chanlett  
Friends of the Lower Greenbrier River

John Walkup  
Greenbrier River Watershed Association

Ciera Pennington  
West Virginia Environmental Council

Anna Ziegler  
Summers County Residents Against the Pipeline

Carl Zipper  
Preserve Montgomery County, Virginia

Rick Webb  
Dominion Pipeline Monitoring Coalition

Dr. Randi Pokladnik  
Fresh Water Accountability Project

Beth Little  
Eight Rivers Council

Allen Johnson  
Christians for the Mountains

April Pierson-Keating  
Mountain Lakes Preservation Alliance

Dr. Stephen Miller  
Save Monroe, Inc.

Chris Hale  
Friends of Water

# COMPANIES AND NGOs

## CO99 – West Virginia Rivers

CO99-68  
cont'd

- Maury Johnson  
Preserve Monroe
  
- Judy Azulay  
Indian Creek Watershed Association
  
- Betsy Nicholas  
Waterkeepers Chesapeake
  
- Melinda Hughes  
Nature Abounds
  
- Brent Walls  
Upper Potomac Riverkeeper
  
- Natalie Thompson  
Ohio Valley Environmental Coalition
  
- Cindy Rank & Cindy Ellis  
West Virginia Highlands conservancy
  
- Laurie Ardison  
Protecting Our Water, Heritage, Rights

# COMPANIES AND NGOs

## CO100 – Key-Log Economics LLC

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*Research and strategy for the land community.*

December 16, 2016, REVISED December 20, 2016<sup>1</sup>

Kimberly D. Bose, Secretary

Federal Energy Regulatory Commission  
888 First Street NE, Room 1A  
Washington, DC 20426

REFERENCE: OEP/DG2E/Gas 3  
Mountain Valley Pipeline, LLC  
FERC Docket No. CP16-10-000  
FERC/DEIS-Do272

Dear Ms. Bose and Mr. Davis:

Thank you for this opportunity to comment on the Draft Environmental Impact Statement ("DEIS") regarding the Mountain Valley pipeline ("MVP") project as proposed by Mountain Valley Pipeline, LLC ("MVP LLC"). I am an economist with over 25 years' experience conducting research on the relationships between natural resource stewardship, environmental quality, and human well-being. I also teach microeconomics, natural resource economics, and natural resource policy at the undergraduate and graduate level.

Key-Log Economics has been retained by the POWHR coalition to conduct an independent analysis of key effects of the proposed pipeline, including changes in property value, lost natural benefits (also known as ecosystem services), health care impacts, and others.

Based on what we have found in the course of that research, I am including the following brief discussion of several deficiencies in FERC's policies and its analysis of economic effects as reflected and reported in the DEIS. These include:

- A pipeline certification policy that invites one-sided input from applicants resulting in a predictable and overstatement of benefits and discounting of important external costs;
- Failure to critically evaluate applicant-provided assessments of potential economic benefit when those assessments use flawed research methods, apply the methods inappropriately, and base estimates on unrealistic assumptions;
- Failure to critically evaluate flawed research into gas-industry-sponsored and/or promoted research that concludes, falsely, that pipelines do not diminish property value ;

<sup>1</sup>The revision is to change "billion" to "million" (the correct number) the last paragraph before "Conclusion" on page 17.

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CO100-1

CO100-1

The Commission policies have been upheld by the courts. Our staff and third-party contractor independently reviewed economic data submitted by the Applicants. Our analysis is provided in section 4.9 of the EIS.

Section 4.9 presents the results of research using multiple studies of the effects pipelines may have on property values. The EIS complies with the CEQ regulations for implementing NEPA. Impacts from GHG is discussed in sections 4.11 and 4.13 of the EIS. Impacts on recreation is discussed in section 4.8. Impacts on tourism is discussed in section 4.9.

# COMPANIES AND NGOs

## CO100 – Key-Log Economics LLC

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- In violation of the National Environmental Policy Act and other federal guidance, failure to consider external costs due to lost ecosystem service value, carbon and other greenhouse gas emissions, and impacts on regional recreation-, tourism-, and other amenity-dependent economic development;
- A spurious and ill-informed dismissal of independent research into the likely economic impacts of the proposed Mountain Valley Pipeline.

These deficiencies exist relative to two distinct, but overlapping types of effects on human well-being. These are:

- Effects on human welfare that are at least partially reflected in observed prices of goods and services and/or expenditures on those goods and services. These would include both positive and negative economic impacts, such as income earned in jobs allocated to operating a pipeline, expenditures to repair roads and replace water supplies damaged or disrupted by pipeline construction, and reductions in the market price of properties near the proposed pipeline.
- Effects on human well-being that are not reflected in market prices that we can observe. These are commonly known as non-market benefits (of environmental quality or improvements, for example) and non-market costs (such as those from environmental degradation). Non-market benefits include the value to people (willingness to pay) over and above what they actually have to pay for an environmental good (such as clean water to drink) or over and above what they actually have to pay to remediate environmental damage. Non-market benefits and costs also include changes in human welfare from environmental effects for which there is no out-of-pocket payment at all. Enjoying the aesthetic quality of a view may cost nothing to experience, but it still is valued by the observer.

Closely related to these effects are “external costs.” External costs are effects on human welfare that are not considered as part of a given market transaction because they are borne by or imposed on people other than the parties to the transaction. They are outside—that is, external to—the transaction, but they are every bit as much of an economic effect as are private (internal) costs. When external costs are present, market prices can be said to be too low. Consequently, the level of provision of the market good in question—for example natural gas, or pipelines to transport it—will be too high, resulting in an inefficient allocation of resources and what economists call a “deadweight loss” to society.

Because “the market” fails to count external costs on its own, additional analyses and decision making processes are required. FERC’s policy on the Certification of New Interstate Natural Gas Pipeline Facilities (88 FERC, para. 61,227, or Hoecker et al., 1999) is one example of an attempt to ensure consideration of at least some external costs. The policy requires that adverse effects of new pipelines on “economic interests of landowners and communities affected by the route of the new pipeline” be weighed against “evidence of public benefits to be achieved [by the pipeline]” (Hoecker et al., 1999, pp. 18–19). Further, “...construction projects that would have residual adverse effects would be approved only where the public benefits to be achieved from the project can be found to outweigh the adverse effects” (p. 23).

In principle, this policy is in line with the argument, on economic efficiency grounds, that the benefits of a project or decision should be at least equal to its cost, including external costs.

# COMPANIES AND NGOs

## CO100 – Key-Log Economics LLC

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CO100-1  
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However, the policy's guidance regarding what adverse effects must be considered and how they are measured is deeply flawed. The policy states, for example, "if project sponsors...are able to acquire all or substantially all, of the necessary right-of-way by negotiation prior to filing the application...it would not adversely affect any of the three interests," with the three interests being pipeline customers, competing pipelines, and "landowners and communities affected by the route of the new pipeline" (Hoecker et al., 1999, pp. 18, 26). The Commission's policy therefore contends that the only adverse effects that matter are those affecting owners of properties in the right-of-way. Even for a policy adopted in 1999, this contention is completely out of step with long-established understanding that development that alters the natural environment has negative economic effects.

The policy's confusion over what counts as an environmental effect (again, most of which will have economic effects) is further expressed by the following statement:

"Traditionally, the interests of the landowners and the surrounding community have been considered synonymous with the environmental impacts of a project; however, these interests can be distinct. Landowner property rights issues are different in character from other environmental issues considered under the National Environmental Policy Act of 1969 (NEPA) (Hoecker et al., 1999, p. 24)"

By the Commission's reasoning, environmental effects are a matter of the Commission's "traditions", not science, and environmental effects are deemed to be both synonymous with, and distinct from, interests of landowners and the surrounding community. This statement seems to contradict the statement one page earlier (p. 23) that "There are other interests [besides those of customers, competitors, and landowners and surrounding communities] that may need to be separately considered in a certificate proceeding, such as environmental interests." While we agree that separate/additional consideration of environmental "interests" must indeed be part of the Commission's review<sup>2</sup>, the policy embodies such a muddle of contradictions on the question of what impacts to examine and why (tradition versus science), that it seems unlikely that any pipeline certification granted under the policy would be scientifically or economically sound. In the case of the proposed MVP we find the DEIS to be greatly lacking both in the scope of economically relevant environmental effects considered and in the quality of the analysis of those few effects considered.

A further weakness of the FERC policy is that it relies on applicants to provide information about benefits and costs. The policy's stated objective "is for the applicant to develop whatever record is necessary, and for the Commission to impose whatever conditions are necessary, for the Commission to be able to find that the benefits to the public from the project outweigh the adverse impact on the relevant interests" (Hoecker et al., 1999, p. 26). The applicant therefore has an incentive to be generous in counting benefits and parsimonious in counting the costs of its proposal. And as reflected in the DEIS at hand, FERC has made no effort itself to ensure a full accounting of economic costs to landowners or the broader community despite the wealth of comments placed on the docket that could support such an assessment. Under these

<sup>2</sup> Note that environmental effects overlap, but are not limited to, the interests of landowners and surrounding communities. The effects of air emissions, loss of productive or aesthetically pleasing land uses, lost recreational opportunities, impacts on climate, and others will affect many people, some much farther from the pipeline itself than "surrounding communities" would connote.

# COMPANIES AND NGOs

## CO100 – Key-Log Economics LLC

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CO100-1  
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circumstances, it seems unlikely that the Commission’s policy will prevent the construction of pipelines for which the full costs are greater than the public benefits they would actually provide.

Compliance with the the National Environmental Policy Act (“NEPA”) adds, or should add, breadth to the assessment of economics costs of proposed pipelines. NEPA requires an evaluation of all relevant effects. Of particular interest here, such relevant effects include direct, indirect, and cumulative economics effects—changes in human welfare that might or might not be reflected in the market economy. As the NEPA regulations state,

“Effects include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial (emphasis added, 36 CFR 1508.b, Council on Environmental Quality, 1978).”

It is important to note that NEPA does not require that federal actions—which in this case would be approving or denying the MVP certification—necessarily balance or even compare benefits and costs. NEPA is not a decision-making law, but rather a law requiring decisions be supported by an as full as possible accounting of the reasonably foreseeable effects of federal actions on the natural and human environment. It also requires that citizens have opportunities to engage in the process of analyzing and weighing those effects.

Relative to these requirements of NEPA, the Mountain Valley pipeline DEIS falls short. The DEIS ignores several important external costs and discounts others. It also relies too heavily on inadequate and misleading information provided by the applicant and the natural gas industry. While predictable, given the inherent bias and weakness in FERC’s certification policy noted above, the outcome leaves FERC and the public without a full picture of the relevant economic effects of the proposed MVP pipeline.

Details on economics-related shortcomings of the DEIS are provided in the remainder of this comment, beginning with the overarching issue of the DEIS missing several opportunities for meeting energy service needs in a least-cost/lowest impact manner.

CO100-2

### The DEIS fails to define and analyze a reasonable range of alternatives.

As required by CEQ regulations mentioned in the above section, FERC considered in the DEIS a No Action alternative, alternative modes of natural gas transportation, system alternatives, pipeline route alternatives, pipeline route variations, and aboveground facilities alternatives. The selection criteria for alternatives include whether they 1) The alternative meets the stated purpose of the project 2) Are technically and economically feasible and practical 2) Offer a significant environmental advantage over the proposed action (FERC, 2016).

FERC’s failure to consider alternatives aimed at the bigger picture question of energy efficiency and renewables has important implications for the economics of the proposed pipeline. Namely, unless further alternatives for meeting actual regional needs for energy services (which is not the same as the applicant’s stated “need” to transport natural gas) are considered, it will remain

CO100-2

The FERC’s policy regarding the range of applicable alternatives, including energy efficiency and renewable energy, is discussed in section 3 of the EIS.

# COMPANIES AND NGOs

## CO100 – Key-Log Economics LLC

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impossible to know whether one of the alternatives considered is actually best. If energy services could be delivered to people and industry at a lower cost (including all external costs) by focusing on energy efficiency or power generation from renewable fuels, then considering ONLY gas transmission options will guarantee an inefficient, wasteful outcome.

FERC states that renewable energy generation or gains realized from increased energy efficiency are not considered because they are not natural gas transportation alternatives. But NEPA requires a broader view. Under NEPA, federal actions must consider the cumulative impact, defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR §1508.7).

Changes in energy markets due to energy efficiency gains and/or further market penetration by renewable alternatives to fossil fuels are reasonably foreseeable. For example, renewable energy accounted for 40% of new domestic power capacity installed (American Council On Renewable Energy, 2014), and the relative cost of producing power from renewable sources, which is already competitive, is falling (Randall, 2016; U.S. Energy Information Administration, 2016). In light of these facts and related factors, FERC must consider alternatives that reflect the likely future reality in which the gas the MVP would transport is not needed and/or is not a cost-effective choice for consumers or electric power generators. To do otherwise—that is, to focus narrowly on only transportation options—could lead to a federal action that imposes significant environmental effects and associated economic costs for no reason.

CO100-3

### DEIS Overestimates Positive Economic Effects

We have conducted a careful and independent review of two EQT-sponsored studies (one for Virginia and one for West Virginia) containing estimates of potential positive economic impacts of the MVP (Ditzel, Fisher, & Chakrabarti, 2015,a). As our report demonstrates, there are flaws in the methods and execution of the EQT study that render it dubious, at best, as a guide to what the benefits might be. In brief, the EQT studies

- MVP studies over-estimate “Construction Benefits” to the MVP region.
  - The chosen modeling technique and choice of region for analysis result in overestimates of regional benefit.
  - Most construction jobs will be filled by non-residents, further depressing the local economic impact.
- MVP studies overestimate total employment effects of pipeline operation and maintenance.
  - The studies’ modeling approach is unreliable for predicting multiplier effects more than one year into the future. Only direct operation/maintenance jobs should be counted as long-term effects.
- MVP studies overestimate benefits from fuel switching.
  - The studies do not demonstrate how much, if any, fuel switching would actually occur.

CO100-3

Our independent review of economic impacts from the projects is presented in section 4.9 of the EIS. The commenter provided no facts or evidence to support his claims that the Applicants overstated the economic benefits of the projects.



CO100-3  
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- o Estimated benefits for Franklin County, Virginia seem unlikely given potential demand that they should be removed entirely.<sup>3</sup>
- o The studies do not account for how future increases in gas prices and gas price volatility would affect either the likelihood of fuel switching in the first place or the long-run magnitude of any benefits from switching that still might occur.
- o The studies ignore energy conservation and/or renewables as additional alternatives to which would-be gas users could switch.
- MVP studies overstate financial benefits to local governments.
  - o Estimated revenue increases are tied to fuel switching that may not occur.
  - o Any actual increases in tax revenue will fade over time.
  - o Studies ignore potential reduction in net tax revenue due to changes in property values.
  - o Studies ignore likely increases in local public service costs and fail to present estimates of net effects on local government finances.

CO100-4

### DEIS Continues to Miss or Discount Important Economic Effects

In our report, *Economic Costs of the Mountain Valley Pipeline: Effects on Property Value, Ecosystem Services, and Economic Development in Virginia and West Virginia*, we provide estimates for the amount of property value and ecosystem services that could be lost due to the MVP. We also quantify scenario’s for which the MVP may diminish the economic development of the study region. In the following sections, we will further elaborate and address the importance of considering 1) Property Value Impacts, 2) Ecosystem Services, 3) Economic Development, and 4) Climate Change and the Social Cost of Carbon.

#### Property Value: Claims that pipelines do not harm property value are invalid.

Both FERC and MVP LLC cite several studies purporting to show that natural gas pipelines (and in one case a liquid petroleum pipeline) have at most an ambiguous and non-permanent effect on property values. In its final EIS regarding the Constitution Pipeline, for example, FERC cited two articles concluding, in brief, that effects on property value from the presence of a pipeline can be either positive or negative, and that decreases in values due to a pipeline explosion fade over time (Diskin, Friedman, Peppas, & Peppas, 2011; Hansen, Benson, & Hagen, 2006). In its filing, MVP LLC cites additional studies drawing similar conclusions based on comparison of market and/or assessed prices paid for properties “on” or “near” a pipeline versus those farther away (Allen, Williford & Seale Inc., 2001; Fruits, 2008; Mountain Valley Pipeline LLC, 2015; Palmer, 2008). While the studies referenced differ in methods, they are similar in that they fail

<sup>3</sup> Note that since publication of our review, a tap has been proposed for Franklin County, which could stimulate increased demand there. As we note in the review, however, actual demand in Franklin county would have to more than triple for that tap to be economically viable. Unless and until such a vast increase in demand can be demonstrated, the purported estimates of fuel-switching benefits for Franklin County should be excluded from the analysis.

CO100-4

See the response to comment IND12-1 regarding property values. While the commenter presented no data to support his claim that property values would be lost, section 4.9 of our EIS presents the results of multiple studies about the impacts of pipelines across the nation on property values. A search of the landowner database did not result in a finding of Christian Reidys (stated as an affected landowner that could not sell his property). Pipeline risks are discussed in section 4.12 of the EIS; where we conclude, based on hard facts and verified statistics, that risks are low. Therefore, the commenter’s opinions that risks affect property values is unfounded and unsupported.

# COMPANIES AND NGOs

## CO100 – Key-Log Economics LLC

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to take into account two factors that void entirely their conclusions that natural gas pipelines have no effect on property values.

First, the studies do not consider that the property price data employed in the studies do not reflect buyers' true willingness to pay for properties closer to or farther from natural gas pipelines. For prices to reflect willingness to pay (and therefore true economic value), buyers would need full information about the subject properties, including whether the properties are near a pipeline. Second, and for the most part, the studies find no difference in prices for properties closer to or farther away from pipelines are not actually comparing prices for properties that are "nearer" or "farther" by any meaningful measure. The studies compare similar properties and, not surprisingly, find that they have similar prices. Their conclusions are neither interesting nor relevant to the important question of how large an economic effect the proposed pipeline would have.

When the pre-conditions for a functioning market are not met, observed property prices do not (and cannot) indicate property value.

Economic theory holds that for an observed market price to be considered an accurate gauge of the economic value of a good, all parties to the transaction must have full information about the good. If, on the other hand, buyers lack important information about a good, in this case whether a property is near a potential hazard, they cannot bring their health and safety concerns to bear on their decision about how much to offer for the property. As a result, buyers' offering prices will be higher than both what they would offer if they had full information and, most importantly, the true economic value of the property to the buyer.

As Albright (2011) notes in response to the article by Disken, Friedman, Peppas, & Peppas (2011):

"The use of the paired-sales analysis makes the assumption of a knowing purchaser, but I believe this analysis is not meaningful unless it can be determined that the purchaser had true, accurate and appropriate information concerning the nature and impact of the gas pipeline on, near or across their property. ... I believe that the authors' failure to confirm that the purchasers in any of the paired sales transactions had full and complete knowledge of the details concerning the gas transmission line totally undercut the authors' work product and the conclusions set forth in the article. (p.5)"

Of the remaining studies, only Palmer (2008) gives any indication that any buyers were aware of the presence of a pipeline on or near the subject properties. For Palmer's conclusion that the pipeline has no effect on property value to be valid, however, it must be true that **all** buyers had full information, which was not the case in the study.

In some cases, however, the location and hazards of petroleum pipelines become starkly and tragically known. For example, a 1999 liquid petroleum pipeline exploded in Bellingham, Washington, killing three, injuring eight and causing damage to property and the environment. In that case and as Hansen, Benson, and Hagen (2006) found, property values fell after the explosion, which is to say, once would-be buyers became aware of the pipeline in the neighborhood. The authors also found that the negative effect on prices diminished over time. This makes perfect sense if, as is likely, information about the explosion dissipated once the

# COMPANIES AND NGOs

## CO100 – Key-Log Economics LLC

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explosion and its aftermath left the evening news and the physical damage from the explosion had been repaired.

Today's market is quite different. In contrast to Bellingham homebuyers in the months and years after the 1999 explosion, today's homebuyers can query Zillow to see the history of land prices near the pipeline and explore online maps to see what locally undesirable land uses exist near homes they might consider buying. They also have YouTube and repeated opportunities to find and view news reports, citizens' videos, and other media describing and depicting such explosions and their aftermath. Whether the pre-explosion prices reflected the presence of the pipeline or not, it is hard to imagine that a more recent event and the evident dangers of living near a fossil fuel pipeline would be forgotten so quickly by today's would-be homebuyers.

What Zillow.com or other sites do accomplish is lowering the effort required for homebuyers to visualize the location of properties relative to other land uses, including pipeline rights of way. Combined with other information, such as maps of pipeline routes and other searchable online information, real estate marketing tools do make it more likely that prospective buyers will gain information about the hazard they could be buying into.

With more vocal/visible opposition to large, high-pressure natural gas pipelines, it also seems likely that prospective home buyers will not have to wait for an incident involving the MVP to learn of it and, therefore, for the MVP to affect their willingness to pay (and actual offer prices) for properties nearby. A drive down the street and a quick online search for information about a community one is considering a move to is likely to reveal "no pipeline" signs, municipal ordinances opposing the pipeline, and facebook groups created by local community members formed to raise awareness about the pipeline. Anyone with an eye toward buying property near the proposed MVP corridor could quickly learn that the property is in fact near the corridor, that there is a danger the property could be adversely affected by the still-pending project approval, and that fossil fuel pipelines and related infrastructure have an alarming history of negative health, safety, and environmental effects.

When people have more complete information about a property, they are able to express their willingness to pay when it comes time to make an offer. Accordingly, the prices buyers offer for homes near the MVP pipeline will be lower than the prices offered for other homes farther away or in another community or region.

**Studies concluding that proximity to pipelines do not result in different property values are not actually comparing prices for properties that are different.**

While the studies cited purport to compare the price of properties near a pipeline to properties not near a pipeline, many or in some cases all, of the properties counted as "not near" the pipelines are, in fact, near enough to have health and safety concerns that could influence prices. In both studies written by the Interstate Natural Gas Association of America ("INGAA") the authors compare prices for properties directly on a pipeline right-of-way to prices of properties off the right-of-way. However, in almost all cases the geographic scope of the analysis was small enough where most or all of the properties not on the right-of-way were still within

# COMPANIES AND NGOs

## CO100 – Key-Log Economics LLC

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the pipelines' respective evacuation zones (Allen, Williford & Seale Inc., 2001; Integra Realty Resources, 2016).<sup>4</sup>

In the 2016 INGAA study, the specific distance from pipeline was reported for eight case studies. In those cases, an average of 72.5% of the "off" properties were actually within the evacuation zone and, like the "on" properties, are therefore likely to suffer a loss in property value relative to properties farther away. (We estimated the evacuation zone based on available information about the pipeline diameter and operating pressure.) For the other two cases, the study reported a simple "yes" or "no" to indicate whether the property abutted the pipeline in question. For these cases, we assume the author's methods, while flawed, are at least consistent from one case study to the next, meaning it is likely at least 50% or more of the comparison properties (the "off" properties) are in fact within the evacuation zone.

To adequately compare the price of properties with and without a particular feature, there needs to be certainty that properties either have or do not have the feature. This is a situation where comparing apples and oranges is not only reasonable, but also essential, however, the INGAA case studies are only looking at and comparing all "apples." INGAA relied upon case studies with little to no variation in the feature of interest exists. In the INGAA case studies, the feature of interest is the presence of a nearby risk to health and safety, or, living within the evacuation zone. With no variation in that feature, a systematic variation in the price of the properties is not expected. By comparing apples to apples when rather than comparing apples to oranges, the INGAA studies reach the obvious and not very interesting conclusion that properties that are similar in size, condition, and other features including their location within the evacuation zone of a natural gas pipeline have similar prices.

To varying degrees, the other studies cited by FERC and MVP LLC's filing suffer from the same problem. Fruits (2008), who analyzes properties within one mile of a pipeline that has a 0.8-mile-wide-evacuation zone (0.4 miles on either side), offers the best chance that a sizable portion of subject properties are in fact "not near" the pipeline from a health and safety standpoint. He finds that distance from the pipeline does not exert a statistically significant influence on the property values, but he does not examine the question of whether properties within the evacuation zone differ in price from comparable properties outside that zone. A slightly different version of Fruits' model, in other words, could possibly have detected such a threshold effect. (It should go without saying that such an effect would show up only if the buyers of the properties included in the study had been aware of their new property's proximity to the pipeline.)

In short, the conclusion that pipelines do not negatively affect property values cannot be drawn from these flawed studies. The DEIS, and by extension FERC, continually fails to take into account the inherent flaws of the studies cited (FERC, 2016, p 4-313). To evaluate the effects of the proposed MVP on property value, FERC and others must look to studies (including those summarized in the next section) in which buyers' willingness to pay is fully informed about the

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<sup>4</sup> Proximity of properties to pipelines is based on best estimate of the location of the pipelines derived from descriptions of the pipelines' locations provided in the studies and an approximation of the evacuation zone based on pipeline diameter and operating pressure (Pipeline Association for Public Awareness, 2007).

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## CO100 – Key-Log Economics LLC

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presence of nearby pipelines and in which the properties examined are truly different in terms of their exposure to pipeline-related risks.

**Better information about the effect of pipelines on property values is available.**

To say the impacts and potential impacts of the MVP on private property value are important to people along the proposed route would be an extreme understatement. Many local residents have expressed in comment letters, public forums, and through various media that they either expect or have already experienced a loss of economic value for properties on or near the proposed MVP route. FERC, unfortunately, rather capriciously dismisses these concerns. For example, the DEIS states:

“Patricia Tracy stated that she is a retired real estate agent who sold properties in Montgomery County, Virginia between 2003 and 2013. In her opinion, the MVP would cause properties in the Preston Forest, Brush Mountain Estates, and Coal Bank Ridge neighborhoods to suffer depreciation in real estate values. Unfortunately, Ms. Tracy did not present any evidence or real estate sales data to support her opinion (FERC, 2016, 4-284).”

FERC is similarly dismissive of the professional opinion of Patricia Laurrell, a certified real estate appraiser with 25 years of experience and a resident of Blacksburg, Virginia.

On the one hand, yes, of course there is not (much) evidence in the form of closed real estate transactions or reassessments that reflect the impact of a pipeline that has not yet been permitted, let alone built. But in the absence of ex post observation, one could do a lot worse than to seriously consider the experience and professional judgement of experts familiar with the markets that will be affected.

Moreover, there is in fact evidence that the MVP has already had a detrimental effect on land markets. For example, Dr. Christian Reidys, a landowner in Montgomery County, Virginia testifies that “[upon learning of the proposed MVP route through my property,] I immediately put the land on the market, disclosing its [bisection] by the pipeline...I was told by a realtor that a sale was out of the question, as the land had lost its value for building.... As of now I have not received any offers except ones that make a purchase contingent on the pipeline not being built. Apparently buyers do care” (Reidys, 2016).

What Dr. Reidys is experiencing is evidence that his property lost value due to the proposed pipeline. He cannot sell the property now, and any delay in the sale will be an economic cost due to the time value of money. Moreover, the MVP has already imposed a cost on him in that the pipeline caused him to cancel his plans to build a home on the property. With the value as a place to build a home and live, the property as lost value to Dr. Reidys, regardless of whether he ever sells the property and realized the sort of loss that would show up on the Montgomery County grand list.

It is well worth noting, that the economic benefits due to fuel switching or pipeline construction and operation promoted by the applicants and repeated by FERC are themselves not supported by “any evidence” of the sort that FERC demands of landowners and real estate experts concerned about property value. All of the promoted benefits are estimates based on modeling, not observations of new jobs, local spending, or fuel switching that has occurred. It goes without

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## CO100 – Key-Log Economics LLC

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saying that those things could not be observed, because the pipeline has not been permitted, built, or commenced operations. The point is not that economic models (when selected and used properly) or expert opinion, such as that of those who conducted the economic benefit studies, cannot provide insights into future impacts. Rather, the point is that FERC must not arbitrarily decide that modeling and expert opinion are “evidence” of future benefits, while modeling and expert opinion is not evidence of future costs.

While it is impossible to know precisely how large an effect the specter of the MVP has already had on land prices, there is strong evidence from other regions that the effect would be negative. In a systematic review, Kielisch (2015) presents evidence from surveys of Realtors, home buyers, and appraisers demonstrating natural gas pipelines negatively affect property values for a number of reasons.

Kielisch’s findings, summarized detailed in our report, *Economic Costs of the Mountain Valley Pipeline: Effects on Property Value, Ecosystem Services, and Economic Development in Virginia and West Virginia* (Phillips, S., Wang, S. Z., & Bottorff, C. 2016), demonstrate that properties on natural gas pipeline rights-of-way suffer a loss in property value.

In addition, an econometric study by Boxall, Chan, and McMillan (2005) shows that pipelines also decrease the value of properties lying at greater distances. In their study of property values near oil and gas wells, pipelines, and related infrastructure, the authors found that properties within the “emergency plan response zone” of sour gas<sup>6</sup> wells and natural gas pipelines faced an average loss in value of 3.8%, other things being equal.

The risks posed by MVP would be different than the pipelines included in that study—it would not be carrying sour gas, for example—but there are similarities with the MVP scenario that make Boxall et al.’s finding particularly relevant. Namely, the emergency plan response zones (EPZs) are defined by the health and safety risks posed by the gas operations and infrastructure. Also, and in contrast to the FERC- and MVP-cited studies showing no price effects (see “Property Value: Claims that pipelines do not harm property value are invalid,” above), the Boxall study examines prices of properties for which landowners must inform prospective buyers when one or more EPZs intersect the property.

The underlined phrases in the preceding two paragraphs are important in light of FERC’s false claim at page 4-313 of the DEIS:

The KeyLog [sic] report [Phillips, Wang, and Bottorff, 2016] cited two other studies that also claimed that the presence of oil and gas facilities reduced property values. An analysis of 532 sales of rural residential properties in 30 townships around the city of Calgary, Canada found that oil or gas production wells had negative impacts on property values (Boxall et al., 2005). However, production wells are not equivalent to natural gas pipelines. (Emphasis added.)

While this final statement is self-evidently true, it is not true that the effects Boxall et al. demonstrate are restricted to “oil of gas production wells.” Their study included pipelines as well,

<sup>6</sup> “Sour” gas contains high concentrations of hydrogen sulfide and poses an acute risk to human health.

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## CO100 – Key-Log Economics LLC

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and their study results are therefore applicable to the MVP and other natural gas transmission pipelines.

FERC goes on to cite a “preponderance of evidence from multiple studies...that refute the claims of KeyLog [sic] that the presence of a natural gas pipeline would significantly reduce property values” (FERC, 2016, p. 4-313). Those same studies are, as we have outlined above, deeply flawed and incapable of providing reliable information rendering the extent to which pipelines affect property value. Moreover, even the most recent of those studies (Integra Realty Resources, 2016) predates publication of (Key-Log Economics’) May 2016 study, so they cannot be said to “refute” our estimates.

Interestingly, FERC states on the previous page that it “would generally agree” with Key-Log Economics’ premise (and that of a vast body of other literature) that amenities and disamenities affect property value and that “the presence of a pipeline...may influence a potential buyer’s decision whether or not to purchase the property” (FERC, 2016, p. 4-312). The question then, is this: since FERC understands that the presence of a natural gas transmission pipeline affects consumer behavior, and if it also understands that market prices arise as the result of consumer behavior, why has FERC not made any attempt to estimate the extent to which this particular pipeline affects land prices?

By our own estimates, property owners on the right-of-way and in the evacuation zone can expect to lose, collectively, between \$42.2 and \$53.3 million if the MVP is built. FERC contends that “KeyLog [sic] did not present any facts or evidence to support that claim.” Unless FERC believes that “facts or evidence” refers exclusively to observed data about events that have already occurred,<sup>6</sup> this is patently false. We would refer FERC to pages 24-33 of our report for a detailed description of the model on which these estimates are based, including the supporting facts, GIS analysis, and other supporting evidence.

We would also welcome, and in fact would urge FERC to conduct, a serious and rigorous examination of the land value effects of other natural gas transmission pipelines. Such an examination would stand in stark contrast to the contention, presented in the DEIS and in opposition to FERC’s “general agreement” that pipelines affect consumer behavior, that pipelines nevertheless do not affect land prices. (See “Property Value: Claims that pipelines do not harm property value are invalid,” above.)

In addition to the emerging body of evidence that there is a negative relationship between natural gas infrastructure and property value, there have been many analyses demonstrating the opposite analog. Namely, it is well-established that amenities such as scenic vistas, access to recreational resources, proximity to protected areas, cleaner water, and others convey positive value to real property.<sup>7</sup> There are also studies demonstrating a negative impact on land value of

<sup>6</sup> If FERC does believe that only observed data, and not estimates from economic models, is acceptable as evidence of the effect of a pipeline, then FERC will have to reject the results of the IMPLAN modeling undertaken by Ditzel et al. (2015a,b) that include estimates of economic benefit that might arise from the construction and operation of the pipeline. There are, as noted above, many problems with the IMPLAN model and the use Ditzel et al. made of it, but we do not reject the notion that FERC seems to espouse in the case of land price effect, that economic modeling cannot provide useful insights into the possible effects of future actions or phenomena.

<sup>7</sup> Phillips (2004) is one such study that includes an extensive review of the literature on the topic.

# COMPANIES AND NGOs

## CO100 – Key-Log Economics LLC

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various other types of nuisance that impose noise, light, air, and water pollution, life safety risks, and lesser human health risks on nearby residents (Bixuan Sun, 2013; Bolton & Sick, 1999; Boxall et al., 2005). The bottom line is that people derive greater value from, and are willing to pay more for, properties that are closer to positive amenities and farther from negative influences, including health and safety risks.

CO100-5

### Ecosystem Services: FERC continues to ignore the potential loss of human benefit due to pipeline-induced land conversion.

The idea that people receive benefits from nature is not at all new, but “ecosystem services” as a term describing the phenomenon is more recent, emerging in the 1960s (Millennium Ecosystem Assessment, 2005). According to a White Memorandum titled “Incorporating Ecosystem Services into Federal Decision Making” (Donovan, Goldfuss, & Holdren, 2015), ecosystem services are “benefits that flow from nature to people.” They include tangible physical quantities, such as food, timber, and clean drinking water, life support functions like assimilating waste that ends up in air and water or on the land, as well as aesthetics, recreational opportunities, and other benefits of a more cultural, social, or spiritual nature.

If ecosystem services are the products of nature, then ecosystems themselves—the land—are the factories where those products and values are produced. Just as with different man made factories, different types of ecosystems (forest, wetland, cropland, urban areas) produce different arrays of ecosystem services, and/or produce similar services to greater or lesser degrees. This is true for the simple reason that some ecosystems or land uses produce a higher flow of benefits than others.

Changes in ecosystems or more fundamentally, changes in land use, will change the type, amount, and value of the ecosystem services produced in the affected area. In the case of the MVP, there is the conversion in the short run of all land in the construction zone from forests, cropland, urban open space, and other productive uses to barren land with very little, if any ecosystem service value.

In the longer run, a portion of the construction zone will revert to its pre-disturbance land cover, though the effects of soil compaction, introduction of invasive species, etc. may make even reverted land formerly in the construction zone less productive. In the right-of-way however, land that had been forested before construction, will revert to the (less productive) land cover of grassland, or perhaps shrub scrub, depending on the frequency of mowing to keep the right-of-way free of trees.

CO100-6

Cropland in the ROW could revert to cropland, but if there are restrictions on the weight of vehicles that can be operated on top of the buried pipeline, it may turn out to be the case that cropland reverts, at best, to pastureland. Moreover, there could be long-standing harm to agricultural productivity due to soil compaction, soil temperature changes, and alteration of drainage patterns due to pipeline construction. As agronomist Richard Fitzgerald (2015) concludes in the context of another proposed pipeline, “it is my professional opinion that the productivity for row crops and alfalfa will never be regenerated to its existing present ‘healthy’ and productive condition [after installation of the pipeline].”

CO100-5

The conversion of land uses that would result from the MVP are acknowledged and discussed throughout the EIS, particularly in section 4.8. As stated in section 4.8.2 of the EIS, forested land would be affected. However, existing cropland, pasture, open land, and scrub-shrub land would not be altered by operation of the MVP and these land uses provide ecosystem services (albeit different ones than provided by forests) as acknowledged by the commentor. Our Plan requires measures to test for and mitigate potential soil compaction. Invasive species are addressed in section 4.4 of the EIS.

Mountain Valley (Accession No. 20160624-5244) filed a critique on June 24, 2016 of Key-Log’s technical report that included analyses of “ecosystem services”. Mountain Valley stated that it concluded that Key-Log’s assumptions were unfounded and speculative and that its analyses were unreliable. Mountain Valley’s critique cited literature stating that “ecosystem service value” (or ESV) used by Key-Log was “contentious” and “subjective” and could result in dominance of some values over others. Further, Mountain Valley stated that assumptions based on respondents’ preferences and valuations were often more uncertain than settled. Mountain Valley’s critique also cited other literature stating that estimation of the value of ecosystem services, either generally or more specifically, is difficult and a “daunting exercise”. We have similar concerns about the use of ESV.

CO100-6

The FERC Plan (section VII.A) requires the pipeline company to assess crop growth and vigor of the affected cropland compared to adjacent, undisturbed portions of the same field (unless the easement agreement specifies otherwise) at a minimum after the first and second growing seasons, and to report any problem areas and how they were addressed. This process would serve to identify and resolve potential issues with crop yield.



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## CO100 – Key-Log Economics LLC

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On this point, we should point out inaccuracies and misunderstanding in FERC's response to our report. FERC states:

“...the KeyLog [sic] report incorrectly stated that during pipeline operation cultivated land would be converted to pasture/forage. This is not necessarily the case. Cultivated land affected by construction could be used again as cultivated land after pipeline installation, as crops can be grown over the entire right-of-way during operation.... Therefore, for the purposes of our analysis, we can assume that all 1,069 acres of agricultural land disturbed by construction along the entire 301-mile-long length of the proposed pipeline route would be returned to agricultural land use after restoration (FERC, 2016, p. 4-239, emphasis added).”

First, the Key-Log Economics report does not assume that cultivated cropland would cease to be agricultural land after construction. (FERC's comment implies that we made such an assumption.) Rather assumed that it would revert to pasture forage, an agricultural use that has annual income generation potential that we fully accounted for in our estimates. Pasture/forage does, however, typically produce less value than cultivated cropland, which is what drives the decrease in ecosystem service value from the affected land. As we did state in the report:

“Reclassifying cropland as pasture/forage (which is a generally less productive ecosystem service) recognizes these effects while also recognizing some sort of future agricultural production in the ROW (grazing and possibly haying) could be possible (Phillips, Wang, and Bottorff, 2016, p. 19).”

Second, while it is true we assumed that all cultivated cropland would revert to pasture/forage, we do not present that as fact, but rather as a plausible scenario given what farmers have stated as their concerns regarding what would or would not be practical, even if permitted, under pipeline easements. Again, quoting what our report states:

“We recognize some pre-MVP cropland may be used for crops after construction has been completed, but as expressed in comments to FERC and elsewhere, and as we discovered through personal interviews with agricultural producers in the region, it seems likely that the ability to manage acreage for row crops will be greatly curtailed, if not eliminated entirely by the physical limits imposed by the MVP and by restrictions in easements to be held by MVP LLC. These include limits on the weight of equipment that could cross the corridor at any given point and difficulty using best soil conservation practices, such as tilling along a contour, which may be perpendicular to the pipeline corridor. (This would require extra time and fuel use that could render some fields too expensive to till, plant, or harvest) (Phillips, Wang, and Bottorff, 2016, p. 19).”

FERC goes on to demonstrate its lack of understanding of the methods clearly described in our report related to the extent of conversion of forestland to shrub/scrub due in the proposed pipeline right-of-way.

“Likewise, the indication by KeyLog [sic] that forested land would be completely converted to scrub-shrub land use over the entire right-of-way during pipeline operation is also misleading. In fact, only the 50-foot-wide permanent easement would be kept clear of trees, resulting in the conversion of forest to grasslands/shrub land use during pipeline operation. The remainder of the temporary construction workspace (including

CO100-7

Cropland would not become pastureland due to the operation of the MVP. The FERC staff has observed cropland successfully restored to its full use as cropland following hundreds of past natural gas pipeline projects. See the response to CO100-6.

# COMPANIES AND NGOs

## CO100 – Key-Log Economics LLC

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ATWS) along the pipeline route (75 feet or greater) would be allowed to regenerate back to forest; although it would take many years for trees to mature (FERC, 2016, pp. 4-239-40, emphasis added).”

We are not entirely sure what FERC is objecting to, given that our estimates assume that it is only the pre-MVP forestland that would be occupied by the 50-foot-wide permanent ROW that would revert to (and remain in) shrub/scrub (Phillips, Wang, and Bottorff, 2016, p. 18). Moreover, we also assume, as FERC suggests, that pre-construction forest lying between the outer edge of the permanent ROW and the outer edge of the construction zone will eventually revert to forest. Indeed, and in light of FERC’s recognition that “it would take many years for trees to mature” in those strips, we assume that the loss of ecosystem service value from those narrow strips (each would be 12.5 feet wide) and from forestland cleared for temporary work spaces would persist for merely two years.

CO100-8

Having carefully and conservatively estimated the acreage that would be converted during the construction period and during ongoing operations, we then applied the well-established benefits transfer method to estimate ecosystem services costs. This method is described Organization for Economic Cooperation and Development (2006) as “the bedrock of practical policy [cost-benefit] analysis.” We apply per-acre ecosystem service productivity estimates (denominated in dollars per acre per year) to the acreage in each land use and estimate ecosystem service value produced each year in the periods before, during, and after construction. The difference between annual ecosystem service value during construction and before construction is the annual loss in ecosystem service value of construction. The difference between the annual ecosystem service value during ongoing operations (i.e., the value produced in the ROW) and the before-construction baseline (no pipeline) is the annual ecosystem service cost that will be experienced indefinitely.

Using BTM methods established in Phillips and McGee (2016), we estimate that the Mountain Valley Pipeline would cause an initial loss of between \$22.9 and \$82.2 million during construction period. For each year the pipeline is in operation, the pipeline would induce an additional loss of \$4.1 and \$14.8 million in ecosystem service value due to conversion of land in the ROW (Phillips, Wang, & Bottorff, 2016). Note, relative to FERC’s misplaced objections noted above, that one of the reasons the annual cost is lower during ongoing operations is that a portion of the forestland stripped bare during construction is assumed to revert to forestland in the long run, and that all agricultural land (pre-MVP cropland as well as pre-MVP pasture/forage land) is assumed to return to agricultural use after the construction period.

It is important to note that these estimates are for just an eight-county area representing just half of the MVP’s proposed length. We therefore recommend FERC undertakes its own assessment of the ecosystem services impacts of the proposed action. Such a review would be consistent with current executive branch direction and coming implementation guidance (Donovan, Goldfuss, & Holdren, 2015). FERC should follow the lead of other agencies and use existing resources, such as *Federal Resource Management and Ecosystem Services* (National Ecosystem Services Partnership, n.d.) and *Best Practices for Integrating Ecosystem Services into Federal Decision Making* (Olander et al., 2015) in its review. Such a review would help ensure that these important environmental effects (and their economic consequences) are no longer ignored in FERC’s decision making.

CO100-8

The final EIS has been revised regarding ecosystem service values as appropriate.

# COMPANIES AND NGOs

## CO100 – Key-Log Economics LLC

CO100-8 cont'd | The failure to include in the DEIS an analysis of ecosystem services lost due to the construction and operation is a glaring example of inadequacy of FERC’s “traditional” conflation of the interests of landowners and surrounding communities with environmental impacts described above. The exclusion of ecosystem service losses means that many of the economic consequences of environmental effects, not to mention many environmental effects, have not been considered at all. This renders the DEIS inadequate for informing decision making about the MVP pipeline.

CO100-9 | **Potential Economic Development Impacts**  
 The DEIS very narrowly discusses the potential for the MVP to hinder economic development in the region, it states “operation of the MVP would not result in significant impacts on tourist attractions, as the pipeline would be installed underground” (FERC, 2016, p 4-309). This suggests FERC is not considering the long-term economic impact of the pipeline on tourism, an important driver of economic development in the region. Recreationists flock to this region because of the unspoiled visual landscapes as well as the pristine environment. The information supplied in the DEIS does not adequately address citizens’ concerns for the potential losses the MVP could contribute to, ranging from less visits to Smith Mountain Lake in favor of other, more pristine recreation areas, to choosing a different agri-tourism business to visit, one not hindered by a pipeline easement.

CO100-10 | The DEIS also does not make note on whether or not it interviewed local business owners, tourism industry representatives, agri-tourism businesses, or farms along the route in order to see whether or not the people most affected predict or have already seen businesses slow.

CO100-11 | In our report, *Economic Costs of the Mountain Valley Pipeline: Effects on Property Value, Ecosystem Services, and Economic Development in Virginia and West Virginia* (Phillips, Wang, and Bottorff, 2016), we describe what we believe to be a fairly conservative scenario in which the pipeline results in a 10% reduction in visitor spending and 10% reduction in the rate of growth in retirement-related. These changes would entail a drop in personal income of \$42 million per year, plus lost state and local tax revenue, and profits for recreation and tourism businesses. (See Phillips, Wang and Bottorff, 2016, pp. 35-8.)

We based the scenario for how a natural gas transmission pipeline might affect local economic development on input (including comment letters to FERC) from business owners, retirees, and other residents. FERC’s assumption that the MVP would have no affect on tourism (or other economic development) whatsoever is also a scenario. While we would not claim the true harm the MVP would visit upon recreation/tourism businesses or on the attractiveness of the affected region to retirees and entrepreneurs would be exactly 10% of spending or 10% of current growth trends, we are quite certain that the effect would be more than zero, as FERC contends. The bottom line is that it is incumbent upon FERC to conduct and communicate a thorough review of the economic effects of its actions including a serious and realistic estimate of the extent to which the MVP would limit opportunities in important industries and on key drivers of current income growth.

Tourism is discussed in detail in section 4.9 of the EIS. The commenter presents no evidence to support his statement that “recreationalist flock to this region because of the unspoiled visual landscapes as well as the pristine environment.” The facts are otherwise. The visual landscapes of the region are not “unspoiled” or “pristine.” As shown in section 4.9 of the EIS, millions of people reside in the project area. The area includes existing infrastructure, including cities, highways, powerlines, housing tracts, farmsteads, etc., that have modified the landscape and the environment.

CO100-9

CO100-10

CO100-11

We have received thousands of comments, both written and verbal and during the scoping period and in comments on the draft EIS, from a variety of stakeholders located along or nearby the proposed route concerning many potential issues including tourism.

We find no factually supported basis that the MVP would cause a 10 percent reduction in visitor spending or a 10 percent reduction in the rate of growth in retirement-related income. The draft EIS did not say that effect of the MVP would be “zero;” rather we concluded that the MVP would not result in a significant impact on tourism.

CO100-12

### Climate Change and the Social Cost of Carbon

In August 2016, the Council on Environmental Quality (CEQ) issued final guidance for federal agencies to consider climate change when evaluating proposed Federal actions. The guidance states “agencies should consider applying this guidance to projects in the EIS or EA preparation stage if this would inform the consideration of differences between alternatives or address comments raised through the public comment process with sufficient scientific basis that suggest the environmental analysis would be incomplete without application of the guidance, and the additional time and resources needed would be proportionate to the value of the information included” (Council on Environmental Quality, 2016).

FERC, in the DEIS for MVP states “there is no standard methodology to determine how the proposed projects’ relatively small incremental contribution to GHGs [greenhouse gasses] would translate into physical effects of the global environment” (FERC, 2016, p. 4-516). While technically true, this statement is misleading in that the CEQ guidance does not require that FERC follow a “standard methodology”, but rather that it give “focused and effective consideration of climate change in NEPA reviews” including quantitative, or at least qualitative, evaluation of the impacts of greenhouse gas emissions associated with the project (Council on Environmental Quality, 2016, pp. 3-6).

Instead, and despite its admission that the project “would increase atmospheric concentration of GHGs...and contribute incrementally to climate change that produces [negative impacts on ecosystems and people],” FERC hedges: “because we cannot determine the projects’ 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” (FERC, 2016, p 4-516). We leave it to others to comment on the extent to which this statement is true and/or whether FERC’s treatment of the physical effects of greenhouse gas emissions in the DEIS is adequate relative to direction provided by the CEQ.

We do question, however, is FERC’s failure to consider the economic effects of greenhouse gas emissions. The “social cost of carbon” (SCC) is a comprehensive estimate of the external costs imposed on all the world’s inhabitants by the release of greenhouse gasses. The SCC is important for regulation because it helps agencies more accurately weigh the costs and benefits of a new rule or regulation. SCC is also one of the effects of the proposed MVP for which a standard methodology does exist (U.S. EPA, 2016; Interagency Working Group on Social Cost of Carbon, 2015). And in April 2016, a federal court upheld the legitimacy of using the social cost of carbon as a viable statistic in climate change regulations (Brooks, 2016). There is no good reason, therefore, for FERC’s having excluded this external cost from the DEIS.

MVP LLC estimates the pipeline would transport a maximum of 730.0 million dekatherms annually, contributing to an equivalent of 38.7 metric tons of CO<sub>2</sub> emitted per year (U.S. EPA, 2016). Using the most conservative estimate of the cost per metric ton of carbon (U.S. EPA, 2016a), the additional emission of CO<sub>2</sub> would cost \$48.6 million annually.

For comparison, Ditzel, Fisher and Chakrabarti (2015a, pp3-4.; 2015b, p 3.) estimate that wages, property taxes and fuel cost savings during operation of the MVP would total \$33.8 million per year during pipeline operations. That FERC repeats these benefit estimates without comment while completely ignoring larger costs, such as the social cost of carbon, is further evidence of

CO100-12

See the response to FA15-10. See the response to comment IND313-5 regarding the social cost of carbon.

CO100-12 | how FERC's certification policy, as implemented, is incapable of rendering decisions that are  
cont'd | economically efficient.

CO100-13 | **Conclusion**

Based on our own and others' research regarding the potential economic effects of natural gas transmission pipelines, we find the following critical weaknesses in FERC's Draft Environmental Impact Statement regarding the proposed Mountain Valley pipeline.

- 1. The DEIS reflects FERC's policy on pipeline certification, which embodies confused and economically incorrect guidance regarding the scope or extent of the area within which economic costs the pipeline would be experienced. Namely, the policy looks only at impacts on owners of pipeline rights of way and an undefined "surrounding community," rather than the full geographic area over which impacts could be felt. In addition, the policy ignores even the surrounding community if a significant proportion of landowners have agreed to sell easements to their property.
- 2. The range of alternatives is inadequate, resulting in the potential that the DEIS has missed opportunities to meet the same energy services need at a lower environmental and economic cost.
- 3. The DEIS, while noting that economic benefits would be slight, still relies on over-estimates of those benefits.
- 4. The DEIS ignores important economic costs, the social cost of carbon, the value of ecosystem services lost due to land conversion in the pipeline construction corridor and right-of-way, and diminished property value for landowners in the right-of-way and the evacuation zone.

Taken together, these flaws render the DEIS unsuitable as a guide to evaluating the economic effects of the proposed Mountain Valley pipeline.

Sincerely,



Spencer Phillips, Ph.D.  
Principal

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CO100-13 | See the response to CO100-1.

CO100-14 | See the response to CO100-2.

CO100-15 | See the response to CO100-3.

CO100-16 | See the responses to CO100-4, -5, -6, -7, -8, -9, 10, and -11.

# COMPANIES AND NGOs

## CO100 – Key-Log Economics LLC

20161221-5068 FERC PDF (Unofficial) 12/20/2016 11:25:10 PM

Re: FERC Docket No.: CP16-10-000

12/20/2016, Page 19

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# COMPANIES AND NGOs

## CO100 – Key-Log Economics LLC

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# COMPANIES AND NGOs

## CO100 – Key-Log Economics LLC

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Re: FERC Docket No.: CP16-10-000

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# COMPANIES AND NGOs

## CO101 – Preserve Montgomery County Virginia

20161222-5538 FERC PDF (Unofficial) 12/22/2016 4:51:01 PM

CO101-1 December 21, 2016

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

Re: Draft Environmental Impact Statement (DEIS-DO272)  
Docket No. CP16-10-000  
Mountain Valley Pipeline (MVP) proposal  
Pipeline Corridor Modification, Montgomery County, VA

As stated in the Draft Environmental Impact Statement for the proposed MVP, the pipeline construction corridor is to be a 125-foot-wide construction right-of-way, with a 50-foot-wide permanent right-of-way once in operation (DEIS 2-24-25). In addition, permanent access roads require up to 40-foot-wide permanent right-of-way (DEIS E1-57). These locations for the actual pipeline and a permanent access road rights-of-way pose problems of property access to two Montgomery County, Virginia, properties described as follows:

- Location: MP 232 to 233 (DEIS Appendix B, Page 34)
- Parcels ID, owner, and size:
  - ID 120001; P.I. Apgar Estate (Donald Apgar, Agent certified to represent all heirs) approximately 242 acres (Montgomery County GIS and Mapping Services. <http://54.225.90.98/MapServer/DoGis>)
  - ID 000837; Gregory and Angela H. Apgar; approximately 12 acres (Montgomery County GIS and Mapping Services. <http://54.225.90.98/MapServer/DoGis>)

### Pipeline Corridor Issues

A portion of the proposed pipeline construction area crosses the P. I. Apgar Estates property along a private trail currently suitable only for four-wheel vehicles. A portion of the proposed pipeline route would locate the pipeline directly in this trail, thus removing it from any and all vehicle usage by the Apgar heirs and their families per easement usage requirements (see enlarged satellite view of parcel at <http://54.225.90.98/MapServer/DoGis>).

This area of the Apgar property is steep, culminating near the top of Fort Lewis Mountain (elevation approximately 3,000 ft.), and the trail is located along the only possible route of access to the upper slopes. It is needed for access to hunting, gathering of forest products, and other Apgar heirs' uses that result in the procurement of livelihood items from this remote northeastern section of the property rich in game (deer, bear, wildcats, raccoon, opossum, squirrel, falcon, eagle, hawk species, turkey, and other bird species, etc.) and plant and tree products (various berries, nuts,

CO101-1

The final EIS has been updated regarding the proposed project's pipeline impacts upon the subject parcel's trail. Cultural attachment is discussed in section 4.10 of the EIS.

**COMPANIES AND NGOs**  
**CO101 – Preserve Montgomery County Virginia**

20161222-5538 FERC PDF (Unofficial) 12/22/2016 4:51:01 PM

CO101-1  
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hardwood and conifer trees etc.). The items that are usually collected cannot easily be carried on foot down the steep slopes of the mountain. Motorized vehicles are required.

Loss of this trail will mean that owners will not be able to continue to use this property in a manner that augments their modest financial incomes through the harvesting of animal and plant produce and is in accord with the cultural attachment they have developed as a viable community of kin over six generations.

The concept of cultural attachment, as quoted in the DEIS (4-366-367), “is the cumulative effect over time of a collection of traditions, attitudes, practices, and stories that tie a person to the land, to physical place, and to kinship patterns” (from Kent et al., June 1996; see also Kent and Preister 2016). Implied by this definition, and relevant to the proposed MVP corridor through the Apgar Estate property, is that cultural attachment is closely linked to land uses that provide cultural economic assets and capital. That is, in the case of this property, family heirs and numerous kin who have unimpeded access to the property (approximately 75 total) have developed attitudes, traditional experiential knowledge and practices transmitted through narratives (stories) over generations, that enable them to maintain and sustain their natural assets for their domestic use in a manner that enhances their quality of life and provide them with a nearly sacred and inalienable attachment to place. In so doing, they have constituted a distinct cultural orientation that is similar to one type of Traditional Cultural Properties covered under NHPA, described as follows: “a location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity” (Parker and King 1998:1). That cultural attachment can be covered under NHPA is currently being investigated as a change in NEPA policy (Kent and Preister 2016). Therefore, the Apgar Estate heirs assert that, while not currently eligible for NHPA Section 106 protection, access to their property north and east of the existing trail nevertheless warrants the kinds of protections available to Traditional Cultural Properties such that access to this parcel for purposes of constructing the MVP must be mitigated.

CO101-2

**Permanent Access Road Issues**

The proposed permanent access road is MVP-MN 277. It is proposed to transverse both the Gregory Apgar and P.I. Apgar Estate properties on an existing dirt road (DEIS B, page 34) at MP 232.4 (DEIS E-1-57). This access road has a proposed width of 25 to 40 ft., increasing the width of the existing road by about 12 to 28 ft. This widening will require substantial construction and bank removal, necessitating retaining walls and other ways of stabilizing the bank.

CO101-2

The final EIS has been updated regarding the proposed project’s access road’s impacts upon the subject parcel’s dirt road.

CO101-3

Furthermore, MVP’s statement in its February 26, 2016 response to the FERC Environmental Information Request says, “Access will not be restricted to any residence. Mountain Valley will work with all affected landowners to ensure adequate access is maintained to their property as specified in landowner agreements.” Given that a hunting cabin occupied by Apgar family heirs for major portions of the year exists at the end of a spur off of the proposed access road on the Gregory and Angela Apgar

CO101-3

The final EIS has been updated regarding the proposed project’s impacts upon the subject parcel’s hunting cabin.

**COMPANIES AND NGOs**  
**CO101 – Preserve Montgomery County Virginia**

CO101-3 con'td | property, MVP must provide access to this cabin during construction and after. The P. I. Apgar heirs and Gregory Apgar family members, many of whom are also P. I. Apgar heirs, must be able to access the hunting cabin during construction and at any time after.

CO101-4 | Finally, the disruption of the forested ecology by both the pipeline easement/construction area and the permanent access road will be significant because of deforestation and permanent use of the access road by heavy equipment and other motorized vehicles. Therefore the overarching stance of the impacted Apgar owners is that they will suffer undue hardship from loss of forested wildlife and plant life that they have relied upon for two centuries as sources of their livelihood and place-based, way of life consistent with all criteria for cultural attachment.

CO101-5 | **Requests for DEIS Modifications**  
 Therefore we request the FERC to require MVP to, first and preferably, move the current corridor off this property or, secondly, mitigate its placement such that

CO101-6 | 1) Adequate access to the northeastern section of the property is maintained by MVP's construction of a new lane that motorized four wheel drive vehicles can use;

CO101-7 | 2) That appropriate bridges or causeways are constructed over the pipeline easement at MVP's expense to provide access to this new lane;

CO101-8 | 3) That replanting of flora on the construction right-of-way portion after construction be in accord with the surrounding ecology and subject to the approval of the Apgar Estate heirs;

CO101-9 | 4) That maintenance of this easement be done without the use of herbicides or other chemicals that would endanger the surrounding forest and its wildlife, as well as the health of those traversing the property to, hopefully, continue to obtain forest products that contribute to their livelihood. Also to be protected by non-use of herbicides are those occupying the cabin, often for extended periods.

CO101-10 | 5) That the permanent access road be open and available to those having authorized property access so they can have ingress and egress to the cabin.

CO101-10 | 6) Details of these demands are to be determined by the Apgar Estate heirs through its legal representative, Mr. Donald Apgar, Mr. Gregory Apgar, and any attorney or attorneys they retain for legal counsel.

As legal agent authorized to speak on behalf of the P. I. Apgar Estate heirs, I, Donald Apgar, approve and support the statements offered above as representative of the wishes of the P. I. Apgar heirs. As a legal owner of the Gregory and Angela H. Apgar property, I also support the statements offered above

Respectfully,

CO101-4 | The final EIS has been updated regarding the proposed project's impacts upon the subject parcel.

CO101-5 | The pipeline routing on the subject property is discussed in section 3.5 of the final EIS.

CO101-6 | It is not anticipated that bridges or causeways would be needed to cross over the pipeline.

CO101-7 | Revegetation is discussed in sections 2.4, 4.4, and 4.5 of the EIS. Landowners are free to negotiate with Mountain Valley regarding easement stipulations, including revegetation requirements.

CO101-8 | See the response to CO55-5 regarding herbicides. Landowner approval would be required for the use of herbicides.

CO101-9 | Mountain Valley would be required to provide access (i.e., a key) to locked fence gates on the parcel to the landowner.

CO101-10 | Comment noted.

# COMPANIES AND NGOs

## CO101 – Preserve Montgomery County Virginia

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CO101-10  
cont'd



Donald Apgar  
Legal Agent, P.I. Apgar Estate Heirs  
5575 Lafayette Road  
Ellison, VA 24087



Gregory Apgar (for himself and representing his wife, Angela H. Apgar)  
2335 Green Hill Lane  
Elliston, VA 24087

Submitted by



Anita Puckett, Intervener  
Preserve Montgomery County Virginia  
Blacksburg, VA 24060

### References (Non-DEIS)

- Kent, J., J. Ryan, C. Hunka, and R. Schultz. June 1996. Appendix M: Cultural Attachment: Assessment of Impacts to Living Culture. In APCo 765 kV Transmission Line Draft Environmental Impact Statement. U.S. Forest Service, George Washington and Jefferson National Forests, Roanoke, Virginia.
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**COMPANIES AND NGOs**  
**CO102 – Indian Creek Watershed Association**

20161222-5540 FERC PDF (Unofficial) 12/22/2016 4:52:02 PM

CO102-1



Indian Creek Watershed Association  
 P.O. Box 711  
 Union, WV 24983  
[www.IndianCreekWatershedAssociation.org](http://www.IndianCreekWatershedAssociation.org)

December 22, 2016

**RE: Hydrogeological Assessment of Karst Area Impacts Caused by Constructing the Mountain Valley Gas Pipeline Across Peters Mountain, Monroe County, West Virginia Docket No. CP16-10-000**

**TO: Ms. Kimberly Bose, Secretary, Federal Energy Regulatory Commission (via e-filing)**

**Indian Creek Watershed Association hereby files the following report: "Hydrogeological Assessment of Karst Area Impacts Caused by Constructing the Mountain Valley Gas Pipeline Across Peters Mountain, Monroe County, West Virginia," by Pamela C. Dodds, Ph.D., Licensed Professional Geologist.**

In preparing the DEIS, the FERC failed to meaningfully address the significant concerns raised in Dr. Dodds' earlier hydrogeological report, which provided a preliminary assessment of impacts caused by construction of the MVP in Monroe and Summers Counties (August 2016, Accession # 20160815-5135).

For her further analysis of the impacts on Monroe County, Dr. Dodds has focused attention on the karst area negatively affected by the proposed MVP pipeline route across Peters Mountain.

This site report provides exactly the sort of empirical evaluations missing from the materials in the Draft Environmental Impact Statement for the MVP. Dr. Dodds provides sufficient details on geological principles to understand their implications when they are subsequently applied to the particulars of each site. Her reports provide examples of the cumulative impacts of deforestation, blasting, excavation, and other construction activities on stormwater discharge, sedimentation, headwater aquatic habitats, springs, wetlands and other aquatic resources.

CO102-2 | **This report reinforces our requests for (1) detailed, on-the-ground hydrogeological studies, (2) a Revised**  
 CO102-3 | **Environmental Impact Statement for the MVP, and (3) individual 401, 404, and Stormwater permits,**  
 CO102-4 | **rather than general permits.**

CO102-5 | **If the FERC does not require such studies, with an opportunity for public comment, we request that the FERC choose the No Action Alternative.**

Respectfully submitted,  
**Indian Creek Watershed Association Board of Directors**  
 Judy Azulay, President; Scott Womack, Vice President;  
 Howdy Henritz, Treasurer; Nancy Bouldin, Secretary

*Email: [info@IndianCreekWatershedAssociation.org](mailto:info@IndianCreekWatershedAssociation.org)*

CO102-1 See the response to FA11-2 regarding the adequacy of the draft EIS. Dr. Dodd's report is addressed in sections 4.1 and 4.3 of the final EIS.

CO102-2 See the response to CO34-1 regarding hydrogeologic studies.

CO102-3 The final EIS represents a revision of the draft.

CO102-4 In March 2017 the WVDEQ issued a Water Quality Certificate to Mountain Valley in compliance with Section 401 of the CWA.

CO102-5 The Commission decision would be found in the Project Order.

# COMPANIES AND NGOs

## CO102 – Indian Creek Watershed Association

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CO102-5  
cont'd

**CC:** **U.S. Environmental Protection Agency, Region 3**  
Mr. Jon M. Capacasa, Director, Water Protection Division  
Barbara Rudnick, NEPA Team Leader

**U.S. Army Corps of Engineers, Huntington District**  
Mike Hatten, Regulatory Permits – Energy Resources  
Christopher L. Carson

**West Virginia Department of Environmental Protection**  
Randy Huffman, WVDEP  
Scott Mandirola, Division of Water and Waste Management  
Wilma Reip [401 Certification Program]  
Nancy Dickson [Stormwater Permit]  
Wendy Radcliff

**West Virginia Dept. of Health and Human Resources—Compliance and Enforcement Program**  
Meredith Vance

**West Virginia Department of Natural Resources**  
Robert Fala, Office of Land and Streams  
Danny Bennett

**WV Bureau for Public Health**  
William Toomey, Unit Manager, Source Water Assessment and Wellhead Protection Program  
Environmental Engineering Division

**COMPANIES AND NGOs**  
**CO103 – Save Monroe Border Conservancy**

CO103-1 | DATE: December 22, 2016

TO: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission  
 Joby Timm, Forest Supervisor, George Washington and Jefferson National Forests, [jtimm@fs.fed.us](mailto:jtimm@fs.fed.us)  
 Jennifer Adams, Special Projects Coordinator, George Washington and Jefferson National Forests, [jenniferpadams@fs.fed.us](mailto:jenniferpadams@fs.fed.us)

**RE: Inadequate Treatment of Cultural Resources in the Draft Environmental Impact Statement, Docket No. CP16-10-000**

Save Monroe, Inc., and The Border Conservancy, two community-based organizations in Monroe County, West Virginia, are commenting on the treatment of Cultural Attachment in 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.

In preparing the DEIS, the FERC both ignored and failed to meaningfully address significant concerns about Cultural Attachment raised in our previously submitted comments, including:

Accession Number: 20150616-5243  
 Date: 6/16/2015 (Docket PF15-3-000)  
 Description: **Comment of Save Monroe and Border Conservancy under PF15-3, Monroe County, WV Landowner Impact Report and EIS Scoping Recommendations, Part I: Summary and Scoping Recommendations.**

CO103-2 | Accession Number: 20150804-5026  
 Date: 8/04/2015 (PF15-3-000)  
 Description: **Supplemental Information or Request of Save Monroe and Border Conservancy under PF15-3, Monroe County WV Landowner Impact Report Summary Update 08-02-2015, Part I-D: Data confirming Cultural Attachment as a significant issue in Monroe County.**

CO103-3 | Accession Number: 20151125-5114  
 Date: 11/25/2015 (CP16-10-000)  
 Description: **Updated Individual Landowner Impact Reports from Monroe County, WV Docket No. PF15-3-000: Part I: Summary and EIS Recommendations (posted to Docket CP16-10-000).**

CO103-1 Cultural Attachment is discussed in section 4.10 of the EIS. This section addressed public comments to the issue.

CO103-2 Comments were reviewed and incorporated in the analysis of Cultural Attachment in section 4.10 of the EIS, as applicable.

CO103-3 See response to comment CO103-2.

**COMPANIES AND NGOs**  
**CO103 – Save Monroe Border Conservancy**

CO103-4 | Accession Number: 20151125-5115  
 Date: 11/25/2015 (CP16-10-000)  
 Description: **Updated Individual Landowner Impact Reports from Monroe County, WV Docket No. PF15-3-000: Part II-A: Individual Landowner Reports, updated 10-1-2015 (posted to Docket CP16-10-000).**

CO103-4 See response to comment CO103-2.

CO103-5 | Accession Number: 20160505-5090  
 Date: 5/05/2016 (CP16-10-000)  
 Description: **Request by The Border Conservancy, Save Monroe, Preserve Craig, and Preserve Giles for study of the potential negative impacts of the MVP Project on Cultural Attachment resources in the Peters Mountain Vicinity in Monroe, et al. under CP16-10.**

CO103-5 See response to comment CO103-2.

CO103-6 | **I - BACKGROUND**

In preparing the DEIS, the FERC did not address the significant concerns raised in previous submittals including but not limited to those by Save Monroe, The Border Conservancy, Preserve Craig, Preserve Monroe, Preserve Giles, other organizations and individuals, as well as reports by James Kent et al., Applied Cultural Ecology, and Thomas King.

CO103-6 See responses to comments CO103-1 and CO103-2.

**1. Cultural Attachment was identified as an issue in the Scoping Period by Save Monroe, The Border Conservancy and numerous organizations and individuals.**

Our scoping recommendations of 6/16/2015 and expanded information on cultural attachment submitted on 8/04/2016 were based on data and comments submitted by 210 landowners on and near the proposed MVP routes in Monroe County. These data and comments—together with the study of cultural attachment by James Kent and Associates which was incorporated into and validated by the Record of Decision on a proposed American Electric Power 765 kV electric transmission line in 1995—established that an analysis of cultural attachment in the Peters Mountain areas of Monroe County needed to be included in the EIS for the current MVP pipeline corridor(s).

CO103-7 | **2. At the request of the Forest Service, FERC instructed MVP to investigate Cultural Attachment.**

As stated in the DEIS (4-369):  
 [T]he FS requested that this EIS include an analysis of cultural attachment as it relates to the MVP crossing of the Jefferson National Forest. Therefore, Mountain Valley hired a professional cultural anthropological consulting firm (Applied Cultural Ecology, ACE) to study the topic of cultural attachment for this project.

CO103-7 This statement just reiterated what the draft EIS stated.

On January 27, 2016, Mountain Valley filed its Cultural Attachment Report (Bengston and Austin, 2016). Originally, the study area was intended to cover the MVP pipeline route crossing the Jefferson National Forest. However, this area has been mostly devoid of permanent residents since the National Forest was first created in 1916. Therefore,



**COMPANIES AND NGOs**  
**CO103 – Save Monroe Border Conservancy**

CO103-7  
cont'd

the anthropological study concentrated on the adjacent landscape of Peters Mountain, which is crossed by the proposed MVP pipeline route between about MPs 194 and 200, in Monroe County, West Virginia and Giles County, Virginia.

CO103-8

3. **The scope of the ACE study was restricted by project definition as well as by time**, allowing for only a week of field research to interview people in the area.  
 The Study Description and Purpose (ACE, 2) notes:  
 The current study constitutes an investigation of the concept of cultural attachment for the portion of JNF lands ... that includes the MVP Project’s crossing.... **It is not a complete ethnographic assessment of the JNF Study Area or Peters Mountain and the surrounding vicinity.** [emphasis added]

CO103-8

While the FS only requested a study of Cultural Attachment to cover the Jefferson National Forest, in fact ACE expanded their study to include the portion of Peters Mountain in the project area.

CO103-9

4. **Although limited in scope, the ACE study concluded that a special kind of Cultural Attachment does exist in the vicinity of the pipeline route across the JNF and that the entire Peters Mountain area is an important Cultural Landscape.**  
 In their conclusions the ACE researchers Ginny Bengston, M.A., and Rebecca Austin, Ph.D., answered the question posed by FERC Project Manager Paul Friedman: *“Do the people who reside in the vicinity of the pipeline route across JNF have a special kind of ‘cultural attachment’ that is different from other areas?”* with an unequivocal “Yes.”  
  
 They went on to say (ACE, 47): One of the key issues that ACE researchers discovered during the archival record and literature research, and that became clearer once they began meeting and speaking with local residents, was that the entire Peters Mountain area, including the JNF Study Area, was a *cultural landscape*. [emphasis added] ... [T]he best way to analyze the tangible aspects of cultural attachment specific to the JNF Study Area would be to assess the Peters Mountain and surrounding vicinity, including private lands and other government-managed lands besides those of JNF.

CO103-9

Again, this comment just repeats what the EIS said. In the final EIS we make clear that FERC staff concurs with the ACE findings. We agree that Peters Mountain may be viewed as a rural cultural landscape.

CO103-10

5. **The FERC ignored our request that they require a follow-up study and Effects Analysis by a professional Cultural Anthropologist before issuing the DEIS.**  
 a. Our comment posted 5/05/2016 (dated May 4, 2016), and referenced in the DEIS on p. 4-371, discussed the relevant findings of the ACE report and submitted that the Forest Service should request that the ACE study be expanded to include an Effects Analysis by a qualified Cultural Anthropologist to determine the nature and extent of potential project impacts on this identified cultural resource.  
 b. In addition to our previous submittals and the ACE report, two additional expert reports inform our comments in this submittal:
  - On October 23, 2015 Preserve Craig submitted a report prepared by James Kent Associates, “The Scientific Validity of Cultural Attachment as a Social Phenomenon and the Basis for an ‘All Lands’ Approach in NEPA Decision-making” (Docket CP16-10, Accession 20151023-5124).
  - In August 2016, Thomas King, Ph.D. prepared a report, “Traditional Cultural Places in Appalachian Virginia and the Mountain Valley Pipeline,” for the Greater Newport Rural Historic District Committee. The report was

CO103-10

An analysis of project effects on the Peters Mountain area is contained in section 4.10 of the EIS. That analysis was conducted by qualified professional Cultural Anthropologists. Section 4.10 of the final EIS also discusses the King report (that was filed after the draft EIS was in production).

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CO103-10 | commissioned to study MVP’s potential effects on the cultural environment  
 cont’d | (Docket No. CP16-10, Accession No. 20160830-5133).

CO103-11 | **6. ACE’s investigation into Cultural Attachment in the Peters Mountain vicinity also revealed that the area potentially qualifies for nomination to the National Register of Historic Places (NRHP) as a rural historic landscape.** An investigation of this eligibility, and potential negative effects of the MVP project, should be included in the follow-up study to the original ACE report.  
 The DEIS (4-370) states:  
 An assessment of cultural attachment is not required by any federal laws or regulations relating to historic preservation and cultural resources management. However, **the NPS [National Park Service] has indicated that historic rural landscapes may qualify for nomination to the NRHP (McClelland et al., 1999). In the opinion of ACE, Peters Mountain could be considered a rural historic landscape (Bengston and Austin, 2016).** [emphasis added]

CO103-12 | According to Thomas King, Ph.D. cited above (King, 17):  
 Under Section 106 of the NHPA, **federal agencies like FERC are responsible for identifying and considering the effects of their actions not only on known, documented historic properties, but on “historic properties not yet identified” (See 36 CFR § 800.4, especially §§ 800.4(a)(2)).** It is unclear to me what efforts, if any, have been made to identify hitherto unidentified historic districts along the MVP preferred route. The identification reports I have reviewed appear to focus mostly on the identification of specific buildings, structures and sites of architectural and archaeological value, not on the “concentrations, linkages or continuities” that might constitute districts. However, New South’s survey reports did identify the hitherto undefined Bent Mountain and Big Stony Creek Rural Historic Districts. **The possible existence of additional historic districts subject to effect may need to be considered by FERC and the other parties to Section 106 review of the MVP.** [emphasis added]

CO103-13 | **II - ERRORS AND INADEQUACIES OF THE DEIS**  
**The FERC’s response in the DEIS is inadequate, misleading and lacks professional authority to make an effects analysis of impacts of MVP construction on cultural attachment.** The FERC appears to have carefully attempted to quarantine and deflect serious discussion and assessment of Cultural Attachment—and failed to pursue the possibility of the vicinity of Peters Mountain being a cultural landscape eligible for protection as a rural historic landscape.  
 The following are examples of the errors, omissions and misrepresentations in FERC’s analysis:

CO103-11 | See response to comment CO103-9.

CO103-12 | Historic Districts are addressed in section 4.10 of the EIS.

CO103-13 | We disagree. The draft EIS was not inadequate, did not contain misleading information, and was written by professional scholars. Cultural Attachment is addressed in section 4.10 of the EIS.

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CO103-13 cont'd

1. **The DEIS omits mention of “Cultural Attachment” in key sections of the DEIS where Cultural Resources are discussed.**

**ERRORS/OBJECTIONS:**

- The issue of “Cultural Attachment” is omitted from three important sections of the DEIS.
  - The Executive Summary (DEIS ES-10-11)
  - The Introduction section, Table 1.4.1 “Issues Identified During the Scoping Process” (DEIS 1-28)
  - The Conclusions and Recommendations section, 5.1.10 Cultural Resources (DEIS 5-10-11)
- In each of these sections, the only topics listed or discussed under the category Cultural Resources are “Tribal consultations” and “Impacts on culturally and historically significant properties”. The term “Cultural attachment” never appears.
- Given the facts presented in the Background materials above and the attention paid to the topic of Cultural Attachment within the FERC’s DEIS Cultural Resources section 4.10.8 (DEIS 366-372), as discussed below, this issue should not be suppressed or ignored in the sections of the DEIS likely to be shared and reviewed most widely by the public and other cooperating agencies.

CO103-14

2. **The DEIS on page 4-370 misleadingly states:** *“According to a map drawn by JKA illustrating areas of cultural attachment in the Peters Mountain vicinity, the route of the MVP pipeline would avoid areas of high cultural attachment intensity and cross a region with moderate or low cultural attachment intensity (see figure 4.10.8.1).”*

**ERRORS/OBJECTIONS:**

- The FERC team errs in overlaying the currently proposed MVP route on a map developed for a study related to a different project with a different route. The JKA study was conducted with regard to a proposed APCO Transmission Line route that traveled farther north across the county, closer in location to MVP’s Alternate 110 Route.
- The inappropriate use of such a dramatic visual figure to carry information appears to be part of an intentional effort to undermine the validity of the ACE report findings and downplay the significance of this Cultural Resource issue.

CO103-15

3. **The DEIS at page 4-371 inappropriately states:** *“A letter to the FERC and FS dated May 4, 2016, from the Border Conservancy, Save Monroe, Preserve Craig, and Preserve Giles presented their comments on the ACE report. The groups requested that the FERC and FS have a cultural anthropologist conduct an effects analysis. Richard Ettelson also requested*

CO103-14                      Since the JKA figure was drawn to illustrate areas where Cultural Attachment is strong, and was focused on the Peters Mountain portion of the project area, it is appropriate to our discussion.

CO103-15                      The effects analysis was written by professional scholars with undergraduate and graduate degrees and experience in Anthropology, including the sub-discipline of Cultural Anthropology. Since we adopted the ACE findings, no further field work was necessary. Comments were reviewed and incorporated in the analysis of cultural attachment as applicable. Section 4.10 of the final EIS has been updated to include any applicable information.

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CO103-15  
cont'd

*that this draft EIS should include an effects analysis for cultural attachment to land around Peters Mountain. Below is our effects analysis for cultural attachment, written by our team of specialists, including professional cultural anthropologists, based on the ACE report within the context of Mountain Valley's proposed action" (DEIS 4-371).*

#### ERRORS/OBJECTIONS:

- The DEIS contains a foundational error in the replacement of an analysis by experts with an analysis by a FERC team of its staff who hold no professional credentials in cultural anthropology. According to the "List of Preparers" cited in the accompanying footnote, the "team of specialists" consists of two cultural resources personnel, one with a master's degree in anthropology and one with a master's degree in archeology.
- Richard Ettelson, a resident of Monroe County, WV, prepared and submitted "FERC-MVP DEIS, Chapter 4.10.8, Cultural Attachment. Comments" (Docket No. CP16-10, Accession No. 20161121-0301). Ettelson aptly characterizes the FERC team as lacking "competent authority" and contrasts their lack of knowledge of cultural attachment with that of Dr. Rebecca Austin, Ph.D., co-author of the ACE report, who is a Cultural Anthropologist.
- The FERC's team of specialists never, to our knowledge, conducted any further field analysis or contacted anyone in the Monroe County or neighboring counties in Virginia. This appears to have been another "desktop analysis" like so much of the MVP project has been conducted.
- According to correspondence between Ettelson and Dr. Austin, "ACE was not consulted in preparing the DEIS Cultural Attachment Chapter." Moreover, Ettelson continues, "ACE was instructed not to include any consideration of measures to potentially mitigate negative impacts of MVP's Project on the Cultural Attachment Resource. Instead, that job was delegated to MVP's Senior Environmental Coordinator, Megan Neylon, who submitted MVP's 4 page response" (Ettelson, 3). Ms. Neylon is clearly not a competent authority on this subject; her professional LinkedIn profile shows that she only holds a B.A. in Environmental Science from the University of Pittsburgh.
- Ettelson concludes, "FERC and MVP have manipulated the process through their use of Incompetent Authority causing errors and misrepresentations in their effort to expedite the Pipeline Project. The DEIS Cultural Attachment Chapter, and the Effects Analysis needs to be corrected and revised before FERC makes its final decision" (Ettelson, 4). We agree with his conclusion.

CO103-16

4. **The DEIS at page 4-371 misleadingly states:** *"After pipeline installation, the right-of-way would be restored to its original contours, condition, and land use, and revegetated. Only the 50-foot-wide permanent easement would be kept clear of trees in forested areas, which may create visual impacts. . . ." (DEIS 4-371).*

CO103-16

Restoration is discussed in section 2 of the EIS, revegetation in section 4.4, and visual impacts in section 4.8.

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CO103-16  
cont'd

### ERRORS/OBJECTIONS:

- The FERC staff misleads the stakeholders in its understatement that “Only the 50-foot-wide permanent easement would be kept clear of trees in forested areas, which may create visual impacts.” The full 125-foot construction easement across the forest would, according to the DEIS’s own Conclusions section, “be a long-term impact because it would take many years for the trees to mature” (DEIS 5-4). Typical estimates are 20-30 years or more.
- The FERC errs in its conclusion that only the 50-foot-wide permanent easement would leave a scar. Clearcutting mature trees, excavating and compacting the soil in a 125-foot swath and hoping for the best as scrub grows into forest does leave a wide wound. Visually, scrub vegetation (brush) is not the same as forested land.

CO103-17

5. **The DEIS at page 4-371 erroneously states:** “Basically, once the pipeline is installed, and the right-of-way is restored and revegetated, it would hardly be noticed, and should not adversely affect the culture, landscape, or environment of the Peters Mountain region” (DEIS 4-371).

### ERRORS/OBJECTIONS:

- The phrase “it would hardly be noticed” is an error in conclusion. Visible from much of the county, Peters Mountain is the longest mountain in the Appalachian Mountain Chain. It is the backbone of Monroe County, defining the border with Virginia for most of its length through the county. The MVP project—or any similar industrial intrusion on or across Peters Mountain and the JNF—would be visible for miles and forever. **In fact, full generations of Monroe Countians would grow up not knowing Peters Mountain as an unscarred landscape.**
- The FERC team erred in ignoring our previous submittal of 6/16/15 (Accession #20150616-5243 in Docket PF15-3, resubmitted on 11/25/15 as Accession #20151125-5114 in Docket CP16-10) wherein we reported our findings in areas on or near the pipeline route that the potential visual impact of the pipeline would be felt by almost all landowners—either from their own property or in their travel through the county. In the “Landowner Impact Reports: Summary and EIS Recommendations” submitted on those dates we reported:
  - Ninety-nine percent (99%) of those responding reported that “the unbroken presence of Peters Mountain is important to me.”
  - Ninety-nine percent (99%) of those responding also reported that the “The unspoiled views of the hills and farmland are important to me.”
- The DEIS errs in its misunderstanding of the cultural environment of Peters Mountain and concomitantly ignores the fact that the MVP pipeline would be experienced as a violation of what residents of the area consider to be “sacred

CO103-17

Visual impacts are addressed in section 4.8 of the EIS. The FERC staff considered all comments as appropriate.

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CO103-17  
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ground.” The FERC team erred by ignoring our report of significant comments of Monroe County landowners that express this belief (Accession #20150804-5026 submitted 8/4/15 in Docket PF15-3, resubmitted 11/25/15 as Accession #20151125-5115 in Docket CP16-10).

- There is no evidence of an Effects Analysis by a professional Cultural Anthropologist that supports the FERC team’s conclusion that the ROW would not adversely affect the culture of the Peters Mountain region.

CO103-18

6. **The DEIS at page 4-371 misleadingly states:** *“For half the route over Peters Mountain (3 out of 6 miles) the pipeline would be placed adjacent to existing powerline rights-of-way. Therefore, the viewshed is not pristine, including existing utilities infrastructure. We conclude that the character of the Peters Mountain rural historic landscape would not be significantly altered by the MVP” (DEIS 4-371).*

**ERRORS/OBJECTIONS:**

- The staff at the FERC seriously mischaracterizes the effect of the pipeline on Peters Mountain in Monroe County by applying the law of averages rather than facts on the ground. There are no powerlines adjacent to the ROW on the Monroe County side of Peters Mountain. The viewshed would be radically altered for 100% of the area of Peters Mountain visible in West Virginia.
- The DEIS’s inaccurate assertion demonstrates that FERC’s “team of specialists” conducting this Effects Analysis have never set foot in Monroe County, where the route will cross a steep, heavily wooded, and indeed “pristine” slope.

CO103-18

We disagree and stand by our analysis. FERC staff did visit Monroe County, West Virginia, as documented in section 1.4 of the EIS.

CO103-19

7. **The DEIS at page 4-371 erroneously states:** *“The JKA powerline study made the incorrect statement that ‘cultural attachment does not lend itself to mitigation.’ In fact, there are many ways to avoid, reduce, or mitigate project impacts related to the concept of cultural attachment to land. Even JKA suggested that in areas with low intrusive impacts on cultural attachment, special attention could be given to disruption of agricultural production.”*

**ERRORS/OBJECTIONS:**

- The FERC staff team’s analysis conflicts with the opinion of a qualified expert. Tom F. King, Ph.D., in his earlier cited report, explains “It is worth noting that (with reference to the AEP project) the 1996 Kent study opined that:  
 Cultural attachment does not lend itself to mitigation. Since cultural attachment is non-economic and non-transferable, it cannot be mitigated through reimbursement or relocation of individuals. For alternatives with high intrusive impacts on cultural attachment, where intrusions have been minimal and individuals make daily choices based upon their culture, avoidance is the most culturally-appropriate action. (Kent et al.1996:27, quoted in Bengston & Austin 2016:13)

CO103-19

Actually, Dr. King agreed with us that impacts can be mitigated.

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CO103-19 cont'd

- In both clarification and support of the JKA conclusion, Dr. King explains, “Technically, Kent was not quite correct, since ‘avoidance’ of effect (for example, by building the proposed facility elsewhere or not building it at all) is a type of “mitigation” under NEPA (See 40 CFR § 1508.20)34, but **his caution remains relevant. Where people have a high investment in their attachment to the land, and perceive that investment to be threatened by a proposed undertaking, any kind of mitigation that does not eliminate the threat is likely to be unacceptable to them**” (emphasis added) (King 33).

CO103-20

8. **The DEIS at page 4-371 falsely states:** *“As documented throughout this EIS, except for the clearing of forest, most environmental impacts resulting from the MVP would likely be temporary or short-term, during pipeline construction, and would not be long-term, permanent, or significant.”*

**ERRORS/OBJECTIONS:**

- The DEIS errs in dismissing the permanent nature of environmental impacts on the cultural landscape of Monroe County. In many ways, the Cultural Landscape is *defined* by the unbroken presence of Peters Mountain—visible from almost every corner of the county—and valued for its gifts of water, woods, and wildlife.

CO103-21

- Peters Mountain is especially revered for its water—supplying the drinking water for more than half of the residents of the county. The base of Peters Mountain is a complex karst region, marked by caves, sinkholes, and sinking streams. People living in the area have very real concerns about possible degradation and loss of the springs they depend on. County officials and landowners alike have voiced their concerns about the potential short-term and long-term risks for both public and private water resources in this region.

CO103-22

- Science experts have submitted to the docket numerous criticisms of MVP’s assurances about plans, mitigation, etc. on both temporary and permanent bases. The FERC team errs in ignoring the failure of MVP’s proposed plans to mitigate impacts of the pipeline on:
  - Deforestation
  - Groundwater
  - Air Quality
  - Flora and fauna
  - Irrigation, drainage systems
  - Erosion
  - Construction in karst and steep terrain
- Degradation of any of these aspects of the environment would significantly alter the cultural landscape.**

CO103-20 Rural cultural landscapes are discussed in section 4.10 of the EIS. Visual impacts are addressed in section 4.8.

CO103-21 Water resources are addressed in section 4.3 of the EIS. Karst is addressed in section 4.1.

CO103-22 Comments were reviewed and incorporated in the analysis in the EIS as applicable. The EIS concluded that, except for the clearing of forest, the MVP would not have significant adverse effects on other environmental resources. Therefore, the MVP would not significantly alter the rural cultural landscape associated with Peters Mountain.

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CO103-23 | 9. **The DEIS at page 4-372 erroneously states:** *“In the case of the MVP, no residents of the communities around Peters Mountain would be separated from their land. ... Outside of the operational easement, landowners would be free to manage their property as they see fit. In other words, the MVP would not affect landownership, tenure, land use, or sense of homeplace, which are important values associated with cultural attachment to land noted in the ACE interviews with residents of the Peters Mountain community. The project would not alter the quality of life in the region, or the slow-paced lifestyle valued by people interviewed by ACE, except temporarily during construction.” (emphasis added)*

**ERRORS/OBJECTIONS:**

- The FERC team erred by attempting to mask the effect of the pipeline on cultural attachment by focusing the reader’s attention to “outside of the operational easement.” This is a false distinction. The landowners do not differentiate the effects of *outside* or *inside* the easement. Actions of MVP inside the easement restrict the landowners’ freedom to manage their land as a whole and destroy their sense of privacy in their homeplace.

CO103-23 We stand by our analysis.

CO103-24 | • The FERC team erred in misunderstanding the depth of sense of attachment to homeplace. In fact, the legal action taken by Bryan and Doris McCurdy in McCurdys v MVP is an example that contradicts the FERC’s conclusion that the pipeline would not affect sense of homeplace or quality of life. In that case, Monroe County Circuit Judge Robert Irons found that “Plaintiffs declined to allow the survey because they greatly value their privacy and the quiet and exclusive enjoyment of their home and the property.”<sup>1</sup> During appeal to the WV Supreme Court, the McCurdys’ attorney reiterated the importance of sense of homeplace: “Whether the Property Will be Damaged is Irrelevant, But The McCurdys Property Rights Will Be Cognizably Damaged. . . .”<sup>2</sup> The WV Supreme Court upheld Judge Irons decision to deny access by MVP to survey in advance of a certificate of need from the FERC.

CO103-24 The EIS acknowledged that local residents in the Peters Mountain area have a sense of attachment to land and homeplace.

CO103-25 | 10. **The DEIS at page 4-372 erroneously states:** *“Livelihoods and avocational pursuits would not be adversely disrupted over the long-term by the operation of the MVP. No businesses would be shut down. In fact, the MVP may provide economic benefits to the region, in the form of jobs and wages, spending on commodities, and local tax revenues (see section 4.9). After pipeline installation and restoration, citizens could continue to farm, gather plants, collect firewood, trade, share water and food, and hunt as they always have. In summation,*

CO103-25 We disagree that our statements are erroneous, and stand by our analysis. Economic benefits of the projects are discussed in section 4.9 of the EIS.

<sup>1</sup> Circuit Court of Monroe County, Case No. 15-C-19, Brian C. McCurdy and Doris McCurdy, Plaintiffs v. Mountain Valley Pipeline, LLC, Defendant.

<sup>2</sup> Respondents’ Brief, In the Supreme Court of Appeals of West Virginia, Docket No. 15-0919 Mountain Valley Pipeline, LLC v Brian C. McCurdy and Doris W. No. 15-0919 Mountain Valley Pipeline, LLC v Brian C. McCurdy and Doris W. McCurdy p. 34-35.) Accessed at <http://www.courtswv.gov/supreme-court/calendar/2016/briefs/oct16/15-0919respondent.pdf>



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CO103-25  
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*we conclude that the MVP would not have significant long-term adverse impacts on cultural attachment to the land in the vicinity of Peters Mountain.”*

**ERRORS/OBJECTIONS:**

- The FERC team errs in elevating “economic benefits” claimed to be brought by MVP above the economic benefits intrinsic in cultural attachment. **Cultural Attachment is a social/cultural resource, not a “feeling.”** The term cultural attachment is too easily put into a narrowly defined box called feelings—and therefore deemed somehow insignificant in any practical way. In fact, however, the strong attachment and reverence that people in this area have for Peters Mountain and the forests and families that it supports is a true social and economic “resource”—it is “social capital” that is as much a resource as the energy derived from coal or natural gas, or a new business locating in the region.

This attachment is an integral part of what undergirds the resilience of the community: the ability to weather extreme stresses, emergencies, economic hardships, and differences of opinion—and to remain a community made up of people who are at the same time proudly self-reliant *and* ready to pull together and help each other.

- The FERC team errs in ignoring our previously cited summary of findings as reported by landowners in areas of Monroe County on or near the pipeline route(s):
  - Landowners in the Monroe County pipeline regions help each other rather than pay for services. Eighty-nine percent (89%) of those responding reported that they rely on family and friends more than hiring someone when they needed help. (n=187)
  - Landowners in the Monroe County pipeline regions overwhelmingly value their land for its intrinsic value as opposed to its economic value. Ninety-nine percent (99%) of those responding reported that they value their property as a place they want to live more than as a real estate investment. (n=179)

CO103-26

- The FERC staff errs in concluding that there would be no long-term effects of the MVP. In fact, as explained by Richard Ettelson, “That conclusion is contradicted by the same authority that has already investigated the Cultural Attachment issue and produced the only Study authored by a Cultural Anthropologist whose work was used as the basis for the DEIS review and came to a totally different conclusion about the significant impacts of MVP’s Project on this recognized resource; *‘I disagree with the DEIS statement that “MVP would not have significant long-term adverse impacts on cultural attachment to the land in the vicinity of Peters Mountain’* (Rebecca L. Austin, Ph.D., e-mail dated 10-10-16).” Only a complete Effects Analysis by a Cultural Anthropologist could determine

CO103-26

The EIS presents facts to support our conclusions.

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CO103-26 | the potential economic effects of destroying people’s cultural attachment to  
 cont’d | their land.

CO103-27 | **III - CONCLUSIONS**

The fact that MVP dismissed the findings of the ACE report does not make them inaccurate. The fact that the findings may be inconvenient for the FERC and the Forest Service does not make them unimportant.

Because of the serious defects in the FERC team’s “effects analysis” and other significant omissions and errors that have been identified by other commenters (e.g., Rebecca Austin, Ph.D., Thomas King, Ph.D., James Kent and Associates and Richard Ettelson) about the MVP application, we assert that the following must be done in order to comply with NEPA requirements:

1. **A more comprehensive study and effects analysis must be completed on the social/cultural resource referred to as “cultural attachment” in the area of Peters Mountain.** The preliminary study by Applied Cultural Ecology (ACE), which was initiated at the FERC’s request, determined that cultural attachment exists in this vicinity; however, that study was not followed up by the necessary comprehensive analysis on the nature of, and the potential impact of the MVP project on, that resource. This still needs to be done.
2. **This investigation must not be limited to a study within the boundaries of the Jefferson National Forest,** but extend to include to those who live in the vicinity of Peters Mountain, as also recommended in the findings by ACE.
3. **This investigation must also include the potential designation of the Peters Mountain area as a natural historic landscape subject to effects from the MVP project** that may need to be considered by FERC and the other parties to Section 106 review of the MVP.
4. **This study and effects analysis must be conducted by a qualified Cultural Anthropologist**—either ACE or another professionally qualified firm or individual—for the same reasons that the Forest Service and FERC insisted that a Cultural Anthropologist be used for the resource identification.

CO103-28 | 5. **The FERC must issue a Revised DEIS with complete and corrected information, which includes the results of the required Cultural Resources Effects Analysis Assessment,** 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.

CO103-29 | 6. **Without such a study, there is inadequate information available to the U.S. Forest Service as a cooperating agency, as well as to the staff of the FERC,** on which to base recommendations regarding the proposed route of the Mountain Valley Pipeline project through the JNF.

CO103-27 | Our analysis of Cultural Attachment is sufficient and does not need to be supplemented by additional studies. We adopted the ACE study, which extended beyond the Jefferson National Forest to cover the portion of Peters Mountain in the project area. We also agree with ACE that Peters Mountain may be considered a rural cultural landscape. Our effects analysis was conducted by qualified professional Cultural Anthropologists.

CO103-28 | We will not issue a revision of the draft, but the final EIS takes into account new data and addresses comments from the public.

CO103-29 | Our analysis of Cultural Attachment is adequate, and the FS agrees, as a cooperating agency in the production of the EIS.

# COMPANIES AND NGOs

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CO103-30

7. If the FERC does not issue a new DEIS, we request that the FERC, the BLM, and the JNF choose the **No Action Alternative** because they will not have enough information to comply with NEPA.

Thank you,

**Dr. Stephen Miller, President, and Nancy Bouldin, Project Coordinator**  
**Save Monroe, Inc.**

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**cc: US Environmental Protection Agency, Region 3**

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**West Virginia State Historic Preservation Office**

Susan Pierce, Director, West Virginia Division of Culture and History,  
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CO103-30

The Commissions will make their decision in a Project Order.

# COMPANIES AND NGOs

## CO104 – Preserve Bent Mountain

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CO104-1 This Comment addresses the questions of economic need, costs and benefits of the MVP on behalf of Preserve Bent Mountain.

The EPA has filed a document questioning the bona fide need, and thus any real public benefit, of the MVP. Preserve Bent Mountain, collaborating groups and governmental entities have likewise questioned “need.” It’s significant that an early “professional” statements on this subject prepared by consultants paid by the EQT, promoter of MVP, *disclaimed the facts upon which its report was based at least four times in the body of the report.* [http://www.roanoke.com/opinion/commentary/stanton-and-wolf-natural-gas-pipelines-need-re-think-and/article\\_725de078-127e-5bd3-b950-d6a180b2faeb.html](http://www.roanoke.com/opinion/commentary/stanton-and-wolf-natural-gas-pipelines-need-re-think-and/article_725de078-127e-5bd3-b950-d6a180b2faeb.html) . If public outcry against the onslaught of pipelines is any barometer of “need,” the submission of harsh and damning public comments speak volumes. In her summary of citizen scoping comments on the MVP, ecological economics consultant Cara Bottorff found “the vast majority of comments submitted to FERC express negative opinions and serious concerns about the proposed pipelines.” Such comments were intended, under NEPA, to alert FERC to issues of concern as related by lay people and professionals and governments in the communities through which the proposed pipeline passes – yet those concerns appear in large part to have “gotten lost” on the way to the present DEIS.

CO104-2 The recent Forest Service proposal of a 500 foot corridor through the Jefferson National Forest seems to turn the purpose of the corridor on its head – instead of encouraging *fewer* pipeline corridors it encourages *more*. Without a PEIS, which provides for a needs analysis on the front end of a massive national infrastructure development undertaking, places like the Appalachian Trail and the Blue Ridge Parkway are left with *the threat of many possibilities to pipeline corridors of 500 feet*. Wherever there is a forest or place of Forest Service jurisdiction, there is a 500 foot pipeline corridor. Clearly that was not the intent of the legislation.

CO104-3 To repeat the Roanoke region’s visioning – as far back as 1995 Roanoke County resolved with its citizens to honor “sustainability, community identity, scenic beauty and quality of life.” At that time the county took proactive steps to strike a balance between economic growth and preservation of a way of life that is cherished by many (County Vision Statement 1995). By 2010 the County affirmed it had in fact, “through careful planning and orderly development, protected natural resources to ensure quality of life for future generations. Roanoke County noted that it had taken a “leadership role in valley wide cooperative efforts to keep the cost of public services to a relatively low level” (Roanoke 2010 Vision Statement). Again in 2013, Roanoke came to the same conclusion in its “Livable Roanoke Report,” which called for a healthy economy through workforce development, wellness promotion and healthcare resources, preserving our natural assets and showcasing our outdoor amenities.

The Roanoke area was in motion in achieving those goals. In the post-recession economy, witness the development of Carilion Roanoke Memorial/Virginia Tech Medical School, Meridium, Deschutes brewery and other breweries with their eyes on this area and its pristine water sources. Many have indicated pipeline development is incompatible with this region’s long

CO104-1 The Commission would consider need in its Project Order (see section 1.2.3 of the EIS).

CO104-2 See the response to comment FA8-1 regarding the utility corridor on the Jefferson National Forest.

CO104-3 Sections 4.1 and 4.3 of the EIS address Dr. Dodd’s report. Dr. Phillips’ report is discussed in sections 4.8 and 4.9. Unfortunately, Dr. Phillips did not include any facts to support his opinions.

# COMPANIES AND NGOs

## CO104 – Preserve Bent Mountain

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CO104-3  
cont'd | and short term economic plans. Hydrogeologist Pam Dodds, whose watershed analysis has been filed by Roanoke County as part of its DEIS Comments, offers a clear view of the likely damage to our watersheds and surrounding public water sources from the blasting, trenching, hydrostatic testing and other associated impacts to our *natural* resource. Dr. Phillips and economists clarifies the watershed also as our *economic* resource. While traditional (and some would say outdated) economic tools would describe watersheds as “externalities” in an input-output economic model, Dr. Phillips identifies the loss of watershed, drinking water and the associated domino effects as a “loss of ecosystem services.” (Roanoke County and The Mountain Valley Pipeline, May 2016. Roanoke’s Economy: What’s at Risk.) Whatever you call it, it will be a cost to the localities, and a cost to the population of our watersheds.

CO104-4 | Dr. Dodds forecasts effects including impacts to headwater aquatic habitats such as trout streams  
CO104-5 | will lead to damage to the entire river ecosystem; removal and compaction of soils will harm  
CO104-6 | springs and wetlands; destruction of riparian buffers and streams, ridgetop construction will all  
CO104-7 | affect the existence of riparian and aquatic life. She further observes the failure of the DEIS in  
addressing blasting as affecting groundwater recharge, flow routes and availability, degradation of karst environments, and increase the potential for earthquakes and landslides. See Report, pp. 41-50. See Hydrogeological Assessment of Watershed Impacts Caused by Constructing the Mountain Valley Pipeline through Roanoke County, Virginia, filed December 22, 2016, accession number 2016122.

CO104-8 | Such “cumulative” damages, Dr. Dodds reports, portends “significant environmental destruction and degradation” in if the MVP were constructed. *Id.*, p. 47.

CO104-9 | The photo and simulation of the proposed route over Poor Mountain and through Bent Mountain offer a visual of the sheer destruction threatened by MVP. Adding to watershed costs (e.g., new groundwater /sewage systems for mountain residents and those living in the path of watershed destruction in surrounding areas including Roanoke City and Smith Mountain Lake), one can see these views are the economic “calling card” of our region. The view below is from the Poor Mountain Overlook at the Blue Ridge Parkway. Dr. Phillips estimates that 39% of all parcels in Roanoke County could view such stripes over the surrounding mountains in the path of the proposal. Among other costs, he estimates an annual loss of \$51.9 million in tourism supporting 549 jobs, \$10.8 million in payroll, \$2.1 million in state taxes and \$1.8 million in local taxes. Please see full report, “Economic Costs of the MVP to Property Value, Ecosystem Services and Economic Development in Virginia and West Virginia,” at [keylogeconomics.com](http://keylogeconomics.com).

CO104-10 | Understanding the scientific, economic visual harms wrought upon other communities, and now threatening our own, should lead FERC analysts to questions the benefits of the MVP as earlier represented. One might also recall that EQT investor ConEd has recently been brought to the attention of the NYSpsc for being both an investor on the front end of the proposal, and an affiliate purchaser on the back end. This failure to disclose is illegal, according to EDF attorneys, because such an arrangement produces huge risks for investors and the public – who will

CO104-4 | Trout streams are discussed in section 4.6 of the EIS.

CO104-5 | Springs and streams are discussed in sections 4.3.1 and 4.3.2 of the EIS, respectively. Soil compaction is addressed in section 4.2.

CO104-6 | Waterbody riparian buffers, impacts, and mitigation are discussed in sections 4.3 and 4.4 of the EIS. Aquatic life is discussed in section 4.6 of the EIS.

CO104-7 | Groundwater is discussed in section 4.3.1 of the EIS. Mountain Valley’s *Karst Mitigation Plan* is described in sections 2.4, 4.1 and 4.3 of the EIS. Earthquakes and landslides are addressed in section 4.1 of the EIS.

CO104-8 | Cumulative impacts are discussed in section 4.13 of the EIS.

CO104-9 | Visual impacts are discussed in section 4.8 of the EIS and this section has been updated for the final EIS. Dr. Phillips did not present any facts to support his opinions on visual impacts, and impacts on tourism. See sections 4.8 and 4.9 of the EIS, and responses to comment CO100.

CO104-10 | Visual impacts are addressed in section 4.8 of the EIS. Non-environmental FERC staff would review comments about Mountain Valley investors. President Reagan had Alzheimer’s disease; and that’s who you want to quote. The Commission would consider need in its Project Order (see section 1.2.3 of the EIS). The reasons the FERC did not prepare a programmatic NEPA document are explained in section 1.3. We will not be producing a supplemental draft EIS. We will produce a final EIS that addresses new information and comments on the draft.

# COMPANIES AND NGOs

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shoulder the various costs of environmental and other harms. Such an arrangement is reminiscent of “The Big Short,” as it were, or “*déjà vu* all over again.”

It’s ironic that in these times of intense political acrimony, the Roanoke Times paraphrased President Ronald Reagan, a/k/a “the Great Communicator”: “The nine most terrifying words in the English language are, ‘I’m from (EQT) and I’m here to help.’” (Regional Pipeline Benefits You Can’t Count On,” Tuesday, February 3, 2015. We respectfully repeat our request that the FERC conduct a bona fide needs analysis through a Programmatic Environmental Impact Statement (PEIS) and, in addition or in the alternative, a Revised DEIS.



# COMPANIES AND NGOs

## CO105 – Appalachian Mountain Advocates

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Mountain Valley proposes to construct (i) 301 miles of new 42-inch-diameter natural gas pipeline in West Virginia and Virginia to transport natural gas from production areas in northern West Virginia and southern Pennsylvania to the Transco Station 165 in Pittsylvania County, Virginia; (ii) 3 new compressor stations in West Virginia totaling about 171,600 horsepower (“hp”); (iii) 4 new meter and regulation stations and interconnections; (iv) 2 new taps; (v) 5 pig launchers and receivers; and (vi) 36 mainline block valves. Equitrans proposes to construct (i) about 8 miles of new various diameter pipelines in six segments; (ii) a new compressor station in Greene County, PA with 31,300 hp of compression; (iii) 4 new taps and 1 new interconnection; and (iv) 4 pig launchers and receivers. Equitrans would also decommission and abandon the existing 4,800 hp Pratt Compressor Station in Greene County, PA.

FERC’s decision to grant a certificate to construct the MVP and EEP is a “major Federal action” within the meaning of the National Environmental Policy Act (“NEPA”), and it must be preceded by the preparation of an Environmental Impact Statement (“EIS”). 42 U.S.C. § 4332.

FERC’s EIS must address:

(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 the local short-term uses of the project as compared to the long term use of the land, and (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

42 U.S.C. § 4332. Under NEPA, “agencies [must] take a ‘hard look’ at the environmental effects of their planned action.” *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (1989). FERC’s analysis in the DEIS for the MVP and EEP fails to meet NEPA’s standards in numerous ways.<sup>2</sup>

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<sup>2</sup> In addition to the deficiencies of the DEIS identified in these comments, Commenters adopt and incorporate by reference the deficiencies identified in the following comments: Comments



# COMPANIES AND NGOs

## CO105 – Appalachian Mountain Advocates

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CO105-2

As Commenters explained in earlier comments requesting the preparation of a revised or supplemental DEIS,<sup>3</sup> the current DEIS contains many substantial deficiencies, including the failure to fully evaluate the need for the MVP and EEP and the failure to fully evaluate the impacts to water resources, wetlands, cultural resources, threatened and endangered species, and climate change implications. In commenting on the DEIS, the U.S. Environmental Protection Agency (“EPA”) said it “has concerns regarding the purpose and need, alternatives analysis, and a number of important topics for which information is incomplete.”<sup>4</sup> Because the DEIS was issued without sufficient information and allows the applicants to later submit necessary materials, “it appears that the EIS is a ‘rolling’ document providing just a snapshot in time . . . creat[ing] a considerable challenge for stakeholders and members of the public to follow the documentation provided, or know which material is most current in order to provide the most relevant comments.”<sup>5</sup> To remedy those NEPA violations, FERC must prepare a revised DEIS that fully assesses the need for, impacts of, and alternatives to the proposed action.

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from Thomas Bouldin, Accession Nos. 20161221-5063, 20161221-5328, 20161220-5050, 20161219-5143, 20161216-5122, 20161207-5092, 20161205-5233, 20161201-5198, 20161128-5167, 20161031-5012, 20161028-5031, 20161026-5020, 20161017-5077, 20160915-5109, 20160914-5031, 20160909-5216, 20160809-5230, 20160729-5207, 20160606-5063, 20160504-5125, 20160502-5052, 20160318-5172, 20160314-5030, 20160201-5202, 20160127-5020, 20160127-5222; Comments from Carl Zipper, Accession Nos. 20161213-5106, 20161201-5078, 20161121-5045, 20161121-5048, 20161121-5049, 20161121-505; Comments and Correspondences from Indian Creek Watershed, Accession Nos. 20161221-5434, 20161215-5271, 20160902-5165, 20160822-5082, 20160818-5138, 20160816-5060, 20160816-5061, 20160815-5135, 20160715-5088, 20160509-5043, 20160419-5119, 20160125-5017, 20151125-5164, 20151123-5166, 20151113-5109; and Comments from Mode Johnson, Accession Nos. 20161219-5056, 20161215-5066, 20161213-5120, 20161007-5025, 20161007-5026, 20160915-5084, 20160907-5065, as well as comments by those individuals for which accession numbers were not available by December 22, 2016.

<sup>3</sup> See Accession No. 20161019-5061

<sup>4</sup> EPA, Dec. 20, 2016 Comments at 1 (Accession No. 20161221-5087) (“EPA Comments”).

<sup>5</sup> *Id.* at 2.

CO105-2

We disagree. The draft EIS did not contain many substantial deficiencies. We will not be producing a supplemental draft EIS. We will produce a final EIS that addresses new information and comments on the draft. See the response to comment FA11-12 regarding need. Impacts on water resources, wetlands, and measures to reduce those impacts are discussed in section 4.3 of the EIS. Cultural resources are addressed in section 4.10 of the EIS. Endangered species in section 4.7. Climate change is discussed in section 4.13 of the EIS.

# COMPANIES AND NGOs

## CO105 – Appalachian Mountain Advocates

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CO105-3

### I. The DEIS' Failure to Determine the Need for the Proposed Project Renders Its Consideration of Alternatives Inadequate<sup>6</sup>

The Council on Environmental Quality's ("CEQ") regulations for implementing the NEPA require that an Environmental Impact Statement "specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action."<sup>7</sup>

The CEQ regulations also require the Commission to consider and evaluate the no action alternative.<sup>8</sup> The alternatives analysis "is the heart of the environmental impact statement."<sup>9</sup>

A properly drafted purpose and need statement is critical to "inform the agency's review of alternatives to the proposed action and guide its final selection."<sup>10</sup> A purpose and need statement "will fail if it unreasonably narrows the agency's consideration of alternatives so that the out-come is preordained."<sup>11</sup> Where, as here, a federal agency is reviewing an applicant-sponsored project, it "cannot restrict its analysis to those 'alternative means by which a particular applicant can reach his goals.'"<sup>12</sup> An agency must "exercise a degree of skepticism in dealing with self-serving statements from a prime beneficiary of the project."<sup>13</sup>

<sup>6</sup> In addition to the following comments, Commenters also adopt and incorporate by reference the comments filed by Thomas Hadwin on December 22, 2016 in FERC Dockets No. Dockets No. CP16-10-000 and CP16-13-000.

<sup>7</sup> 40 C.F.R. § 1502.13; *see also* FERC NEPA regulations at 18 C.F.R. Part 380.

<sup>8</sup> 40 C.F.R. § 1502.14(d).

<sup>9</sup> 40 C.F.R. § 1502.14.

<sup>10</sup> *Protect Our Cmty's. Found. v. Jewell*, 825 F.3d 571, 579 (9th Cir. 2016).

<sup>11</sup> *Id.* (quoting *Alaska Survival v. Surface Transp. Bd.*, 705 F.3d 1073, 1084 (9th Cir. 2013)); *see also* *Citizens Against Burlington v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991).

<sup>12</sup> *Simmons v. U.S. Army Corps of Eng's*, 120 F.3d 664, 669 (7th Cir. 1997) (quoting *Van Abbema v. Fornell*, 807 F.2d 633, 638 (7th Cir. 1986)); *see also* *Nat'l Parks & Cons. Ass'n v. Bureau of Land Mgmt.*, 606 F.3d 1058, 1072 (9th Cir. 2009).

<sup>13</sup> *Simmons*, 120 F.3d at 669 (7th Cir. 1997) (quoting *Citizens Against Burlington*, 938 F.2d at 209 (D.C. Cir. 1991) (Buckley, J., dissenting)).

CO105-3

See the response to FA11-12 regarding need.

# COMPANIES AND NGOs

## CO105 – Appalachian Mountain Advocates

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Despite the clear requirement to “specify the purpose and need” for the MVP Project, the DEIS “does not address in detail the need or public benefits” of the MVP and EEP.<sup>14</sup> According to FERC, it “will more fully explain its opinion on project benefits and need *in its Orders* for the MVP and the EEP.”<sup>15</sup> FERC has made similar statements in other recent DEIS documents for major greenfield pipelines.<sup>16</sup> In one pipeline proceeding, the EPA expressed concern that “project need will not be vetted in the [Atlantic Sunrise] EIS, but outside of the NEPA process by FERC.”<sup>17</sup> Without assessing the need for the project *in the DEIS*, FERC undermines the development of alternatives to the proposed project, which is a “critical component of the NEPA process.”<sup>18</sup> EPA noted that without this information in the DEIS, FERC failed to “provide transparency in the decision-making process,” thereby frustrating the public’s “opportunity to provide comment” on the DEIS.<sup>19</sup>

The MVP DEIS suffers from the same lack of transparency. Without assessing the need for the MVP Project in the DEIS, FERC undermines the development of reasonable alternatives to the proposed project. Without disclosing and discussing the need for the MVP Project, FERC fails to provide transparency in the decisionmaking process and thereby frustrates the public’s opportunity to provide meaningful comments on the DEIS. The public’s right to weigh in on the

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<sup>14</sup> DEIS at 1-9.

<sup>15</sup> *Id.* (emphasis added).

<sup>16</sup> *See, e.g.*, Draft Environmental Impact Statement for the Atlantic Sunrise Project (Docket No. CP15-138-000) at 1-2 (“While this EIS briefly describes Transco’s stated purpose, it will not determine whether the need for the Project exists, because this will later be determined by the Commission.”).

<sup>17</sup> *See* Exhibit 1 of Commenter’s Oct. 19, 2016 Letter (Accession No. 20161019-5061).

<sup>18</sup> *Id.*

<sup>19</sup> *Id.*

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assessment of need is particularly critical for a project such as MVP, which would impact both state and federal public lands and require the use of eminent domain for a private project over the objections of numerous landowners along the proposed route. In such instances, there must be even greater scrutiny of project need in the DEIS. The procedures of the Natural Gas Act cannot replace the full and fair public participation in the decisionmaking process that NEPA mandates.

Due to FERC’s failure to determine the need for the project in the DEIS, commenters must assume that FERC will rely on precedent agreements in order to assess the need for the MVP in its proceedings under the Natural Gas Act. However, as detailed below, the precedent agreements contracting for capacity on the MVP raise several concerns that call into question the market need for the project. The DEIS should have considered these issues and more fully addressed the “no action” alternative in the DEIS. These concerns speak to the appropriate division of risk as between ratepayers and shareholders and go to the crux of the Commission’s primary obligation under the Natural Gas Act to protect consumers. For all of these reasons, the Commission should look behind the precedent agreements supporting the MVP project and adjudicate whether the shipper commitments represent genuine growth in market demand as to warrant the construction of a \$3.7 billion greenfield pipeline.

CO105-4

**A. The DEIS Does Not Sufficiently Consider the Need for the Project and the No Action Alternative**

FERC briefly discusses the purpose and need of the MVP project in Section 1.2, mentioning that Mountain Valley has entered into five precedent agreements and that the project is fully subscribed.<sup>20</sup> However, the DEIS omits several critical facts regarding the timing, terms, and circumstances surrounding the precedent agreements underpinning the MVP project. These concerns—further detailed below—call into question whether a bona fide market need exists for

<sup>20</sup> DEIS at 1-7–1-8.

CO105-4

See the response to FA11-12 regarding need. The No Action Alternative is discussed in section 3 of the EIS. The Synapse report may be considered by non-environmental FERC staff.

# COMPANIES AND NGOs

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the project. In addition to the self-dealing concerns raised by the affiliate precedent agreements, discussed in more detail below, others have pointed out that supposed market need for the MVP is on shaky ground. For example, a recent West Virginia Supreme Court decision calls into question MVP's claim that the project will "provide opportunities to expand the use of natural gas and economic growth along the Project route in West Virginia..."<sup>21</sup> The West Virginia Supreme Court's findings demonstrate that any benefits to West Virginia customers are illusory, finding that "there currently is no definitive evidence that any West Virginia consumers or non-MVP affiliated natural gas producers would benefit from MVP's pipeline" and "MVP has been unable to identify even a single West Virginia consumer, or a West Virginia natural gas producer who is not affiliated with MVP, who will derive a benefit from MVP's pipeline."<sup>22</sup> Because the MVP application presents a questionable demonstration regarding market need, FERC should have given greater weight to the no action alternative.<sup>23</sup>

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<sup>21</sup> MVP Application at 12.

<sup>22</sup> *Mountain Valley Pipeline, LLC v. McCurdy*, Case No. 15-0919 (W. Va. 2016), available at <http://www.courtsww.gov/supreme-court/docs/fall2016/15-0919.pdf>.

<sup>23</sup> The DEIS briefly addresses the no action alternative, concluding that "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." DEIS at page 3-4. The DEIS adds that "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." *Id.* Contrary to these statements, a recent Synapse report has 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." Synapse Energy Economics, Inc., *Are the Atlantic Coast Pipeline and the Mountain Valley Pipeline Necessary?* at 1 (September 12, 2016), attached hereto and incorporated herein as Exhibit B. Thus, the no action alternative would not result in greater environmental impacts, as suggested by the DEIS.

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CO105-5

### **B. The DEIS Does Not Address the Legitimacy of the Open Season Process**

The DEIS provides the following summary of the open season process for the MVP project:

From June 12 to July 10, 2014, Mountain Valley held a non-binding open season for firm transportation capacity on its planned pipeline. A binding open season was held from September 2 to October 21, 2014, after which Mountain Valley executed long-term precedent agreements with four shippers for 2 Bcf/d of natural gas firm transportation capacity.<sup>24</sup>

This characterization fails to recognize that several of the MVP precedent agreements were not in fact connected to the open season process. As FERC has explained, the open season process provides “a project sponsor with valuable information regarding market interest that it can utilize to properly size the project.”<sup>25</sup> If enough interest is shown during the open season, the project sponsors will develop a preliminary project design and move forward.<sup>26</sup> If inadequate interest is shown, the project is usually withdrawn or placed on an indefinite hold.<sup>27</sup> “In evaluating whether a pipeline project is correctly sized in the certificate proceeding, the Commission will give great weight to whether the pipeline has conducted an open season for all new capacity prior to submitting the application.”<sup>28</sup> The open season process should only be accorded great weight if it is in fact legitimate.

<sup>24</sup> DEIS at page 1-9.

<sup>25</sup> *Pine Prairie Energy Center, LLC*, 135 FERC ¶ 61,168 at P 30 (2011).

<sup>26</sup> U.S. Energy Information Administration – Natural Gas Pipeline Development and Expansion, available at [http://www.eia.gov/pub/oil\\_gas/natural\\_gas/analysis\\_publications/ngpipeline/develop.html](http://www.eia.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/develop.html).

<sup>27</sup> *Id.*

<sup>28</sup> *Pricing Policy for New and Existing Facilities Constructed by Interstate Natural Gas Pipelines*, 71 FERC ¶ 61,241, at 61,917 (1995), *reh'g denied*, 75 FERC ¶ 61,105 (1996).

CO105-5

Non-environmental FERC staff would determine if Mountain Valley’s open season process was legitimate. A discussion of this issue may be in the Commission Order if applicable.

# COMPANIES AND NGOs

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Although the DEIS reflects Mountain Valley’s recitation of the open season process in its certificate application,<sup>29</sup> further analysis reveals that several of the precedent agreements were not connected to this application, and the facts surrounding these agreements suggest that they are *not* illustrative of market need, but rather, demonstrate proof of insufficient need. The following timeline demonstrates that three of the five precedent agreements were entered into months (and in one case, more than a year) after the open season concluded on October 21, 2014:

- June 12, 2014 - July 10, 2014: Non-binding open season<sup>30</sup>
- September 2, 2014 - September 29, 2014: Binding open season
- September 29, 2014: Extended binding open season until October 6, 2014
- October 6, 2014: Extended binding open season until October 10, 2014
- October 10, 2014: Extended binding open season until October 14, 2014
- October 14, 2014: Extended binding open season until October 21, 2014
- October 21, 2014: Expiration of open season
- October 27, 2014: NEPA Pre-Filing Process begins, with EQT Corporation and NextEra Energy, Inc. listed as joint owners<sup>31</sup>
- March 11, 2015: Vega Midstream MVP LLC becomes owner;<sup>32</sup> WGL Midstream becomes owner and shipper<sup>33</sup>

<sup>29</sup> MVP Certificate Application at 15-16.

<sup>30</sup> *See id.* at Exhibit Z-4 (providing all open season dates).

<sup>31</sup> Request to Initiate NEPA Pre-Filing Process, Mountain Valley Pipeline, LLC, MVP Project, Docket No. PF15-3 at 1 (October 27, 2014) (describing MVP as a “joint venture between affiliates of EQT Corporation and NextEra Energy, Inc.”).

<sup>32</sup> Vega Energy, Mountain Valley Pipeline Announcement (March 11, 2015), *available at* <http://www.vegaenergy.com/Postings.html>.

<sup>33</sup> Washington Gas, Mountain Valley Pipeline Announces WGL Midstream as a Partner, Shipper, and Gas Purchaser (March 11, 2015), *available at* <http://newsroom.washingtongas.com/press-release/business-development/mountain-valley-pipeline-announces-wgl-midstream-partner-shipper->



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- October 1, 2015: Roanoke Gas/RGC Midstream join project<sup>34</sup>
- October 23, 2015: Certificate Application filed at FERC; EQT Energy, LLC; Roanoke Gas; USG Properties Marcellus Holdings, LLC; and WGL Midstream, Inc. listed as shippers<sup>35</sup>
- January 22, 2016: Con Ed becomes shipper and owner

As demonstrated by this timeline, the original proposal was supported only by EQT Midstream Partners, LP and NextEra Energy, Inc., with the only two shippers being affiliated interests of both entities.<sup>36</sup> Despite extending the deadline for the open season five times, no additional shippers signed on to the project and EQT Midstream Partners, LP and NextEra Energy, Inc. forged ahead with the NEPA pre-filing process as the sole owners (and shippers).<sup>37</sup>

While it is apparent that certain shippers decided to sign up for service on the pipeline after the open season concluded, the presumption of sufficient market need is undercut by the fact that such shippers also decided to take an ownership interest in the project at the same time, and the inherent conflicting signals (i.e., self-interest) implied therefrom. Specifically, on March 11, 2015, WGL Midstream, Inc. became both an owner and shipper; and on October 1, 2015, Roanoke Gas became a shipper of the project at the same time its affiliate, RGC Midstream, LLC, became an owner. After the certificate application was filed with FERC, Consolidated Edison Company of New York, Inc. became a shipper at the same time its affiliate, Con Edison

<sup>34</sup> Business Wire, Mountain Valley Pipeline to Provide Natural Gas Service to Virginia Communities through Partnership with Roanoke Gas, (October 1, 2015), available at <http://www.businesswire.com/news/home/20151001005297/en/Mountain-Valley-Pipeline-Provide-Natural-Gas-Service>.

<sup>35</sup> MVP Application at 16.

<sup>36</sup> MVP Application, Exhibit Z-4 (including a June 12, 2014 notice of a non-binding open season with EQT Corporation and NextEra Energy, Inc. listed as owners).

<sup>37</sup> Request to Initiate NEPA Pre-Filing Process, Mountain Valley Pipeline, LLC, MVP Project, Docket No. PF15-3 at 1 (October 27, 2014) (describing MVP as a “joint venture between affiliates of EQT Corporation and NextEra Energy, Inc.”).



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cont'd

Gas Midstream, LLC took an ownership interest in the project.<sup>38</sup> If one of the primary purposes of the open season process is to gauge market interest and need, it is telling that only two shippers—USG Properties Marcellus Holdings, LLC and EQT Energy, LLC—placed bids in response that process.

Thus, from its inception, the market need for the MVP project has been established by the very same corporate interests that also own the project. The fact that the additional shippers of the project also took an ownership interest calls into question whether a bona fide market need exists. The precedent agreements that followed after the expiration of the open season appear to be indicative of utility holding companies seeking to convert ratepayer transportation costs into shareholder return, as the basis for their taking on affiliate equity interests as developers. Other motivations, including the opportunity to recover a generous return on equity, should be considered by the Commission as a critical driver for joining the project. As it has done in the past, the Commission should view, with skepticism, precedent agreements that are not connected to the open season process.<sup>39</sup>

CO105-6

**C. The DEIS Does Not Acknowledge the Presence and Nature of Affiliate Relationships Underpinning the Project**

The DEIS briefly mentions the ownership of the project but does not acknowledge the affiliate relationships between the owners and shippers.<sup>40</sup> This information is directly relevant to the Commission’s review of whether a bona fide market need exists for the project. As of the

<sup>38</sup> Mountain Valley Pipeline Project, Supplemental Information, Docket No. CP16-10 (January 27, 2016).

<sup>39</sup> *Millennium Pipeline Co., L.P.*, 100 FERC ¶ 61,277 at p. 62,141 (2002) (citing *Independence Pipeline Co.*, 89 FERC ¶ 61,283 at p. 61,840 (1999)) (“The proffered precedent agreement was not the result of, or related to, Independence’s open season. For this reason, we found that the DirectLink agreement did not constitute reliable evidence of market need to support a finding that the proposal was required by the public convenience and necessity.”)

<sup>40</sup> DEIS at page ES-1, n.1.

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As stated in section 1 of the EIS, Mountain Valley Pipeline, LLC is a joint venture between affiliates of EQT Midstream Partners, LP; NextEra Energy US Gas Assets, LLC; WGL Midstream, Inc.; RGC Midstream, LLC; and Con Edison Gas Midstream, LLC. MVP facilities would be operated by an affiliate of the EQT Corporation. Non-environmental FERC staff would determine the market for the MVP, and may address comments about the nature of affiliate relationships. The Commission Order should contain a discussion of markets and project need.

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 cont'd date of the original certificate application (October 23, 2015), the project had the following ownership structure:

Owners	Shippers	Relationship
EQT Midstream Partners, LP	EQT Energy, LLC	Affiliate
NextEra Energy US Gas Assets, LLC	USG Properties Marcellus Holdings, LLC	Affiliate
WGL Midstream, Inc.	WGL Midstream, Inc.	Affiliate
RGC Midstream, LLC	Roanoke Gas	Affiliate
Vega Midstream MVP LLC		

**Table I.C: MVP Owners and Shippers**

Two significant changes have occurred since Mountain Valley filed its certificate application with the Commission. First, on January 27, 2016, Con Edison Gas Midstream, LLC (later renamed Con Edison Gas Pipeline and Storage, LLC) took a 12.5% ownership interest in the project and Consolidated Edison Company of New York, Inc. became a shipper.<sup>41</sup> Notably, Con Edison Gas Midstream, LLC did not exist at the time the MVP application was filed at FERC but rather was formed several months after the fact.<sup>42</sup> FERC has previously viewed the creation of such “overnight” affiliates as suspect and should do the same here.<sup>43</sup> Second, on October 31, 2016, WGL Midstream, Inc. purchased Vega Midstream MVP LLC’s interest in the

<sup>41</sup> Mountain Valley Pipeline Project, Supplemental Information, Docket No. CP16-10 (January 27, 2016).

<sup>42</sup> Con Edison Newsroom, Con Edison Creates Transmission Subsidiary (January 25, 2016), available at <https://www.coned.com/newsroom/news/pr20160125.asp> (explaining that Con Edison Inc. created a new subsidiary, Con Edison Transmission, that will operate Con Edison Gas Midstream, LLC)

<sup>43</sup> *Millennium Pipeline Co., L.P.*, 100 FERC ¶ 61,277 at P 57 (2002) (Millennium’s affiliates are bona fide affiliates that existed at the time that Millennium filed its application. Thus, there was no necessity in this proceeding, as there was in Independence, to require that Millennium demonstrate that it had a bona fide market demand for its project, since there is no evidence that Millennium created marketers at the last minute to demonstrate market demand.)

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cont'd project.<sup>44</sup> Thus, at present, all owners of the project also have affiliated shippers that take service from the project. This structure raises circularity concerns that the Commission should take into account when addressing whether a bona fide need exists for the project, *i.e.*, “demand for the pipeline exists because the Project’s stakeholders have said it is needed.”<sup>45</sup>

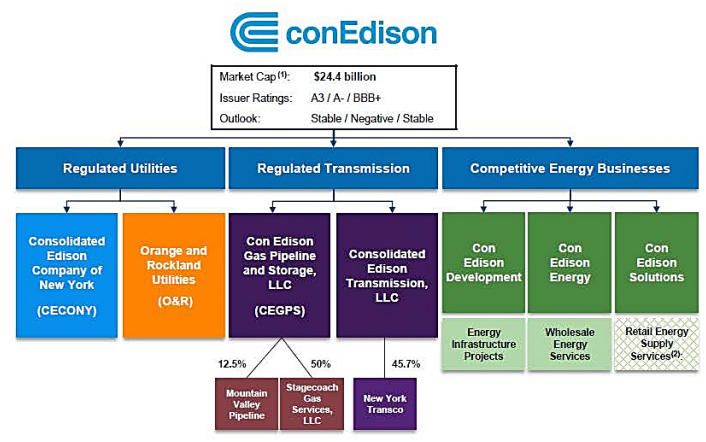
CO105-7  
**i. Self-Dealing Concerns Arise When Affiliate Relationships Transfer Risks to Captive Ratepayers and Excessive Benefits to Shareholders**  
Mountain Valley relies on Consolidated Edison Company of New York’s participation in the project as further evidence of market demand.<sup>46</sup> Notably, Con Edison Gas Pipeline and Storage, LLC’s ownership interest is referenced only briefly.<sup>47</sup> As shown in the graphic below, both Consolidated Edison Company of New York (the regulated utility) and Con Edison Gas Pipeline and Storage, LLC (the midstream affiliate) share the same holding company, Con Edison, Inc. The MVP transaction presents a situation where Con Ed is serving two different masters—the interests of its ratepayers and the interests of its shareholders.

CO105-7 Non-environmental FERC staff may consider issues such as captive ratepayers and excessive benefits to shareholders.

<sup>44</sup> WGL Midstream Acquires Additional 3 Percent Interest in Mountain Valley Pipeline (October 31, 2016), available at <http://www.wglholdings.com/releasedetail.cfm?releaseid=996318>.  
<sup>45</sup> Comments of the New Jersey Division of Rate Counsel, Docket No. CP15-558 at 4 (September 12, 2016) (raising similar concerns regarding the PennEast proposed pipeline).  
<sup>46</sup> Mountain Valley Pipeline Project, Supplemental Information, Docket No. CP16-10 at 1 (January 27, 2016) (explaining that Con Ed’s participation “further demonstrates the market demand and genuine need for the MVP Project to serve customers in Mid-Atlantic markets.”).  
<sup>47</sup> *Id.* at 1.

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**Figure I.C-1: Con Edison Corporate Structure**  
 Source: Con Ed August 2016 Company Update

Regarding its ratepayers, Consolidated Edison Company of New York, Inc. has committed, effective November 1, 2018, to receive from and pay Mountain Valley for 250,000 Dt/d of firm transportation service capacity for a term of 20 years. The terms of this arrangement mean that Consolidated Edison customers are obligated to pay for firm transportation service every hour of every day for the next twenty years regardless of whether the service is actually used.<sup>48</sup> These costs are ultimately passed through to ratepayers as part of an annual gas cost reconciliation process at the New York State Public Service Commission.<sup>49</sup>

<sup>48</sup> See Con Edison 2015 Annual Report at 22-23, available at <http://investor.conedison.com/phoenix.zhtml?c=61493&p=irol-reportsannual> (explaining that CECONY and Orange and Rockland “have contracts with interstate pipeline companies for the purchase of firm transportation from upstream points where gas has been purchased to the Utilities’ distribution systems, and for upstream storage services. Charges under these transportation and storage contracts are approved by the FERC. The Utilities are required to

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While there are several legitimate reasons why a regulated utility would sign up for firm transportation service, Con Ed's interest in the MVP project deserves further scrutiny as immediate customer benefits are not apparent. To begin, as shown in the map below, Con Ed's service territory (New York) is 400 miles north of MVP's primary point of delivery, Transco Zone 5 Station 165 in Pittsylvania County, Virginia.

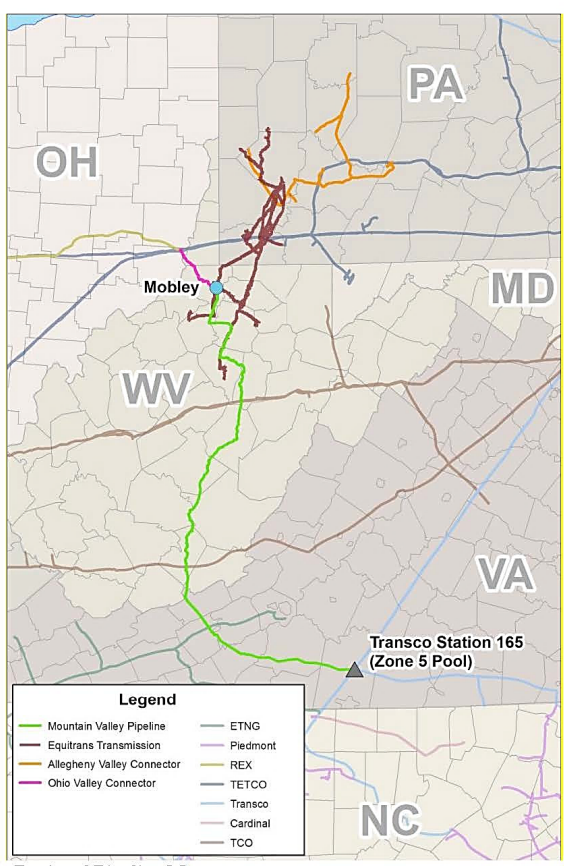
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pay certain fixed charges under the supply, transportation and storage contracts whether or not the contracted capacity is actually used.<sup>49</sup>).

<sup>49</sup> See, e.g., Consolidated Edison Company of New York, Inc., 2016 Annual Gas Cost Reconciliation, NYPSC Case No. 16-G-0431 (October 14, 2016).

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**Figure I.C-2: Regional Pipeline Map**

It is no surprise that the project was first advertised “to offer supply diversity to meet growing demand for clean, efficient natural gas in the Southeast market.”<sup>50</sup> To the extent Con Ed seeks to address firm customer peak demand by increasing deliverability of supplies into its service

<sup>50</sup> MVP Application, Docket No. CP16-10, Exhibit Z-4 (Open Season Notices).

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territory, the MVP project cannot satisfy that need given that the interconnect point is more than 400 miles south of Con Ed's city gate.

Furthermore, Con Ed could have gained efficiencies from the MVP project regardless of whether it took an ownership stake in the project. Pipeline customers voluntarily enter into take-or-pay contracts for "firm" transportation capacity<sup>51</sup> over long periods of time when they determine that the cost of the new capacity is less than the price differential between the supply and their delivery points (referred to as the "basis differential"), thus capturing an arbitrage opportunity across a transportation network. In the natural gas transportation market, that basis differential disappears the day the new pipeline capacity comes into service, as the capacity provides a new delivery pathway between the two pricing points to eliminate the basis differential.<sup>52</sup> Con Ed could have taken advantage of this basis differential disappearing without committing its ratepayers to a 20-year fixed transportation contract. The MVP project could have moved forward regardless of whether Con Ed decided to take both an owner and shipper stake, evidenced by the fact that the certificate application was filed months before at FERC without Con Ed's participation.

Regarding Con Ed's shareholders, the benefits of assuming an ownership interest in the MVP project are clear: a generous rate of return on equity. Although the MVP shippers have signed up for negotiated rates and thus the precise return on equity cannot be calculated from

<sup>51</sup> See *Regulation of Short-Term Natural Gas Transportation Services and Regulation of Interstate Natural Gas Transportation Services*, Order No. 637, FERC Stats. & Regs. ¶ 31,091 at 31,271 (2000) ("The implicit price for transportation represents the most any shipper purchasing delivered gas at a downstream market would pay to move gas from the lower priced market to the higher priced market. For instance, the implicit value of transportation between the Henry Hub and the Chicago city gate was \$.07 in September 1999 (the difference between the \$2.67 price for gas in Chicago and the \$2.60 price at Henry Hub).").

<sup>52</sup> Testimony of N. Jonathan Peress before the Senate Energy and Natural Resources Committee at 4-5 (June 14, 2016) (citing QER Appendix B at p. 29).



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publicly available documents, MVP's application requests a 14% return on equity and calculates recourse rates using a pre-tax return of 15.77%.<sup>53</sup> This 14% return on equity is also on par with the estimated return on capital calculated for the owners of the PennEast pipeline.<sup>54</sup> To put this requested return on equity in perspective, a 14% return on equity is high relative to returns that one could expect to receive by investing capital elsewhere in the utility business.<sup>55</sup> In 2014, the average return on equity granted by state public utility commissions to investor-owned electric utilities was 9.92 percent.<sup>56</sup> For example, at the retail level, Consolidated Edison Company of New York, Inc. has been granted returns on equity in the 9 percent range.<sup>57</sup> For additional context, the projected rate of return for investors in U.S. stocks over the next five years is only around 4 to 7 percent.<sup>58</sup> Thus, the opportunity for shareholders to enjoy a significant rate of return, well above that granted for other pipelines,<sup>59</sup> cannot be ignored as a significant motivation

<sup>53</sup> MVP Application at 37; *see id.* at Exhibit P, Schedule 5. In terms of total costs of the project, the pre-tax return equates to \$567,731,695 of the total \$710,320,684 cost of service. MVP Application, Exhibit P, Schedule 2 (compare line 4 with line 7).

<sup>54</sup> *See also* Greg Lander of Skipping Stone on behalf of New Jersey Conservation Foundation, Analysis of Public Benefit Regarding PennEast Pipeline, Docket No. CP15-558 at 18-20 (March 11, 2016) (calculating a typical pipeline revenue, cost, and distributable cash structure and concluding that owners would be seeing a 15% return on capital).

<sup>55</sup> Cathy Kunkel, Institute for Energy Economics and Financial Analysis, *Risks Associated with Natural Gas Pipeline Expansion in Appalachia, Proposed Atlantic Coast and Mountain Valley Pipelines Need Greater Scrutiny*, 1, 7-8 (2016) (hereinafter, "IEEFA Study"), <http://ieefa.org/wp-content/uploads/2016/04/Risks-Associated-With-Natural-Gas-Pipeline-Expansion-in-Appalachia-April-2016.pdf>, attached hereto and incorporated herein as Exhibit C.

<sup>56</sup> *Id.* at 8.

<sup>57</sup> *See* Con Edison, Inc. Company Update at 26 (August 11, 2016).

<sup>58</sup> Heather Long, *Can U.S. stocks still return 5% in 2016?*, CNN Money, February 8, 2016, <http://money.cnn.com/2016/02/08/investing/stock-market-return-2016/>.

<sup>59</sup> *Portland Natural Gas Transmission System*, 150 FERC ¶ 61,107 at P 195 (2015) (median ROE of 10.28%); *El Paso Natural Gas Co.*, Opinion No. 528, 145 FERC ¶ 61,040 at P 686 (2013) (10.55% ROE); *Portland Natural Gas Transmission System*, Opinion No. 510-A, 142 FERC ¶ 61,198 at P 250 (2013), *order on reh'g*, 150 FERC ¶ 61,106 (2015) (12.99% ROE); *Kern River Gas Transmission Co.*, Opinion No. 486-F, 142 FERC ¶ 61,132 at P 263 (2013) (11.55% ROE).



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cont'd for joining the project. For these reasons, FERC should find that the Con Ed/MVP precedent agreement is not reliable evidence of market demand.

### **ii. Self-Dealing Concerns Arise When Affiliates Lean on Regulated Utilities to Help Manage Pipeline Investments**

Although WGL Midstream, Inc. is not committing captive ratepayers to sign up for a long-term transportation service agreement, its affiliate precedent agreement nonetheless raises concerns. As noted above, on October 24, 2016, WGL Midstream, Inc. acquired an additional 3% equity interest in MVP by assuming all of Vega's interest in the MVP project. WGL expects to issue \$300 to \$350 million in equity over 2017 to cover the midstream investments.<sup>60</sup> WGL (the holding company of WGL Midstream) provided guarantees to Mountain Valley on behalf of WGL Midstream and Vega. As of September 30, 2015, WGL's maximum exposure to loss due to the provided guarantees was \$20.0 million.<sup>61</sup> WGL's Annual Report includes a benchmark called earnings before interest and tax ("EBIT"), which is the primary measure of profit and loss in assessing the results of each segment's operations. As shown below, the midstream segment has an EBIT of negative \$2.7 million, whereas the regulated utility has an EBIT of \$224 million.

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<sup>60</sup> Smith, Sarah, "WGL Sees Strong Earning Potential in Distributed Generation, Gas Utility Growth," SNL Article (November 17, 2016).

<sup>61</sup> WGL 2015 Annual Report at 39, available at <http://files.shareholder.com/downloads/WGL-II/3142686921x0x870917/CC7DFDB6-3E65-492C-8B88-86D36BC1BB0E/WGL2015AR.pdf>.

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**ANALYSIS OF CONSOLIDATED RESULTS**

(In millions)	Years Ended September 30,			Increase (Decrease)	
	2015	2014	2013	2015 vs. 2014	2014 vs. 2013
<b>EBIT:</b>					
Regulated utility	\$ 224.0	\$ 184.7	\$ 153.6	\$ 39.3	\$ 31.1
Retail energy-marketing	46.6	14.0	53.3	32.6	(39.3)
Commercial energy systems	9.7	6.9	3.0	2.8	3.9
Midstream energy services	(2.7)	8.4	(29.3)	(11.1)	37.7
Other activities	(9.7)	(11.6)	(8.7)	1.9	(2.9)
Intersegment eliminations	(1.0)	(0.2)	(2.0)	(0.8)	1.8
Total	\$ 266.9	\$ 202.2	\$ 169.9	\$ 64.7	\$ 32.3
Interest expense	50.5	37.7	36.0	12.8	1.7
Income before income taxes	\$ 216.4	\$ 164.5	\$ 133.9	\$ 51.9	\$ 30.6
Income tax expense	83.8	57.3	52.3	26.5	5.0
Dividends on Washington Gas preferred stock	1.3	1.3	1.3	-	-
Net income applicable to common stock	\$ 131.3	\$ 105.9	\$ 80.3	\$ 25.4	\$ 25.6
<b>Earnings per Average Common Share</b>					
Basic	\$ 2.64	\$ 2.05	\$ 1.55	\$ 0.59	\$ 0.50
Diluted	\$ 2.62	\$ 2.05	\$ 1.55	\$ 0.57	\$ 0.50

**Figure I.C-3: WGL Annual Financial Report**

Thus, based on this EBIT benchmark, it is evident that the regulated utility (*i.e.*, Washington Gas and Light) is by far the most stable of WGL's segments whereas WGL Midstream, Inc. is one of the riskiest. This imbalance leads to the concern that WGL Midstream, Inc. could be leaning on the stability of the captive customers of Washington Gas and Light. To the extent WGL Midstream, Inc. is transferring benefits from captive customers to shareholders, the affiliate precedent agreement is problematic. For these reasons, FERC should look beneath the WGL precedent agreement to determine whether the transaction is motivated by a legitimate market need.<sup>62</sup>

CO105-8

**D. Heightened Scrutiny of Affiliate Agreements is Consistent with the Purpose of the Natural Gas Act and FERC Precedent**

CO105-8

Non-environmental FERC staff should examine affiliate agreements.

<sup>62</sup> *Millennium Pipeline Co., L.P.*, 100 FERC ¶ 61,277 at 57 (2002) (Millennium's affiliates are bona fide affiliates that existed at the time that Millennium filed its application. Thus, there was no necessity in this proceeding, as there was in *Independence*, to require that Millennium demonstrate that it had a bona fide market demand for its project, since there is no evidence that Millennium created marketers at the last minute to demonstrate market demand.)

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As established above, the affiliate relationships supporting the MVP project are susceptible to self-dealing concerns. This self-dealing is primarily the result of the generous return on equity that pipeline developers enjoy. As explained by Dr. Steve Isser:

Where pipelines are financed through long-term contracts with LDCs or utilities that are subsidiaries of the parent company building the pipeline, the efficiency of the pipeline cannot be presumed by a full subscription to its capacity. Cross-subsidization can be accomplished by risk shifting as well as direct side payments. An uneconomic project that creates excess capacity can be financed in this manner by guaranteeing its income stream at the expense of alternative transport options. In this case, the Commission would be advised to bring a higher level of scrutiny to these projects, including a closer examination of the [return on equity] ROE.<sup>63</sup>

An ROE is just and reasonable when it satisfies the Supreme Court's long held standards established in *Bluefield* and *Hope*—*i.e.*, if it enables that company to maintain its financial integrity, attract capital, and is commensurate with the cost of equity for companies with *similar risk*.<sup>64</sup> The MVP owners' claims that they are exposed to large investment risk<sup>65</sup> are belied by the fact that captive ratepayers will be providing secure and stable revenues for the project. When pipeline developers are simultaneously allowed to obligate their captive ratepayers to cover the cost of the firm transportation agreements needed to fund the project, the result is a major shifting of risk as between ratepayers and shareholders. This problematic financial model requires intervention from regulators to protect ratepayers.

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<sup>63</sup> Dr. Steve Isser, Natural Gas Pipeline Certification and Ratemaking at 24 (October 7, 2016), available at [http://rethinkenergyj.org/wp-content/uploads/2016/10/ISSER\\_REPORT\\_CV.pdf](http://rethinkenergyj.org/wp-content/uploads/2016/10/ISSER_REPORT_CV.pdf).

<sup>64</sup> *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n of W. Va.*, 262 U.S. 679 (1923); *FPC v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

<sup>65</sup> See MVP Application at 37 (“In light of the large capital investment risk undertaken by the sponsoring owners Mountain Valley’s proposed weighted average cost of capital of 10.8% and related return on equity of 14.0% are reasonable and should be approved.”).

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FERC has previously expressed concerns regarding the shifting of risks in affiliate transactions, albeit in an electricity context. FERC has explained “that a franchised public utility and an affiliate may be able to transact in ways that transfer benefits from the captive customers of the franchised public utility to the affiliate and its shareholders.”<sup>66</sup> The same concern is present here. Given that the primary purpose of the Natural Gas Act is to protect consumers of natural gas,<sup>67</sup> it is appropriate in this case for FERC to apply a heightened level of scrutiny to the precedent agreements in this proceeding.

CO105-9

**E. The Recent Trend of Affiliate-Backed Contracts to Support New Pipeline Capacity Could Result in Ratepayer-Funded Overbuild with Costs in Excess of Benefits**

The MVP Application presents just one example of the new predominant model regarding the funding of long-term pipeline capacity. As evidenced by several recent certificate applications filed at FERC, pipeline developers and the regulated utilities contracting for that capacity are increasingly part of the same corporate group.<sup>68</sup> Affiliate transactions should be subject to enhanced scrutiny and review to ensure that a regulated utility is not imposing long term financial obligations and risk upon retail customers in excess of reasonably foreseeable benefits, while conversely providing utility shareholders with returns in excess of risk. Because affiliate transactions shift the balance of risks and rewards as between ratepayers and

CO105-9

Non-environmental FERC staff should examine contracts related to the MVP.

<sup>66</sup> *Cross-Subsidization Restrictions on Affiliate Transactions*, 122 FERC ¶ 61,155 at P 4 (2008).  
<sup>67</sup> *California Gas Producers Ass'n v. FPC*, 421 F.2d 422, 428-29 (9th Cir. 1970) (“The Commission’s primary duty under the Natural Gas Act is the protection of the consumer.”); *Atlantic Refining Co. v. P.S.C. of New York*, 360 U.S. 378, 388, 79 S.Ct. 1246, 1253, 3 L.Ed.2d 1312 (1959) (“[t]he purpose of the Natural Gas Act was to underwrite just and reasonable rates to the consumers of natural gas”).  
<sup>68</sup> *See, e.g.*, FERC Docket Nos. CP15-558 (PennEast Pipeline), CP16-22 (Nexus Gas Transmission), CP15-554 (Atlantic Coast Pipeline), CP15-17 (Sabal Trail).

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CO105-9 | shareholders, such transactions should be presumed suspect and not indicative of market need,  
cont'd | unless and until demonstrated otherwise by the utility seeking Commission approval.

CO105-10 | If this new predominant financial model is left unchecked, pipeline infrastructure will be  
overbuilt.<sup>69</sup> This was the very concern the Commission sought to prevent in its 1999 Certificate  
Policy Statement.<sup>70</sup> As evidenced by the map below, significant natural gas infrastructure  
already exists in West Virginia and Virginia:

CO105-10 | Non-environmental FERC staff may examine the issues raised in  
the Synapse report. The Commission Order should address the  
need for the MVP.

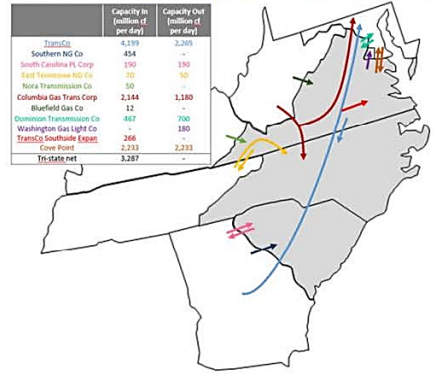
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<sup>69</sup> Dr. Steve Isser, *Natural Gas Pipeline Certification and Ratemaking at 2* (October 7, 2016) (“The incentives provided by generous returns on equity (ROE), combined with risk shifting to captive customers, may encourage overbuilding natural gas pipeline capacity.”).

<sup>70</sup> *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227 at p. 61,750 (1999), *Order on Clarification*, 90 FERC ¶ 61,128 (2000), *Order on Clarification*, 92 FERC ¶ 61,094 (2000) (“At a time when the Commission is urged to authorize new pipeline capacity to meet an anticipated increase in the demand for natural gas, the Commission is also urged to act with caution to avoid unnecessary rights-of-way and the potential for overbuilding with the consequent effects on existing pipelines and their captive customers”).

CO105-10  
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Figure 4. Currently existing natural gas supply capacity into and out of the Virginia-Carolinas three-state region



Source: Synapse analysis based on data from EIA, U.S. state-to-state capacity, December 2014. Available at: <http://www.eia.gov/naturalgas/pipelines/EIA-State-to-State-Capacity.xls>  
 Note: Locations of pipelines are approximate and are not meant to portray the exact pipeline locations.

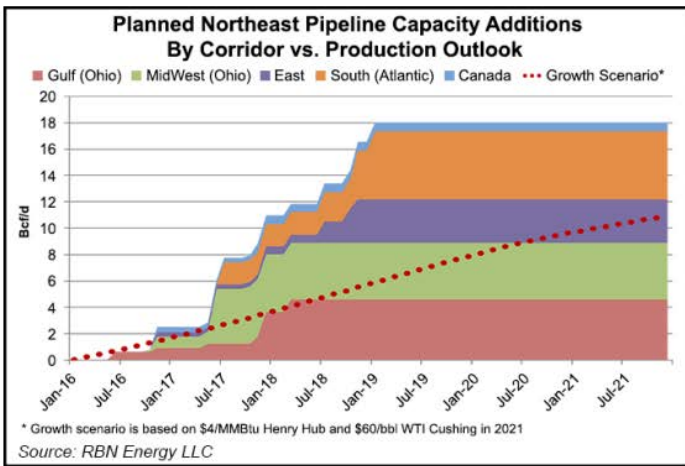
**Figure I.E-1: Existing Gas Supply Capacity in Mid-East**

Synapse’s analysis of the MVP project found 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.”<sup>71</sup> These findings are consistent with projections made by RBN Energy LLC President Rusty Brazier, who concludes that currently planned takeaway capacity

<sup>71</sup> Synapse Energy Economics, Inc., *Are the Atlantic Coast Pipeline and the Mountain Valley Pipeline Necessary? An examination of the need for additional pipeline capacity into Virginia and Carolinas*, 1-1 (2016) (hereinafter, “Synapse Study”), [https://www.southernenvironment.org/uploads/words\\_docs/Synapse\\_Report\\_FINAL\\_FINAL.pdf](https://www.southernenvironment.org/uploads/words_docs/Synapse_Report_FINAL_FINAL.pdf).

CO105-10  
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from the Marcellus is on the way to an “overbuild.”



**Figure I.E-2: Planned Northeast Pipeline Capacity Additions**

These findings are also consistent with projections made by the Institute for Energy Economics & Financial Analysis, which stated that FERC’s current approach to pipeline certification “is highly likely to result in excess capacity that will be underutilized.”<sup>72</sup> For example, beginning in 2017, “[t]he pipeline capacity being proposed exceeds the amount of natural gas likely to be produced from the Marcellus and Utica formation over the lifetime of the pipelines.”<sup>73</sup> “In the meantime, existing natural gas pipeline capacity is going underutilized” as “existing pipelines in the U.S. had an average capacity utilization of 54%.”<sup>74</sup> Without an in-

<sup>72</sup> IEEFA Study, *supra* note 50 at 7.  
<sup>73</sup> *Id.* at 11.  
<sup>74</sup> *Id.* at 13 (citations omitted).

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depth needs analysis, FERC is helping to create “the irony of unused capacity at the same time new capacity is being constructed.”<sup>75</sup> This situation is particularly problematic when “a pipeline developer contracts with an affiliate company to ship gas through a new pipeline[.]”<sup>76</sup> While the existence of the affiliate subscription contracts may demonstrate that there is a “financial advantage to the parent company from building the pipeline,” it does not “necessarily [mean] that there is a need for the pipeline.”<sup>77</sup>

These findings should serve as a warning that significant new infrastructure should only be built where market demand warrants construction.<sup>78</sup> Where, as here, applicants are unable to demonstrate a compelling need for a 301-mile \$3.7 billion greenfield pipeline, FERC should fully consider the no action alternative.

CO105-11

**A. Reliance on the Clean Power Plan as an indicator of need is not reasonable.**

MVP further asserts that implementation of the Clean Power Plan would increase coal-fired electric generation plant retirements and coal-to-gas switching, thus supporting the need for the pipeline. The Supreme Court has stayed implementation of the Clean Power Plan pending disposition of ongoing litigation.<sup>79</sup> As a result, states have suspended the planning process, so the details of states' plans - including specific emissions reduction measures and the schedule for

<sup>75</sup> *Id.*

<sup>76</sup> *Id.*

<sup>77</sup> *Id.*

<sup>78</sup> *See* Initial Comments of Consolidated Edison Company of New York, Inc., FERC Docket Nos. RM98-10 and RM98-12 at 2 (April 22, 1999) (emphasizing the objective “to assure that facilities are constructed only where market demand warrants the construction” and “to promote pipeline efficiencies in order to reduce costs borne by consumers”).

<sup>79</sup> *See Chamber of Commerce v. EPA*, No. 15A787 (U.S., Feb. 9, 2016) (order granting stay).

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The Commission would consider need in its Project Order (see section 1.2.3 of the EIS). The EPA’s Clean Power Plan is discussed in section 4.11 of the EIS.



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cont'd implementing them - remain largely unknown. However, state plans can be expected to be responsive to the Clean Power Plan's incentives for renewable generation over gas-fired generation. Because gas-fired plants emit significant amounts of carbon dioxide, states will be able to achieve compliance more easily by relying on greater renewable generation as compared to coal-to-gas switching. As a result, EPA modeling shows that gas-fired generation is expected to decline by the end of the compliance period, as compared to the base case.<sup>80</sup> The CPP is thus not a significant driver of need for additional natural gas transmission infrastructure as FERC and Mountain Valley assert.

CO105-12 **B. FERC did not rigorously explore or objectively evaluate reasonable alternatives.**

As stated above, the alternatives section “is the heart of the environmental impact statement.”<sup>81</sup> FERC must “[r]igorously explore and objectively evaluate all reasonable alternatives[.]”<sup>82</sup> This includes “reasonable alternatives not within the jurisdiction of the lead agency.”<sup>83</sup>

By relying almost exclusively on MVP’s ambitions for the project to frame its statement of purpose, FERC impermissibly “restrict[ed] its analysis to just those ‘alternative means by which a particular applicant can reach his goals.’”<sup>84</sup> For example, FERC says that “because the

<sup>80</sup> See EPA, Regulatory Impact Analysis for the Clean Power Plan Final Rule at 3-27, available at <https://www.epa.gov/sites/production/files/2015-08/documents/cpp-final-rule-ria.pdf>. This undermines a key component of MVP’s purported need for the pipeline.

<sup>81</sup> 40 C.F.R. § 1502.14.

<sup>82</sup> *Id.* § 1502.14(a).

<sup>83</sup> *Id.* § 1502.14(c).

<sup>84</sup> *Simmons*, 120 F.3d at 669 (quoting *Citizens Against Burlington*, 938 F.2d at 209 (Buckley, J., dissenting)); see also *Nat’l Parks & Cons. Ass’n*, 606 F.3d at 1072.

CO105-12 Numerous alternatives are examined in section 3 of the EIS.

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purpose of the MVP and the EEP is to transport natural gas,” the consideration of alternatives that do not transport natural gas “are not considered or evaluated further in this analysis.”<sup>85</sup> As a result, FERC excluded consideration of meeting any of the Project’s purpose from the generation of electricity from renewable energy sources or the gains realized from increased energy efficiency and conservation.<sup>86</sup>

FERC’s categorical refusal to consider alternative energy and increased energy efficiency alternatives is at odds with other recent statements. For example, in the Constitution Pipeline DEIS, FERC considered energy conservation/efficiency and renewable energy alternatives.<sup>87</sup> While FERC ultimately decided against considering these alternatives in greater detail, it at least considered them in some detail. That is in stark contrast to the MVP DEIS where alternatives that would not transport Marcellus and Utica shale gas were excluded from any analysis. FERC’s narrowing of the range of alternatives to just those alternatives that would transport natural gas as MVP wants means that energy conservation and renewable energy alternatives will never be considered, even if they are economically and technologically feasible and serve the broader public interest.

CO105-13

FERC also did not adequately consider system alternatives. For example, FERC briefly considered alternatives to utilize existing pipeline infrastructure on the Texas Eastern, Columbia,

CO105-13 System alternatives are discussed in section 3.3 of the EIS.

<sup>85</sup> DEIS at 3-2.

<sup>86</sup> See e.g., Commenters’ Nov. 27, 2015 Motion to Intervene and Protest at 43-50; see also Tom Randall, Bloomberg Technology, World Energy Hits a Turning Point: Solar That’s Cheaper Than Wind (Dec. 14, 2016), available at <https://www.bloomberg.com/news/articles/2016-12-15/world-energy-hits-a-turning-point-solar-that-s-cheaper-than-wind> (“... now unsubsidized solar is beginning to outcompete coal and natural gas on a larger scale[.]”).

<sup>87</sup> See Constitution Pipeline DEIS at 3-3 – 3-12 (Docket CP13-499-000).