

UNITED STATES OF AMERICA BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

Mountain Valley Pipeline, LLC

Docket No. CP16-10-000

REQUEST FOR REHEARING AND FOR MOTION FOR STAY AND FOR ADDITIONAL RELIEF OF CARL E. ZIPPER *et al.*

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Foreword: We petitioners state our interests.

With knowledge of section 19(a) of the Natural Gas Act (“NGA”)¹ and Rule 713 of the Federal Regulatory Energy Commission’s (“FERC”) Rules of Practice and Procedure,² Petitioners named herein hereby request rehearing of FERC’s “Order Issuing Certificates And Granting Abandonment Authority” for Mountain Valley Pipeline LLC and Equitrans LP (Certificate Order, issued 13 October 2017).³ Petitioners also request stay of disturbance of lands pending resolution of issues raised herein. FERC granted those Petitioners who are intervenors’ respective motions to intervene in this proceeding.⁴ Thus we, collectively and individually, have standing to file this request for rehearing.⁵

We direct this complaint and request for rehearing to:

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

Petitioners:

In this petition, we represent the Petitioners’ interests by stating “we”, “our”, and analogous terms. We claim direct interest in this proceeding via potential for injury should FERC fail to remedy the Environmental Impact Statement (EIS) and federal regulation compliance deficiencies described herein; should FERC fail to remedy related deficiencies in its Certificate Order; and should FERC fail to stay disturbance of forest, forested land, and other land pending requested remedial actions and compliant responses to such by the applicant; and should FERC fail to provide additional relief as requested herein. We claim legal standing should our claims proceed to hearing by a Court of Law due to FERC’s failure to satisfy our claims stated herein. We are:

- Carl E. Zipper, residing at 3910 Horse Farm Road in Montgomery County VA (postal address is Blacksburg VA), a resident of the area that would be directly affected by pipeline construction, an owner of forested land with potential for indirect effects of pipeline construction lacking adequate mitigation and who purchased such lands while considering the non-fragmented extent of forest ecosystems extending spatially from his own property (that extent would be reduced if the pipeline is constructed as proposed), a user of forest recreational resources with potential for impairment by pipeline construction (such as Appalachian National Scenic Trail, which would be impaired visually of the pipeline is constructed as proposed),⁶ a resident of an area with visual resources that would be impaired by pipeline construction.⁷ Carl E. Zipper is also a

¹ 15 U.S.C. §717r(a) [subsection of “Rehearing and review”]

² 18 C.F.R. § 385.713 [“Request for rehearing (Rule 713)”]

³ 161 FERC ¶ 61,043; Dockets CP16-10-000 and CP16-13-000.

⁴ See Certificate Order, document pp. 112-123 (Appendices A and B).

⁵ See 15 U.S.C. § 717r(a) and 18 C.F.R. § 385.713(b). See also 18 C.F.R. § 385.214(c) [subsection of “Intervention (Rule 214)”]

⁶ He hikes sections of the ANST approximately 5 to 10 times per year. Two viewpoints from which the proposed pipeline would be a prominent visual feature, Angel’s Rest and Kelly’s Knob, are common hiking destinations.

⁷ The southeastern side of Brush Mountain is a prominent visual feature along the section of Bishop Road (State

Ph.D. scientist who has published peer-reviewed studies of forest restoration and of invasive plant proliferation on disturbed areas of the Appalachian mountains; and an owner of forestland who manages his own property to maintain natural forest cover while endeavoring to exclude exotic invasive plants.

- Thomas Tyler Bouldin, with his wife Susan A. Bouldin, is an owner of forested land in Summers County, West Virginia, that would be affected indirectly by the Mountain Valley Pipeline if constructed as proposed. The Bouldins state that their use and enjoyment of their owned property would be diminished by the loss of forest trees, other vegetation, and wildlife in the areas surrounding their land that are slated for pipeline construction. They state a desire for their forested acreage to retain its ecological significance, and they state a desire for restoration of forest on disturbed areas within watershed where their owned lands are located, and where they reside, because such restoration would aid retention of their owned lands' ecological significance and would aid their use and enjoyment of their owned properties.

Furthermore, the Bouldins state potential injury given that their residence is located on their owned property which is directly adjacent to Hungard Creek at a location downstream of several pipeline-related disturbances with potential to affect Hungard Creek. The proposed pipeline crossing of Hungard Creek occurs within forested lands directly upstream of their owned property. Also, Mountain Valley's application proposes to clear forest directly adjacent to Hungard Creek for temporary workspace ATWS #310, which is also upstream from their owned property. The Bouldins are concerned that pipeline construction with the current inadequate adverse-effects' mitigation plan would affect water quality in Hungard Creek, as it flows adjacent to their property, to a greater extent than would occur if adverse effects to forests and forested lands were mitigated more effectively.⁸

- Delwyn A. Dyer is a landowner in the Mt. Tabor area of Montgomery County, Virginia. More than 100 acres of forested land, located on the south face of Brush Mountain, are under ownership of he and his family; the Mountain Valley Pipeline would disturb that forested land, if constructed as proposed.⁹
- Joseph H. Fagan is a resident of Montgomery County, Virginia. Mr. Fagan is a Karst Hydrologist and an Environmental Planner who devoted considerable effort, both personal and professional, to cave conservation issues. He currently serves as President of the Cave Conservancy of the Virginias, a 401c-3 nonprofit corporation that owns the Slussers Chapel Cave in Montgomery County, but he is participating in this rehearing request in his own behalf. Mr. Fagan is concerned with impacts of pipeline construction on caves generally within the project area given the close proximity of the proposed pipeline to numerous caves including Slusser's Chapel Cave. The proposed pipeline, if constructed as proposed, would cause direct impact to the Slussers Chapel Cave

Route 648); he travels that section of Bishop Road almost every day, and multiple times on some days.

⁸ Mr. and Mrs. Bouldin state their interest in the issues raised herein in submittal 20170914-5092. Thomas Tyler Bouldin notified the service list of his filing on 14 September 2017.

⁹ Mr. Dyer states his interest in the issues raised in submittal 20170808-0055 to FERC Docket CP16-10. Mr. Dyer notified the service list of his filing on 4 August 2017. All submittals to FERC cited herein are to Docket CP16-10 unless otherwise stated.

Conservation Area and to the watershed of a stream channel that runs directly into the mouth of Slusser's Chapel Cave. Mr. Fagan is concerned that pipeline construction with the current inadequate adverse-effects' mitigation plan would affect caves generally, and Slussers Chapel Cave specifically, to a greater extent than would occur if adverse effects to forests and forested lands were mitigated more effectively.¹⁰

- Mr. Maury Johnson is an owner of land, both forested and non-forested, near Greenville in Monroe County, West Virginia, that would be disturbed by the Mountain Valley Pipeline if constructed as proposed. If the pipeline were to be constructed as proposed, land under his ownership would be disturbed within an approximately 2000-foot linear which would include approximately 1000 feet of forest.¹¹
- Mr. Robert M. Jones, with his wife, is an owner of forested land that would be disturbed by the Mountain Valley Pipeline, if constructed as proposed. The property owned by Mr. Jones and his wife is located in the Mt. Tabor area of Montgomery County, Virginia. If the pipeline were to be constructed as proposed, forested land under their ownership would be disturbed within a 1400-foot linear corridor that includes the largest bigtooth aspen in the Commonwealth of Virginia.¹²
- Mr. Zane R. Lawhorn is an owner, along with James Gore and Barry Meadows, of more than 100 acres of forested land in Monroe County, West Virginia. The Mountain Valley Pipeline if constructed as proposed would disturb a corridor approximately 2300 feet in length through that forested land. The forested land is heavily wooded, includes steep slopes, a spring, and a streambed. In addition, the land contains several historic features including The Old Turnpike Road, which connected the citizens of Monroe County with the rest of the world in past times but would be directly impacted by the Mountain Valley Pipeline if constructed as proposed. It is known that historic burial places are located near the Old Turnpike Road but it is unknown if the pipeline, if constructed as proposed, would affect those burial places because their locations are unknown. However, it is known and documented that the pipeline construction corridor, if disturbed as proposed, would cross on his property the only remaining visible evidence of the former Oak Hill School, also an historic feature. Mr. Lawhorn desires his forested land remain undisturbed; and for any construction and subsequent restoration to be done without permanent damage to the ecological, historical or visual value; and for restoration to be performed in as minimally invasive as possible manner so as to not diminish the landowners right to enjoyment.¹³
- Mr. Clifford A. Shaffer is an owner of forested land in Newport section of Giles County, Virginia. If the pipeline were to be constructed as proposed, forested land under his ownership would be disturbed within a 1175-foot linear corridor that is

¹⁰ Mr. Fagan states his interests in the issues raised herein in submittal 20170801-5044. Mr. Fagan notified the service list of his filing on 1 August 2017.

¹¹ Mr. Johnson stated his interest in the issues raised herein in submittal 20170731-5051. He notified the service list of his filing on 31 July 2017.

¹² Mr. and Mrs. Jones state their interest in the issues raised herein in submittal 20170804-5057. Mr. Robert Jones notified the service list of his filing on 4 August 2017.

¹³ Mr. Lawhorn states his interest in the issues raised herein in submittal 20170807-5003. Mr. Lawhorn notified the service list of his filing on 11 August 2017.

heavily wooded and includes steep slopes and a streambed.¹⁴

- Mr. Thomas E. Triplett and his wife, Bonnie Triplett, are owners of approximately 33 acres of forested land in Montgomery County, Virginia. If the pipeline were to be constructed as proposed, forested land under their ownership would be disturbed within a corridor approximately 1300 feet in length. Land within the proposed construction corridor is heavily forested with mature trees, mostly hardwoods, including oak, maple, hickory, walnut, butternut, poplar, dogwood and many other species of trees and shrubs. Many trees exceed 24” in diameter and are well over 100 years old. The Triplett’s desire that any areas of forest destroyed by pipeline construction be restored to native forest vegetation with native forest trees, and that such restoration should occur as quickly as possible.¹⁵

The following parties, although not registered intervenors, state interest and participate as Petitioners in these proceedings.

- Mr. Cletus Bohon is an owner of 42 acres for forested land in the Elliston area of Montgomery County, Virginia. If the pipeline were to be constructed as proposed, forested land under his ownership would be disturbed within a corridor approximately 950 feet in length. The corridor includes hardwood trees of species such as oak, hickory, poplar, and ash, some of which are harvest size.
- Jerry J. Deplazes and Jerolyn K. Deplazes are owners of forested land in Giles County, Virginia. If the pipeline were to be constructed as proposed, two parcels of forested land under their ownership would be disturbed. Forests within linear corridors of ~5000 feet cumulative length on their two properties would be disturbed if the pipeline were to be constructed as proposed.¹⁶

Petitioners’ Request Relief:

Both FERC’s Draft Environmental Impact Statement (DEIS)¹⁷ and its Environmental Impact Statement (EIS)¹⁸ described “impacts on forest” and “impacts on forested land” to be adverse effects of the proposed pipeline’s construction.¹⁹ Such effects were also stated by the Certificate

¹⁴ Mr. Shaffer states his interest in the issues raised herein in submittal 20170807-5051. Cliff Shaffer notified the service list of his filing on 7 August 2017.

¹⁵ Mr. Thomas W. Triplett states his interest in the issues raised herein, with his wife Bonnie, in submittal 20170803-5154. Tom Triplet (same party) notified the service list of his filing on 3 August 2017.

¹⁶ Mr. and Ms. Deplazes state their interest in the issues raised herein in submittal 20170911-0014.

¹⁷ FERC/DEIS-D0272, September 2016, Mountain Valley Project and Equitrans Expansion Project, Draft Environmental Impact Statement.

¹⁸ FERC/EIS-0272F June 2017, Mountain Valley Project and Equitrans Expansion Project Final Environmental Impact Statement.

¹⁹ Both the DEIS (p. ES-14) and the EIS (p. ES-16) state that “adverse environmental impacts” of pipeline construction would include “impacts on forest.” Both the DEIS and the EIS (p.5-1, first page of “Conclusion and Recommendations” for both documents) state that “adverse environmental impacts” would include “impacts on forested land”. We use the term “adverse effects” to describe these impacts because that term appears in the National Environmental Policy Act (NEPA) and its implementing regulations; and its implementing regulations state “Effects and impacts as used in these regulations are synonymous” (40 CFR § 1508.8).

Order.²⁰ Under the National Environmental Policy Act (NEPA)²¹ and associated federal regulations, FERC is required to use “practicable measures” to minimize EIS-defined adverse effects; and we allege that FERC has failed to do so; and that FERC statements and documents indicate the agency to be uninformed concerning necessary mitigation measures; and the agency has acted in an arbitrary and capricious fashion by prescribing on an uninformed basis and while failing to state reasoned and informed arguments for its mitigation decisions. We further allege that FERC’s process for evaluating adverse effects’ mitigation measures, its policy describing such process, and its Certificate Order are deficient.

We request that FERC:

- Conduct a rehearing of the Certificate Order;
- Withdraw its deficient EIS; and revise such EIS to be NEPA compliant;
- Withdraw its current policies and procedures for evaluating new natural gas pipeline applications (“Certification Policy”), and revise and reissue such to be NEPA compliant;
- Withdraw its Certificate Order which was issued following a process that did not conform to its own Certification Policy (even though that policy was not NEPA compliant); and which contained uninformed, misleading, and false statements.
- Re-evaluate its Certificate Order in light of said revised EIS, and said revised policies and procedures; and, if it chooses to reissue a revised version of such, ensure that it contains no uninformed, misleading, or false statements, and is NEPA-compliant.
- Stay any disturbance of forested lands, and any disturbance of other lands in light of the predominance of forested lands within the proposed disturbance, pending remediation of these FERC deficiencies, and pending applicant’s demonstration of appropriate plans and capabilities to comply with the revised EIS and the revised Certificate Order (should FERC choose to issue such).

All communications regarding this request should be addressed to and served upon²²

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Blacksburg, Virginia 24060 U.S.A.
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skybluenrv@gmail.com

²⁰ Certificate Order, paragraph 130, states: “However, in the case of the clearing of forest, the final EIS concludes that impacts will be long-term and significant.”

²¹ 42 U.S.C. § 4321 *et seq.*

²² The lead petitioner (CEZ) prefers to be contacted by e-mail. If a telephone conversation is desired, please contact the lead petitioner by e-mail to arrange a time for such.

I. CONCISE STATEMENT OF THE CASE

A. *Short Summary:*

FERC's Environmental Impact Statement (EIS) and Certificate Order for Mountain Valley Pipeline describe adverse effects to forests and forested lands²³ but fail to prescribe mitigation measures that are practicable to minimize those adverse effects. The FERC record for the proposed Mountain Valley Pipeline also fails to describe reasoned explanation or substantial evidence that the proposed adverse effects' mitigation measures are adequate to minimize adverse effects as per NEPA requirements. FERC's Certificate Order includes uninformed, misleading, and false statements that concern mitigation of EIS-defined adverse effects. NEPA requires federal agencies to minimize adverse effects of federal actions using practicable measures, while federal regulations that apply directly to FERC contain analogous requirements,²⁴ but FERC's EIS and Certificate Order fail to do so.

FERC's actions in this regard appear as uninformed by basic soil, plant, and ecosystem restoration science concepts as well as unwise. FERC's actions were also taken in a manner that fails to comply with its Policy for Certification of New Natural Gas Pipeline Facilities (Certification Policy),²⁵ which itself is non-compliant with NEPA. Given these numerous irregularities:

- FERC should conduct a rehearing of the Certificate Order;
- FERC should withdraw its deficient EIS; and revise such EIS to be NEPA compliant;
- FERC should withdraw its Certification Policy, and revise and reissue such to be NEPA compliant;
- FERC should withdraw its Certificate Order which was issued following a process that did not conform to its own Certification Policy (which is not NEPA compliant); and which contained uninformed, misleading, and false statements.
- FERC should re-evaluate its Certificate Order in light of said revised EIS, and said revised Certification Policy. If FERC chooses to reissue a revised version of said Certificate Order as per our request, FERC should ensure that it contains no uninformed, misleading, or false statements; and, that it contains or is based on associated documentation (such as a revised EIS) describing reasoned explanation or substantial evidence that the proposed mitigation measures are adequate to minimize adverse effects.
- FERC should stay disturbance of forested lands, and disturbance of other lands in light of the predominance of forested lands within the proposed disturbance, pending remediation of these FERC deficiencies, and pending applicant's demonstration of appropriate plans and capabilities to comply with the revised EIS and the revised Certificate Order (should FERC choose to issue such).

²³ Ibid.; footnote 19 (DEIS and EIS statements of adverse effects).

²⁴ 18 CFR 380.15(a).

²⁵ FERC, Certification of New Interstate Natural Gas Pipeline Facilities. Statement of Policy. Issued September 15, 1999. Docket No. PL99-3-000

B. Issues Raised:

Petitioners allege that FERC failures concerning mitigation of adverse effects are problematic relative to federal policies and legal precedents:

1. Failure to require mitigation adequate to minimize adverse effects using practicable measures as per requirements of federal law and regulation:

FERC's Environmental Impact Statement (EIS) for Mountain Valley Pipeline describes "impacts on forest" and "impacts on forested land" to be adverse effects of the proposed pipeline's construction. The National Environmental Policy Act (NEPA) requires federal agencies to minimize adverse effects of federal actions using practicable measures. Nonetheless, FERC's EIS and its Certificate Order prescribe mitigation measures that are inadequate to NEPA requirements as they do not incorporate adverse-effects' mitigation measures that are available, practicable, and documented as being more-effective those prescribed. Such measures were described and recommended to FERC in accord with FERC policies in multiple filings to FERC,²⁶ yet FERC failed to prescribe them and failed to state logical or well-informed reasons for failing such. FERC's failures in this regard concern adverse-effects' mitigation measures of two primary types:

- Failure to prescribe practicable measures that would re-establish forest ecosystems in temporary workspace areas with greater assurance and more rapidly than the measures proposed.
- Failure to propose practicable measures that would prevent or control establishment of exotic invasive plants in areas disturbed by pipeline construction.

2. EIS and Certificate Order embody "substantial change" from the DEIS, but no supplemental or revised EIS has been issued.

The term "*substantial change*" is used here in light of a federal regulation that requires agencies to "*prepare supplements*" to DEIS or EIS documents if the "*agency makes substantial changes in the proposed action that are relevant to environmental concerns...*".²⁷ FERC's "woody seed mix" proposal was not described by the DEIS; was not described clearly, as a practice similar to the EIS-proposed strategy, or as a primary means of mitigating adverse effects by DEIS documents incorporated-by-reference;²⁸ but was

²⁶ C.E. Zipper informed FERC of these deficiencies via submittals 20161121-5051 and 20161201-5078 during the DEIS comment period; provided additional information relevant to the deficiencies following the DEIS comment period via submittals 20170112-5005 and 20170221-5103; again requested remedy following EIS issuance via submittal 20170725-5023; and presented additional information relevant to the deficiencies via submittal 20170920-5051. C.E. Zipper is a registered intervenor for FERC Docket CP16-10, and copied all submittals to the Docket CP16-10 service list as required by FERC policy.

²⁷ 40 CFR 1509(c).

²⁸ The DEIS document does mention "planting seeds of shrub species along the edge of the permanent right-of-way" in Jefferson National Forest (DEIS p. 4-148) but makes no other mention of shrub seeding in non-JNF forest areas.

The Draft Migratory Bird Habitat Conservation Plan, prepared by Mountain Valley, referenced by DEIS Table 2.4-2, and posted to the FERC Docket as submittal 20161027-5212 (starts on p. 31) describes "replanting of native shrubs" (Plan p. 16) and "Planting native shrubs ... to accelerate succession and to create a 'soft' edge between the open ROW and forest" (Plan p. 18); and states "Native shrubs will be planted ... Planting shrubs will expedite

described by the Certificate Order as “*a reasonable measure to minimize impacts on forests*”²⁹ thereby inferring that this specific practice is essential to minimization of adverse effects.

Clearly, the introduction of a measure claimed to be essential to EIS-defined adverse effects’ mitigation late in the process is a substantial change; but no EIS supplement or analogous document was provided by FERC to the public for formal comment; while post-EIS comments submitted to FERC on woody seed mix inadequacies appear to have been ignored.³⁰

3. *Process for prescribing the at-issue mitigation failed to satisfy Certification Policy:*

FERC merely accepted mitigation measures proposed by the applicant. With respect to adverse effects’ mitigation: The record does not reveal effort by FERC to “*encourage the applicant to minimize the adverse impact on each of the relevant interests*” as that statement applies to owners of forested lands with interests and values such as those stated herein by petitioners; and does not reveal effort by FERC’s to conduct “*analytical steps*” or similar r procedures to evaluate the applicant’s proposed mitigation measures in accord with its Certification Policy.

4. *Failure to follow Certification Policy more generally.*

The Policy states that FERC will conduct “*environmental analysis*” **following** the “*balancing*” of “*public benefits*” against “*adverse effects*” to “*existing customers of the expanding pipeline, existing pipelines in the market and their captive customers, or the economic interests of landowners and communities*”; yet FERC initiated environmental analysis (the EIS) during the pre-application period when, in the absence of a formal

forest succession ...” (Plan p. 21) within temporary workspaces within forested areas.

The Plan also states that “MVP’s seed mix will also include native shrubs in temporarily impacted forest areas increasing shrub/scrub habitat by 1,151.13 hectares (2,844.51 ac) until areas mature into forest. Native shrubs can increase habitat for migratory and resident birds who prefer early successional cover ... A buffer of shrubs between the open ROW and the forest provide a habitat-transitional zone and reduces the appearance of a “hard” edge. This restoration measure may also expedite forest succession, allowing the edge to return to forest sooner and increase forest interior habitat.”

The Plan described both planting and seeding of native shrubs, and native shrubs only. The seeding component of the strategy was described primarily as a means for providing habitat for migratory birds.

The “woody seed mix” proposal is mentioned (e.g., “a woody seed mix comprised of native overstory, understory, and shrub oak-hickory forest species”, p. 4-181) but not described in detail by the EIS body. Mountain Valley’s Habitat Mitigation Plan, submittal 20170511-5018, was incorporated by reference of the EIS Table 2.4-2. The woody seed mix is described in Section 2.2, p. 7, of that document’s Appendix C.

The woody seed mix, as described by the EIS and its incorporated reference, is clearly different in character from measures described by the DEIS-incorporated Plan. The EIS and its incorporated document make no mention of shrub “planting” outside of special-status areas, while the DEIS-incorporated Plan makes multiple mentions of “planting” in temporary workspaces of forested areas. The DEIS-incorporated Plan describes planting and seeding of shrubs only, while the EIS-defined woody seed mix strategy describes seeding of overstory, understory, and shrub species.

²⁹ Certificate Order, paragraph 203.

³⁰ Submittal 20170725-5023, pp. 17-26, discussed inadequacies of the woody seed mix proposal while referencing proposed seed mix composition, peer-reviewed science, and other relevant technical information. The FERC docket contains no evidence that FERC provided any attention or analytical scrutiny to that submittal’s contentions, and Certificate Order reaffirmed the proposal as described by the EIS and its incorporated-by-reference documents. Hence, the record suggests that the submittal’s contentions were “ignored”.

application, it did not have information adequate to balance public benefits against adverse effects to those interests.³¹

5. *Issuance of Certificate Order under a Certification Policy that is not NEPA compliant.*

FERC's Certification Policy includes no requirement for minimization of NEPA-defined adverse effects using practicable measures, despite FERC's routine conduct of NEPA analyses (either EIS or Environmental Analysis) for essentially all new natural-gas pipeline applications. The fact that FERC has issued a Certificate Order for Mountain Valley Pipeline that clearly is not NEPA-compliant confirms this deficiency of its Certification Policy as argued herein.

6. *Prescriptions for mitigation of adverse effects appear as "uninformed".*

We use the term "*uninformed*" to describe a process that failed to incorporate "*analytical steps*", "*rational decision-making*", analyses of "*relevant data*", and other reasoning processes essential to compliance with federal law. FERC documents and comments indicating such include the Draft EIS, FERC's responses to Draft-EIS comments, the EIS, and the Certificate Order. The rationale for describing FERC's actions as "*uninformed*" is documented in Sections II.F and III.C below. The uninformed nature of FERC's documents and comments on adverse-effects' mitigation is especially problematic considering U.S. Supreme Court guidance for federal agencies' compliance with NEPA. In *Robertson v. Methow Valley Citizens Council* (490 U.S. 332, 1989), U.S. Supreme Court has stated:

"NEPA merely prohibits uninformed, rather than unwise agency action."

It is clear that FERC's prescriptions of measures for adverse-effects' mitigation are both uninformed and unwise.

7. *Certificate Order includes uninformed, misleading, and false statements.*

The nature of such statements are documented below in Section II.G.

8. *Prescriptions for mitigation of adverse effects, and the Certificate Order which embodies them, should be considered as "arbitrary and capricious".*

A common consideration in determining whether or not an agency's decision is "*arbitrary and capricious*" concerns whether or not the agency engaged in "*rational*" or "*reasoned*" decision-making. In making such decisions,

*"the reviewing court must determine whether the agency has 'examine[d] the relevant data and articulate[d] a satisfactory explanation for its action including a rational connection between the facts found and the choice made.' "*³²

³¹ In April 2015, FERC issued a "Notice of Intent to Prepare an Environmental Impact Statement for the Planned Mountain Valley Pipeline Project" (submittal 20150417-3022 to Docket PF15-3) which included a schedule for public hearings during May, 2015. Mountain Valley did not submit its application until October 2015 (Submittals 20151023-5035, 20151023-5036, and 20151023-5037 to FERC Docket CP16-10, Mountain Valley Pipeline LLC.).

³² Outer quote from: Rosenberg LD, Re RM. Basic Legal Doctrines Frequently Arising In the D.C. Circuit, https://www.americanbar.org/content/dam/aba/administrative/litigation/materials/sac_2012/34-basic_legal_doctrines.authcheckdam.pdf Inner quote is a citation from: *Motor Vehicle Mfr. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)

The record fails to reveal evidence of FERC's conduct of "rational" or "reasoned" decision-making while evaluating measures proposed by applicant for mitigation of NEPA-defined adverse effects.³³ The record indicates that FERC merely accepted measures proposed by the applicant, and prescribed those measures in its EIS and Certificate Order in the absence of informed, reasoned, and rational analysis.

Considering the above; the inadequacies of FERC's mitigation prescriptions relative to NEPA; FERC's failure to abide by its own Certification Policy; the FERC Policy's failure to reflect NEPA requirements; the uninformed nature of FERC's decision-making; and the uninformed, misleading, and false statements of relevance to these issues in FERC's Certificate Order: We contend that FERC's mitigation prescriptions for EIS-defined adverse effects are arbitrary and capricious.

9. *Errors are "Extraordinary Circumstances" that justify reopening the record and additional relief; a rehearing is warranted.*

We contend that the issues raised herein go "to very heart of the case"; and are, therefore, extraordinary circumstances that (in accord with FERC's own logic) justify "reopening the record"; and a rehearing is warranted.³⁴

NEPA is a federal law. NEPA is fundamental to FERC process concerning new natural gas pipelines, as the vast majority or all applications for such are subjected to NEPA-defined Environmental Analysis or EIS processes. Federal regulations require that all FERC activities conducted under Natural Gas Act Section 7 "shall be consistent with all applicable law".³⁵ The issues raised here are fundamental to FERC's implementation of NEPA for a natural-gas pipelines that, if constructed, would have significant impacts on the human environment.

We also contend that FERC failed to consider "new information" provided during the CP16-10 process; and that such "new information" is adequate to justify re-opening the record (See Section II.I below, "New Information").

Because these circumstances are so extraordinary, we also contend that additional relief is warranted.

C. Relief Sought:

1. *A Rehearing is Needed:*

Clearly, the Certificate Order and FERC process that underlies it embody numerous irregularities. FERC should rehear and evaluate our arguments. A rehearing is needed.

2. *A Revised EIS is Needed.*

³³ As quoted by Rosenberg LD, Re RM. Basic Legal Doctrines Frequently Arising In the D.C. Circuit (cited above), an agency's action "action was devoid of 'reasoned decision-making,' and was therefore arbitrary and capricious)." The quoted statement cited City of Kansas City v. Dep 't of Hous. & Urban Dev., 923 F.2d 188, 189 (D.C. Cir. 1991)

³⁴ Logic and quotes from 157 FERC ¶ 61,194; Jordan Cove Energy Project, L.P. Docket No. CP13-483-001; Pacific Connector Gas Pipeline, LP, Docket No. CP13-492-001, Order Denying Rehearing (Issued December 9, 2016). <https://www.ferc.gov/CalendarFiles/20161209152707-CP13-483-001.pdf>

³⁵ 18 CFR 157.206(b)(2).

FERC's EIS fails to satisfy a fundamental NEPA requirement: Use of practicable measures to minimize adverse effects. The EIS proposed adverse effects' mitigation measures that failed to comply with federal regulations that are specific to FERC actions. The EIS reveals a decision-making process that can be described, at best, as "*uninformed*." Available and practicable measures that FERC failed to prescribe were described and documented as such in multiple submittals to FERC by a registered intervenor and in accord with FERC policies;³⁶ several of those submittals occurred during the DEIS comment period and all were submitted in accord with FERC policies. Yet, FERC failed to give such comments reasoned analysis; and failed to apply reasoned analysis to support and justify its own mitigation prescriptions as adequate to minimize adverse effects.

Furthermore, the EIS as issued by FERC embodies "*substantial changes*" from the EIS, yet FERC has failed to issue a Supplemental or revised EIS in light of those "*substantial changes*".

FERC developed the EIS using procedures that failed to satisfy its own Certification Policy, although claiming to do so; and the Certification Policy that it claimed to follow does not require NEPA compliance. The EIS should be withdrawn and revised.

3. A Revised Certification Policy is Needed:

FERC's Certification Policy includes no requirement for minimization of adverse effects as defined under NEPA. Here, FERC has issued a Certificate Order which its personnel, apparently, believe to satisfy its Certification Policy; yet the Certificate Order fails to satisfy NEPA requirements and related federal regulatory requirements that apply directly to FERC. Furthermore, the record reveals minimal (if any) effort, activity, or reasoned analysis by FERC conducted with the intent of determining if proposed mitigation measures minimize EIS-defined adverse effects. The Certificate Order was issued despite these clear deficiencies. FERC should revise its Certification Policy in a manner that clarifies the term "adverse effects"³⁷ and in a manner that requires minimization of NEPA-defined adverse effects using practicable measures.

4. The Certificate Order Should be Withdrawn by FERC:

Reasons for withdrawing the Certificate Order include the following:

- The Certificate Order was developed under a Certification Policy that is non-compliant with NEPA.
- FERC failed to follow procedures described by its Certification Policy while preparing its Certificate Order.
- The Certificate Order fails to require mitigation using measures that are available and are practicable, and would reduce EIS-defined adverse effects relative to FERC has proposed; is therefore non-compliant with NEPA, with federal regulations that apply directly to FERC, and with FERC's obligations under the NGA.
- The Certificate Order includes uninformed statements that concern mitigation of

³⁶ Ibid.; see footnote 26 above ("C.E. Zipper informed FERC...").

³⁷ The Certification Policy uses the term "adverse effects" and analogous terms ("adverse impacts", "adverse environmental effects") repeatedly, but often in a manner that is inconsistent with NEPA; and the Certification Policy does not mention NEPA or NEPA compliance.

- NEPA-defined adverse effects.
- The Certificate Order includes misleading statements that concern mitigation of NEPA-defined adverse effects.
 - The Certificate Order includes false statements that concern mitigation of NEPA-defined adverse effects; including a false statement fundamental to the Order.
 - The FERC process for prescribing mitigation of EIS-defined adverse effects and which to the Certificate Order was arbitrary and capricious.

5. A Stay of Land Disturbance is Needed Pending Remedy of Deficiencies:

FERC's prescriptions for mitigation of adverse effects to forests and forested lands fail to minimize adverse effects as required by NEPA and by related federal regulations that apply directly to FERC. FERC's comments and statements demonstrate a process that was uninformed concerning mitigation of adverse effects to forest within the Appalachian mountains, and perhaps within other segments of the project area. Should pipeline construction proceed despite these deficiencies, interests of forest landowners would be irreparably harmed; as would Appalachian forest resources that are highly significant, both locally and globally; and as would visual resources within segments of the mountainous project area from which the pipeline corridor would be visible including multiple viewpoints and segments of the Appalachian National Scenic Trail.

The majority (82%) of the lands proposed for disturbance are forested.³⁸ Disturbance of forested lands is essential to pipeline construction as proposed and forested lands' disturbances are essential to the issues raised herein. The proposed pipeline cannot be constructed in the absence of forested lands' disturbance, yet FERC proposals for mitigation of such disturbances are clearly inadequate, are proposed without reasoned explanation or analysis, appear as "*uninformed*", and therefore not consistent with legal requirements. Hence, all forms of land disturbance should be stayed pending remediation of the deficiencies described herein.

A stay is necessary to prevent clearing and grading operations by the applicant from occurring in a manner that would preclude topsoil replacement in forest restoration areas. Given that the applicant plans to conduct topsoil segregation and replacement on National Forest lands, it is clear that topsoil replacement, as well as being essential to adverse-effects' mitigation, is practicable. A stay is also necessary to ensure that applicant equipment, contracts, and plans essential to NEPA-compliant mitigation measures would be in place prior to forest disturbances

Absent a stay, forest disturbances would move forward without an adequate plan for mitigation, thus precluding mitigation adequate to minimize EIS-defined adverse effects to landowner interests and the environment; without a plan adequate to FERC's obligations under NEPA and its own Certification Policy; and with a likelihood of causing irreparable harms. Such harms would include altered plant communities and forest soils within temporary workspaces and enhanced potentials for exotic species invasions of disturbance areas and adjacent forests, as well as other irreparable harms described herein.

Numerous parties would suffer injuries in the event of such outcomes, including owners of forested lands impacted by pipeline construction; owners of other lands potentially affected by exotic plant invasions facilitated by the proposed pipeline's construction and operation in the

³⁸ FERC's EIS states that "The MVP pipeline route would cross about 249 miles of forested land (82 percent of the route)" (p. 4-301; document p. 583 of 930).

absence of effective exotic invasive plant controls; parties enjoying visual resources within the project area; parties enjoying recreational resources dependent upon pipeline-affected visual quality such as the Appalachian National Scenic Trail; area residents who would be affected by the loss of ecosystem services (such as water quality and watershed protection) that are provided by area forests; and human beings more generally, given the ecological importance of Appalachian forests in a global context.

II. STATEMENT OF ISSUES

Pursuant to Section 713(c) of FERC's Rules of Practice and Procedure, Petitioners hereby provide a statement of issues and alleged errors in the Certificate Order and associated FERC actions and procedures.

FERC's DEIS, EIS, and Certificate Order describe impacts on forest and on forested land to be adverse effects of the proposed pipeline's construction.³⁹ Petitioners allege that FERC has committed errors when specifying mitigation measures for those adverse effects during its certification process and that those errors have propagated into the Certificate Order:

We request that FERC remedy those errors, and that FERC provide additional relief. FERC has been advised of those errors and has been requested to remedy those errors previously.⁴⁰

We also request that FERC re-evaluate its Certification Policy and its Certificate Order; and, should FERC choose to issue a revised Certificate Order for Mountain Valley Pipeline, we request that FERC ensure terms and conditions that would remedy errors propagated from the EIS and other errors noted herein. FERC is empowered to attach "reasonable terms and conditions" to the Certificate Order, as necessary to protect the public;⁴¹ we request that those terms and conditions be amended to remedy the errors described herein and to ensure NEPA compliance.

We also request that FERC stay disturbance of forest and of associated lands by the applicant pending actions recommended herein, given potentials for irreparable harms that would occur if such forest disturbance were to occur in a manner that would preclude adequate mitigation.

Further details on the errors, including FERC precedents, court precedents, and legal requirements upon which we are relying, are stated below.

A. Failure to require mitigation adequate to minimize adverse effects using practicable measures as per requirements of federal law and regulation.

Petitioners allege that such failure is relevant to these proceedings despite the fact that federal regulatory issues are not addressed by FERC Rule 713, as FERC Rule 713 addresses only court rulings and FERC policies.⁴² Nonetheless, Petitioners allege that FERC is a Federal agency; that Federal agencies are subject to NEPA requirements;⁴³ that federal regulations, codified in the

³⁹ Ibid. (see footnote 19 above).

⁴⁰ Ibid.; see footnote 26 above ("C.E. Zipper informed FERC...").

⁴¹ See 15 U.S.C. § 717f (e).

⁴² 18 CFR § 385.713 Request for rehearing (Rule 713). This regulation states that parties submitting a rehearing request must "include a separate section entitled "Statement of Issues," listing each issue in a separately enumerated paragraph that includes representative Commission and court precedent on which the party is relying; any issue not so listed will be deemed waived". Here, we are relying on federal regulations that are not consistent with FERC's Certification Policy. Nonetheless, we contend that the federal regulations implementing NEPA are relevant to FERC's certification decision; that federal regulations should take precedence over FERC's Certification, which is not codified by the Code of Federal Regulations; and that FERC's Certification Policy is in error because of its failure to require compliance with such federal regulations as a necessary condition for certification.

⁴³ National Environmental Policy Act of 1969 (NEPA) ((83 Stat. 852) [42 U.S.C. 4321 et seq.]. 40 CFR § 1508.12 states that " 'Federal agency' means all agencies of the federal government."

federal code of regulations, of direct relevance to certification decisions but not consistent with FERC's Certification Policy should take precedence over that Policy,⁴⁴ that federal regulations governing FERC natural-gas-pipeline activity require FERC's compliance with federal law,⁴⁵ and that FERC's failure to satisfy federal legal and regulatory requirements in issuing its EIS and Certificate Order are of direct relevance to this request for rehearing, stay, and further relief.

Regulations implementing NEPA state:

*“Federal agencies shall, to the fullest extent possible ... Use all **practicable means**, consistent with the requirements of the Act and other essential considerations of national policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment.”⁴⁶*

Petitioners contend that FERC's EIS and its Certificate Order fail to satisfy the above regulatory requirement. FERC's EIS fails to require mitigation measures – available, practicable, and documented and proposed to FERC in response to the DEIS⁴⁷ – that would reduce EIS-defined adverse effects of pipeline construction to a greater extent than would measures required by FERC's EIS and Certificate Order. For further information on these allegations, see Section III.B below.

Federal regulations applying directly to FERC state that:

“(a) Avoidance or minimization of effects. The siting, construction, and maintenance of facilities shall be undertaken in a way that avoids or minimizes effects on scenic, historic, wildlife, and recreational values.”⁴⁸

We contend that the “values” referenced by this clause are of direct relevance to forest resources, as the proposed forest disturbances will have direct effects on visual resources that embody scenic values,⁴⁹ on wildlife,⁵⁰ and on recreational values;⁵¹ and that FERC's

⁴⁴ Federal regulations, codified by the C.F.R., are accorded legal precedence over non-codified agency policy. Codified regulations are developed under procedures governed by the Administrative Procedures Act (5 U. S. C. § 701), in contrast to agency policies that have not been codified by the C.F.R.

⁴⁵ 18 CFR 157.206, part 2.

⁴⁶ 40 CFR § 1500.2

⁴⁷ Including submittal 20161121-5051, which addressed adverse-effects' minimization directly.

⁴⁸ 18 CFR 380.15(a). FERC's own rules require compliance with this clause for blanket certificate projects: “The certificate holder shall adopt the requirements set forth in § 380.15 of this chapter for all activities authorized by the blanket certificate and shall issue the relevant portions thereof to construction personnel, with instructions to use them” [18 CFR 157.206(b)(1)]. FERC's Certificate Order issues a blanket certificate to Mountain Valley (paragraphs 71 and 74).

⁴⁹ See Section IV.A below, subtopic “Visual resources”

⁵⁰ See EIS, Sections 4.3 and 4.4. The EIS makes it clear that the proposed forest disturbances would affect wildlife. The EIS states that “Impacts on forest-dwelling species would be greater because forest would take a long time to regenerate in temporary workspaces and trees would be permanently removed from the operational pipeline easement ... Migratory birds, including Birds of Conservation Concern, are associated with the habitats that would be affected by the MVP” (p. ES-7). Some of those effects would occur as a result of forest fragmentation and creation of edge effects (see especially EIS section 4.4.2.3); it is reasonable to expect that mitigation measures that effectively narrow the deforested corridor would serve to reduce those effects. It is well known that the replacement of native plant species by invasive plants can affect wildlife (see, for example, DM Pimental et al. 1995. Update on the environmental and economic costs associated with alien-invasive species in the United States. *Ecological Economics* 52: 273–288; see esp. within that article Section 2.1. Plants).

⁵¹ See Section IV.A below, subtopic “Recreational resources: The Appalachian National Scenic Trail”

failure to prescribe mitigation adequate to minimize EIS-defined adverse effects using practicable measures violates this regulatory requirement.

Federal regulations applying directly to FERC also state that:

“(b) Landowner consideration. The desires of landowners should be taken into account in the planning, locating, clearing, and maintenance of rights-of-way and the construction of facilities on their property, so long as the result is consistent with applicable requirements of law, including laws relating to land-use and any requirements imposed by the Commission.”⁵²

As documented herein⁵³ and in the FERC record,⁵⁴ numerous owners of forested land that would be directly affected by the pipeline’s construction desire rapid and assured re-establishment of forest trees in temporary workspaces and more effective exotic invasive plant controls in disturbed areas than what is proposed by FERC. Herein and in prior submittals, we have documented that improved mitigation measures that are consistent with those landowner desires are available and are practicable; yet FERC has failed to require such.

Federal regulations applying directly to FERC also contain clauses of direct relevance to reforestation and to visual resources that are of relevance here. Those regulations state, for example, that

*“In locating proposed facilities, the project sponsor shall, to the extent practicable, avoid ... scenic, recreational, and wildlife lands. If rights-of-way must be routed near or through such places, attempts should be made to **minimize visibility from areas of public view** and to preserve the character and existing environment of the area”⁵⁵ [with emphasis added].*

Clearly, the pipeline corridor, if constructed as proposed, would be visible from “*areas of public view*” and from “*scenic, recreational, and wildlife lands.*”⁵⁶ Herein and in prior submittals to FERC, we have documented that improved mitigation measures, available and practicable, would likely establish forest trees of species similar to those that are dominant and most visible in adjacent forests in temporary workspaces more assuredly and more rapidly, relative to mitigation measures proposed by FERC. Hence, those available and practicable mitigation measures would “*minimize visibility*”, as per the above-cited regulatory requirement, to a greater extent than would mitigation measures prescribed by FERC, yet FERC has failed to require such.

The Natural Gas Act allows FERC to take actions such as issuance of Certificates of Public Convenience and Necessity for new natural gas pipelines only when the “*public interest*” is served by such actions.⁵⁷ Indeed, the term “*public convenience and necessity*” implies such.

⁵² 18 CFR 380.15(b). FERC’s own rules require compliance with this clause [18 CFR 157.206(b)(1)].

⁵³ See Section IV.A(i); Section IV.B(i) subtopic “Absent a Stay, Petitioners and Other Landowners Will Suffer Irreparable Injury”; and Exhibit A.

⁵⁴ See submittals 20170731-5051(32323089), 20170731-5052(32303922), 20170731-5063(32304096), 20170801-5227(32310092), 20170803-5053(32315624), 20170803-5154(32318070), 20170804-5057(32318470), 20170807-5003(32323024), 20170807-5051(32323867), 20170808-0055(32328894), 20170811-0011(32343060), 20170811-0012(32343061), 20170815-0040(32347778), and 20170911-0014(32394277).

⁵⁵ 18 CFR 380.15(d)(2)

⁵⁶ See section IV.A(iii) below, subsections entitled “Visual Resources” and “Recreational resources: The Appalachian National Scenic Trail”.

⁵⁷ 15 U.S. Code § 717f (Section 7)

FERC's Certification Policy⁵⁸ recognizes that its actions taken under Natural Gas Act authority require consideration of the public interest; and we argue that the public interest is served by minimizing EIS-defined adverse effects as is required by NEPA and by federal regulations that apply directly to FERC (as per directly above).

Federal regulations applying to FERC also state:⁵⁹

“(4) Rights-of-way clearing should be kept to the minimum width necessary.

(8) Long foreground views of cleared rights-of-way through wooded areas that are visible from areas of public view should be avoided.

(9) Where practical, rights-of-way should avoid crossing hills and other high points at their crests where the crossing is in a forested area and the resulting notch is clearly visible in the foreground from areas of public view.”

Where such effects cannot be avoided, it is reasonable to conclude that the “*public interest*” would be served if such effects are minimized, using measures that are available and practicable; and that more rapid and assured establishment in temporary workspaces of native trees, of similar species and growth characteristics to the adjacent forests, would aid in minimization of such effects. Yet, FERC has failed to prescribe such available and practicable measures.

Although agencies are accorded considerable latitude to make decisions within their areas of expertise, there are legal limits to that latitude. For example, agencies are not afforded the discretion to make “*uninformed*” decisions and decisions lacking “*reasoned*” analysis, such as decisions that we allege to have occurred here. For further information on the allegation that the at-issue FERC actions were uninformed and lacking justification by reasoned analysis, see Sections II.G and III.C below).

B. EIS and Certificate Order embody “substantial change” from the DEIS, but no supplemental or revised EIS has been issued.

The term “*substantial change*” is used here in light of a federal regulation that requires agencies to “*prepare supplements*” to DEIS or EIS documents if the “*agency makes substantial changes in the proposed action that are relevant to environmental concerns ...*”.⁶⁰ FERC’s “woody seed mix” proposal was not described by the DEIS; was not described clearly, as a practice similar to the EIS-proposed strategy, or as a primary means of mitigating adverse effects by DEIS documents incorporated-by-reference;⁶¹ but was described by the Certificate Order as “*a reasonable measure to minimize impacts on forests*”⁶² thereby inferring that this specific practice is essential to minimization of adverse effects.

Clearly, the introduction of a measure claimed to be essential to EIS-defined adverse effects’ mitigation late in the process is a substantial change; but no EIS supplement or analogous document was provided by FERC to the public for formal public comment; and comments

⁵⁸ Ibid, see footnote 25 above (Certification Policy).

⁵⁹ 18 CFR 380.15(d)

⁶⁰ 40 CFR 1509(c).

⁶¹ See footnote 28 (“The DEIS document does mention ...”)

⁶² Certificate Order, paragraph 203.

submitted to FERC on woody seed mix inadequacies appear to have been ignored.⁶³

C. Process for prescribing the at-issue mitigation failed to satisfy Certification Policy.

Petitioners allege that FERC's EIS fails to satisfy its own policy for Certification of New Interstate Natural Gas Pipeline Facilities⁶⁴ (Certification Policy).

FERC's Certification Policy states that:

*“Ideally, an applicant will structure its proposed project to avoid adverse economic, competitive, environmental, or other effects on the relevant interests from the construction of the new project, and the Commission would be able to approve such projects promptly. Of course, elimination of all adverse effects will not be possible in every instance. When it is not possible, the Commission's policy objective is **to encourage the applicant to minimize the adverse impact** on each of the relevant interests. After the applicant makes efforts to minimize the adverse effects, 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.” [emphasis added]*

The Certification Policy also states that:

*“If residual adverse effects on the three interests⁶⁵ are identified, after efforts have been made to minimize them, then the Commission will proceed to evaluate the project by **balancing** the evidence of public benefits to be achieved against the residual adverse effects. This is essentially an economic test...” [emphasis added].*

and that the Commission will undertake

*“**analytical steps** ... to balance the public benefits against the potential adverse consequences of an application for new pipeline construction”.*

FERC's Certification Policy states an intent to evaluate the economic interests of landowners. Hence, FERC's Certification requires that FERC should encourage the applicant to minimize adverse effects to the economic interests of forested-land owners who value the native forest plant communities on their properties, including such owners who are participants in this request and other such owners who express such value indirectly by virtue of their forested-land ownership. Under current FERC proposals, such landowners will experience loss of forest plant communities over greater areas⁶⁶ and for longer time durations than is necessary for pipeline

⁶³ Submittal 20170725-5023, pp. 17-26, discussed inadequacies of the woody seed mix proposal while referencing proposed seed mix composition, peer-reviewed science, and other relevant technical information. The FERC docket contains no evidence that FERC provided any attention or analytical scrutiny to that submittal's contentions, and Certificate Order reaffirmed the proposal as described by the EIS and its incorporated-by-reference documents. Hence, the record suggests that the submittal's contentions were “ignored”.

⁶⁴ Federal Energy Regulatory Commission, Certification of New Interstate Natural Gas Pipeline Facilities. Statement of Policy. Issued September 15, 1999. Docket No. PL99-3-000

⁶⁵ One of the “three interests” are “landowners and communities”.

⁶⁶ We assert that landowners will experience forest loss over greater areas than would otherwise be necessary because FERC has failed to adopt measures that would increase the certainty of forest plant community re-establishment over any given area; and, hence, greater areas are likely to e

construction and operation. Such landowners will also experience greater vulnerability of their properties to exotic invasive plant invasions on areas cleared for pipeline construction and, hence, on adjacent owned-property areas into which such invasive plant species may spread, than would occur if available, practicable, and more effective mitigation measures were to be employed. Unsuccessful or delayed forest re-establishment and exotic-plant controls will cause landowners to suffer loss of enjoyment of environmental amenities provided by their properties, relative to a condition where more effective environmental restoration procedures were to be employed; such loss of enjoyment has economic value.⁶⁷

Such landowners will also experience direct economic loss should they choose take actions intended to improve or accelerate forest regeneration on temporary workspaces⁶⁸ of their properties, such as the planting of trees and employment of cultural measures to aid planted trees' survival and growth (e.g., competing vegetation controls, deer-browse protection, etc.). Should forested-land owners conduct those activities in accord with the values expressed by forested-land owners who have submitted filings to FERC supporting this and related prior requests (see Exhibit A), those forested-land owners would experience economic loss.

Such landowners will also experience economic loss should pipeline construction enable establishment of invasive exotic plants in disturbance areas⁶⁹ on their properties and should such landowners take action to eradicate or control those invasive plants within the disturbance areas, and to prevent plants of those same species from establishing and proliferating elsewhere on their properties. Such actions would likely cause landowners to experience direct economic costs, such as expenditures of money to purchase equipment, supplies and/or services needed to affect such controls, and/or expenditures of time and effort.

The record, however, reveals no effort by FERC to "encourage the applicant to minimize the adverse impact" to forest (or to forested lands) and to consequent economic interests through employment of forest re-establishment and exotic-invasive-plant controls that would be more effective than those currently proposed. Nor does the record reveal any effort by FERC to "balance" its lack of prescription of more-effective adverse-effects' mitigation procedures against any public benefits that may result from any such lack of prescription. The record reveals no "analytical steps" by FERC to evaluate the more-effective adverse-effect mitigation procedures that were recommended during the DEIS comment period.⁷⁰

⁶⁷ Academic literature is replete with studies that convert appreciation for environmental amenities into equivalent economic values. For example:

Adamowicz W, Louviere J, Williams M. 1994. Combining Revealed and Stated Preference Methods for Valuing Environmental Amenities. *Journal of Environmental Economics and Management* 26: 271-292.

Mendelsohn R, Olmstead S. 2009. The Economic Valuation of Environmental Amenities and Disamenities: Methods and Applications. *Annual Review of Environment and Resources* 34:325-347.

Kopmann A, Rehdanza K. 2013. A human well-being approach for assessing the value of natural land areas. *Ecological Economics* 93: 20-33.

⁶⁸ We use the term "temporary workspaces" as it is used in the EIS: To describe areas that would be disturbed by pipeline construction but would not be required for pipeline operation; and, hence, when located within forested areas would be locales for forest restoration following pipeline construction.

⁶⁹ We use the term "disturbance areas" to describe all areas where the environment would experience direct disturbance, such as vegetation clearing and/or soil grading, due to pipeline construction. Both the permanent right-of-way and temporary workspaces would be considered as disturbance areas. On forested lands, forest trees would be cleared from disturbance areas.

⁷⁰ Including submittal 20161121-5051, which addressed adverse-effects' minimization directly.

As an example of FERC's failure in this regard, FERC submitted an information request to the applicant following the DEIS comment period, while noting that commenters had characterized the applicant's Exotic and Invasive Species Control Plan's proposal for two years of monitoring as inadequate. FERC's inquiry asked Mountain Valley to

“indicate whether Mountain Valley would agree to increase the duration of invasive plant species monitoring within the maintained right-of-way and temporary workspaces after initiation of service.”⁷¹

Note that FERC did not request that Mountain Valley should justify the proposed two-year monitoring period as adequate to avoid, minimize, control, manage, or prevent exotic plant invasions to disturbed or adjacent areas. Mountain Valley's response indicated that it had agreed to monitoring for “*at least two years*” but would monitor for longer “[*s*]hould a more proven and practical monitoring plan be required” but provided no justification for the two years⁷² - which is understandable given that FERC did not ask for such. A recent version of the Exotic and Invasive Species Control Plan⁷³ states that “*MVP will monitor the right-of-way annually after the first and second growing seasons following construction*” but describes no other proposed monitoring.

The record reveals few FERC requests to the applicant for justification of mitigation measures which the applicant has proposed and were incorporated into the EIS; and no request to the applicant to justify such measures as adequate *to minimize* adverse effects; and no statement by FERC or by FERC staff or by any recognized authority to indicate that applicant-proposed measures should be considered as “*best practices*” or were otherwise evaluated as adequate to minimize “*adverse effects*” or as providing more-effective mitigation of adverse effects than alternative measures such as the measures we have proposed in prior FERC submittals.⁷⁴ The record reveals no effort by FERC to conduct such analysis itself, or to solicit advice from knowledgeable parties on practicable measures for minimizing adverse effects. In fact, the record indicates that FERC has merely accepted applicant proposals and incorporated those proposals into the EIS. Hence, the record indicates that FERC failed to carry out procedures defined by its own Certification Policy when producing the EIS and the Certificate Order.

These failures are notable because they apply to adverse effects described by the EIS, which was produced as an effort to comply with federal law. We recognize that adverse effects as defined by the FERC Certification Policy⁷⁵ are not identical to adverse effects described by the EIS as prepared under the authority of NEPA.⁷⁶ Nonetheless, we contend that EIS-defined

⁷¹ FERC Post-DEIS Environmental Information Request, submittal 20170127-3018, Vegetation question 2.

⁷² Submittal 20170217-5199, document 53 of 2368 (Response to Post-Draft Environmental Impact Statement Environmental Information Request Issued January 27, 2017, Vegetation 2.

⁷³ Exotic and Invasive Species Control Plan, July 2016 revision. Submittal 20170630-5393(32242507)

⁷⁴ *Ibid.*; see footnote 26 above (“C.E. Zipper informed FERC...”).

⁷⁵ FERC's Certification Policy describes adverse effects broadly. The policy describes “three interests” which may be subject to adverse effects, one of which is “landowners and communities”. However, determinations of whether or not landowners and communities would suffer “adverse effects” is (quoting from FERC's Certification Policy) and “economic test”. FERC's Certification Policy states “If the proposed project will not have any adverse effect on the existing customers of the expanding pipeline, existing pipelines in the market and their captive customers, or the ***economic interests*** of landowners and communities affected by the route of the new pipeline, then no balancing of benefits against adverse effects would be necessary” [emphasis added].

⁷⁶ NEPA states that “all agencies of the Federal Government shall .. include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human

adverse effects would affect the economic interests of forested-land owners and, hence, should have been considered and evaluated by *“analytical steps”* as per its Certification Policy.

D. Failure to follow Certification Policy more generally.

The Policy states that:

*“If residual adverse effects on the three interests are identified, after efforts have been made to minimize them, then the Commission will proceed to evaluate the project by balancing the evidence of public benefits to be achieved against the residual adverse effects. This is essentially an economic test. Only when the benefits outweigh the adverse effects on economic interests will the Commission then proceed to complete the environmental analysis where other interests are considered.”*⁷⁷

In other words, it is FERC’s to conduct *“environmental analysis”* **FOLLOWING** the *“balancing”* of *“public benefits”* against the various *“adverse effects”* considered by its policy.⁷⁸

The Commission, however, issued the *“Notice of Intent to Prepare an Environmental Impact Statement for the Planned Mountain Valley Pipeline Proposal”*⁷⁹ in April 2015, and conducted public hearings for such in May, 2015, both during the pre-filing period,⁸⁰ in advance of the actual application.⁸¹ Therefore, it appears that FERC made its decision concerning *“balancing of interests and benefits”* based on pre-filing information, in advance of the actual application.

Such conduct is not consistent with the Certification Policy statement quoted above, given that pre-application information would be subject to change, and there is no requirement for the application to replicate the pre-application. Hence, FERC would not have the verified information needed for *“balancing”* in the absence of an actual application. Such conduct is also not consistent with the following Certification Policy statement:

environment, a detailed statement by the responsible official on ... any ***adverse environmental effects*** which cannot be avoided should the proposal be implemented”.

Federal regulations implementing NEPA state that an EIS “shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize ***adverse impacts*** or enhance the quality of the human environment”(40 CFR § 1502.1). Federal regulations also state “Federal agencies shall to the fullest extent possible ... Use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize ***adverse effects of these actions upon the quality of the human environment”*** (40 CFR § 1500.2). Federal regulations implementing NEPA also state “Effects and impacts as used in these regulations are synonymous” (40 CFR § 1508.8). Federal regulations implementing NEPA further state “Effects includes 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.”

⁷⁷ Quote text from FERC Certification Policy, p. 19. FERC has summarized this aspect of its Certification Policy more succinctly in a recent decision: “Only when the benefits outweigh the adverse effects on economic interests will the Commission proceed to complete the environmental analysis where other interests are considered”. [154 FERC ¶ 61,190 (Order Denying Application for Certificate and Section 3 Authorization, Jordan Cove Energy Project, L.P. Docket No. CP13-483-000; and Pacific Connector Gas Pipeline, LP, Docket No. CP13-492-000)].

⁷⁸ That is, adverse effects to “existing customers of the expanding pipeline, existing pipelines in the market and their captive customers, or the economic interests of landowners and communities” (p. 18).

⁷⁹ Submittal 20150417-3022 to Docket PF15-3.

⁸⁰ The pre-filing process was initiated on 31 October 2014 and posted by FERC on Docket PF15-3.

⁸¹ The application consisted of submittals 20151023-5035, 20151023-5036, and 20151023-5037, filed to FERC Docket CP16-10 in October 2015.

*“This section summarizes the analytical steps the Commission will use under this policy to balance the public benefits against the potential adverse consequences of **an application** for new pipeline construction.”⁸² [emphasis added]*

E. Issuance of Certificate Order under a Certification Policy that is not NEPA compliant.

As noted above, FERC’s Certification Policy defines “adverse effects” in a manner that differs from how the term is used by NEPA; nonetheless, we contend that EIS-defined adverse effects of Mountain Valley Pipeline would also be adverse effects under FERC’s Certification Policy. FERC’s Certification Policy states that FERC will “*encourage the applicant to minimize the adverse impact*” but states no requirement for the applicant to do so. FERC’s Certification Policy describes a process of “*balancing*” unavoidable adverse effects against “*public benefits*” but includes no requirement that unavoidable adverse effects of any type, EIS-defined or otherwise, shall be “*minimized*”, as is required for EIS-defined adverse effects under NEPA.

FERC’s Certification Policy states that “*There are other interests that may need to be separately considered in a certificate proceeding, such as environmental interests*” but states no requirement that such interests should be considered or how they should be considered, despite FERC’s routine conduct of NEPA-compliance activities (EIS or Environmental Assessment) during pipeline facility application reviews. Hence, Petitioners allege that even if FERC had complied with its own Certification Policy in evaluating Mountain Valley Pipeline LLC’s application (we allege that FERC has not)⁸³, such Certification Policy compliance would not guarantee NEPA compliance; and, hence, FERC’s Certification Policy is not compliant with federal law.⁸⁴

The NGA⁸⁵ bestows upon FERC the authority to issue a Certificate of Public Convenience and Necessity to a natural-gas company that proposes a new natural gas pipeline that will serve the “*public interest*”. Petitioners allege that the “*public interest*” is expressed by statutes that have been enacted by the US Congress and signed by the President of the United States, such as the NGA itself and NEPA. The NGA does not preclude compliance with subsequent federal laws, such as NEPA, as being within the “*public interest*”.

FERC’s own statements demonstrate that its Certification Policy is not NEPA compliant. The Certificate Order summarized FERC’s Certification Policy thusly:

“Under this policy, the threshold requirement for pipelines proposing new projects is that the pipeline must be prepared to financially support the project without relying on subsidization from existing customers. The next step is to determine whether the applicant has made efforts to eliminate or minimize any adverse effects the project might have on the applicant’s existing customers, existing pipelines in the market and their captive customers, or landowners and communities affected by the construction. If residual adverse effects on these

⁸² Certification Policy, p. 18.

⁸³ In addition to the issues raised in this section, we contend that FERC conducted its environmental review in a manner that is inconsistent with its Certification Policy (see section II.D above)

⁸⁴ FERC’s Certificate Order describes and discusses its Certification Policy in paragraphs 30-31-

⁸⁵ 615 USC 717h.

*interest groups are identified after efforts have been made to minimize them, the Commission will evaluate the project by **balancing** the evidence of public benefits to be achieved against the residual adverse effects. This is essentially an economic test. Only when the benefits outweigh the adverse effects on economic interests will the Commission proceed to complete the environmental analysis where other interests are considered”⁸⁶ [emphasis added].*

It is clear that FERC’s policy is to “balance” adverse effects within the context of the wider range of adverse effects and public benefits. FERC policy statements provide no evidence that FERC seeks to minimize adverse effects through mitigation that employs practicable measures, as per NEPA requirements.

F. Prescriptions for mitigation of adverse effects appear as “uninformed”.

Legal Basis:

There are numerous bases for claiming that the uninformed nature of FERC’s proposed measures for EIS-defined adverse-effects mitigation are not compliant with legal requirements, and therefore FERC’s EIS should be withdrawn and revised, and FERC’s Certificate Order should be withdrawn.

Court precedents make it clear that EIS decisions are defensible only if they are well informed. A U.S. Supreme Court decision states:

“NEPA merely prohibits uninformed, rather than unwise agency action.”⁸⁷

A D.C. Circuit Court decision has stated that NEPA requires

“a fully informed and well-considered decision, not necessarily’ the best decision.”⁸⁸

We contend that FERC’s decisions concerning mitigation of adverse effects, as per its EIS and Certificate Order, are “*uninformed*” as well as unwise, are not “*fully informed*” and are not “*well-considered*”.

Technical Basis:

The technical basis for this allegation is described below in Section II.G with respect to the Certificate Order and in Section III.C more generally.

G. Certificate Order includes uninformed, misleading, and false statements.

Throughout the EIS and post-EIS process, FERC has issued documents and statements that demonstrate a lack of knowledgeable capability in subject areas relevant to mitigation of EIS-defined adverse effects (see Section III.C below). Among the egregious demonstrations of such is the Certificate Order itself, especially paragraphs 200-204 which concern adverse effects’

⁸⁶ Quote from Certificate Order, paragraph 31.

⁸⁷ *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989); affirmed by *Webster v USDA* (2011).

⁸⁸ *Theodore Roosevelt Conserv. P’ship v. Salazar*, 616 F.3d 497, 503 (D.C. Cir. 2010) (quoting *Vermont Yankee Nuclear Power Corp. v. Nat. Resources Def. Council, Inc.*, 435 U.S. 519, 558 (1978)).

mitigation and include uninformed, misleading, and false statements.⁸⁹

Uninformed: Natural Recruitment

Within the Certificate Order, FERC states:

“natural recruitment will allow for the regeneration of more highly variable plant species and trees best suited for local conditions”

than would hand planting of tree seedlings, an alternative procedure recommended by the lead petitioner. The above statement indicates FERC’s failure to understand that hand-planting of tree seedlings (which typically occurs as small, young seedlings and at wide spacings relative to seedling canopies) does not inhibit natural regeneration; and that seedling species can be selected for planting based upon local conditions (as informed by observations of tree species present in adjacent forests). In fact, well suitedness to local conditions is a common and recommended strategy for selection of tree species for planting on reforestation projects.⁹⁰

Within the Certificate Order, FERC also states:

“the proposed use of a woody seed mix is a reasonable measure to minimize impacts on forests.”

However, neither FERC’s Certificate Order, its DEIS, its EIS, nor any applicant submittals have stated that species *“best suited for local conditions”* would be selected for seeding when applying this strategy. In fact, the opposite is the case given that two of the five overstory species proposed for seeding are pines, that these two pine species would be seeded at far-higher rates per acre than the three deciduous overstory species proposed for seeding,⁹¹ and that the vast majority of forest areas proposed for impact are characterized by the EIS as “deciduous” (pines are not deciduous).⁹² Although only three of the five proposed overstory species would be seeded in any given area, neither the EIS nor applicant-prepared supplemental filings provide any suggestion that species *“best suited for local conditions”* would be selected for seeding in any given area, suggesting that applicant convenience rather than local conditions would govern seeding choices. Therefore, there is a reasonable likelihood that large numbers of pines would be seeded within multiple areas of deciduous forest; and a consequent potential that large numbers of pines would become established in such areas as a direct result of the woody seed mix

⁸⁹ Unless otherwise noted: all of the Certificate Order statements referenced in this section of the document occur in paragraphs 200-204.

⁹⁰ See Davis V, JA Burger, R Rathfon, CE Zipper, CR Miller. 2017. Selecting Tree Species for Reforestation of Appalachian Mined Lands. Chapter 7, in: Adams M.B. (ed). The Forestry Reclamation Approach: Guide to Successful Reforestation of Mined Lands. USDA Forest Service, General Technical Report NRS-169. (Reprinted from a 2012 publication, Forest Reclamation Advisory No. 9, Appalachian Regional Reforestation Initiative, US Office of Surface Mining, <https://arri.osmre.gov/>)

⁹¹ Proposed overstory seeding rates (as documented by submittal 20170725-5023) are: American beech (480 seeds per acre), black cherry (1,440 seeds per acre), tulip poplar (4,200 seeds per acre), eastern white pine (8,112 seeds per acre), Virginia pine (15,648 seeds per acre). Rates are calculated based on average seed weights and the applicant’s proposal to seed three of the five overstory species at 0.3 lbs./acre. American beech, black cherry, and tulip poplar are deciduous; the two pine species are not deciduous. Hand-planting reforestation strategies typically establish 400 to 700 seedlings per acre. Mature Appalachian forests typically support <300 mature trees per acre. Submittal 20170725-5023 cited scientific study that found American beech and black cherry seeds to be highly subject to predation.

⁹² FERC’s EIS states that “The MVP pipeline route would cross about 249 miles of forested land (82 percent of the route)” (p. 4-301; document p. 583 of 930).

strategy. Hence and in contrast to FERC’s allegations, it is the woody-seed-mix strategy proposed by FERC (not a well-executed hand-planting strategy) that would be likely to establish woody plant communities not-best-suited to local conditions.

Furthermore, a dense establishment of pines in any given local area (as could occur due to the woody-seed-mix strategy) would be far more likely to suppress “*regeneration of more highly variable plant species*” than would a competently executed hand-planting strategy. Two pine species, eastern white and Virginia, are proposed for seeding at ~8,000 and ~16,000 seeds per acre, respectively, far higher rates than are proposed for other overstory species. In contrast, typical hand-planting strategies establish seedlings at 400 to 700 trees per acre. Should pines be seeded and establish at high densities in any given area, the results would include rapid closing of canopy and consequent suppression of the “*highly variable plant species*” that can contribute to deciduous forest regeneration. Hence, the Certificate Order’s contention that the woody-seed-mix strategy would aid adverse-effects’ mitigation while a competently executed hand-planting strategy would not is clearly false. In fact, FERC’s contention is in opposite to reasonable expectations of the two strategies’ likely outcomes.

Furthermore, the Certificate Order states:

“Mountain Valley will also plant native shrubs and saplings (outside of the 30-foot-corridor over the pipeline) within forested wetlands and at the crossings of waterbodies known to contain special status species.”

Hence, FERC proposes to “*plant*” (presumably, to hand-plant) selected woody plant species within special-status areas, including forested wetland areas where return of forest vegetation would be desirable as a means of restoring disturbed plant communities, but not on disturbed forested lands elsewhere. Why planting of “*shrubs and saplings*” should be a preferred means for re-establishing vegetation in special-status areas but not within other forested areas, where EIS-defined adverse effects are proposed to occur, is not explained.

Uninformed: Exotic Plant Species Proliferation

The uninformed nature of FERC’s prescriptions is also apparent as it concerns exotic invasive plants.

“Based on our staff’s experience monitoring revegetation efforts where the spread of invasive species was successfully limited, we conclude that Mountain Valley’s Exotic and Invasive Species Control Plan would limit the spread of invasive species during revegetation.”

Nowhere has FERC responded to multiple submissions claiming and documenting that conditions within the disturbed corridors (including open sun and forest-edge areas, and linear features well-suited for transit by humans and by wildlife) would be far more conducive to invasive plant establishment and proliferation than would current forest conditions; and that these conditions would persist for the life of the project and would not be confined to two years as per the Exotic and Invasive Species Control Plan’s prescription. Yet, despite this clear and obvious deficiency, FERC “*concludes*” erroneously that the Plan, which confines monitoring and controls to two years, would be effective.

Multiple submissions to FERC⁹³ have attempted to explain that forest disturbance essential to pipeline construction and operation would create conditions more favorable to exotic invasive plant invasions than the current status quo in forested areas. Also, should exotic invasive plants become established and proliferate in disturbance areas, it is reasonable to expect that, depending on species, such plants would or could (a) suppress forest regeneration in temporary workspaces, and (b) invade adjacent forest areas, causing adverse effects to forests and forested lands in addition to those described by FERC. Yet, FERC's plans do not acknowledge the potential for its inadequate plan for controlling exotic plants to have such effects.

Uninformed: Time Period of Relevance

The FERC Certificate Order statement concerning exotic plant controls and quoted above refers to “*during revegetation*” as a time-period of concern. However, NEPA states goals that reference

“present and future generations of Americans”.

The precise time period referenced by the phrase “*during revegetation*” is not clear; but we presume it to mean time periods equal to or shorter than the two years⁹⁴ that specified by the EIS and by Mountain Valley's “*Exotic and Invasive Species Control Plan*” (which was incorporated into the EIS by reference). Yet, this discordance between NEPA's clear statement of the time period of statutory concern and the EIS- and applicant-proposed less-than-or-equal-to two years is not explained.

Misleading: Woody Seed Mix Composition

Also, the Certificate Order refers to a

“woody seed mix composed of native overstory, understory, and shrub oak-hickory forest species”.

The above phrasing is misleading because the proposed “*woody seed mix*” would contain no seeds of oak or hickory forest trees; and FERC's mitigation plans include no direct mechanism for re-establishing oaks and hickories despite the common presence of these species in Appalachian forests throughout much of the proposed pipeline corridor's length.

Misleading: Post-Revegetation Monitoring

FERC's Certificate Order states:

*“Mountain Valley will monitor revegetation efforts following restoration.”*⁹⁵

The statement is misleading because it fails to note such monitoring would occur only for the

⁹³ including those by the lead petitioner and submittal 20170721-5183 by Virginia Department of Conservation and Recreation

⁹⁴ Although the EIS states “at least two years” as the period for exotic plant monitoring and controls, the EIS incorporates by reference Mountain Valley's Exotic and Invasive Species Control Plan, which states that such monitoring and control would occur “after the first and second growing season” and contains no phrasing analogous to “**at least** two years” and no suggestion that subsequent monitoring would be conducted. See section III.C.(ii) below for additional information that concerns the proposed two-year time frame.

⁹⁵ Certificate Order, paragraph 203, p. 75

first two years following revegetation,⁹⁶ while forest re-establishment in disturbed areas is a process that requires far more time than only two years, and while “*successful revegetation*” criteria as stated by the EIS are not relevant to forest re-establishment (see directly below). There is no plan in place for monitoring revegetation beyond two years; and there is no plan in place for monitoring forest-tree re-establishment where such is required for mitigation of adverse effects (see directly below).

Misleading: Supposed Standards for Evaluating Successful Revegetation in Forested Areas

FERC’s Certificate Order states:

*“Mountain Valley will adhere to the measures outlined in the Commission’s Plan, which provides that ‘[r]evegetation in nonagricultural areas shall be considered successful if upon visual survey the density and cover of non-nuisance vegetation are similar in density and cover to adjacent undisturbed lands.’ ”*⁹⁷

The revegetation success criteria stated above and elsewhere in relevant documents⁹⁸ include only density and cover. Neither the “*Commission’s Plan*” nor the EIS nor the Certificate Order state a requirement that Appalachian forest tree species similar in character to those of adjacent forests should be established – or that Appalachian forest tree species of any type be established – and that such establishment would be evaluated as an indicator of revegetation success. Yet, FERC alleges that its plans are adequate to “*minimize impacts on forests*”.⁹⁹

FERC’s criteria for evaluating revegetation success do not incorporate any assessment of forest-tree re-establishment. Hence, even though the Commission’s Plan states the regulated entity shall

“Continue revegetation efforts until revegetation is successful”,¹⁰⁰

that requirement is not relevant to mitigation or minimization of EIS-defined adverse effects to forest.

Misleading: Minimize Adverse Effects

FERC’s assertion that the revegetation strategies described by its EIS would be adequate to “*minimize adverse effects*” is highly misleading. Neither the Commission’s Plan nor the EIS propose any method for assessing, evaluating, or measuring vegetation in the aftermath of EIS-proposed disturbance so as to determine if adverse effects were mitigated successfully by re-establishing forest trees and excluding exotic invasive plant species, not previously present, in

⁹⁶ Mountain Valley has committed only to “*monitor the right-of-way annually after the first and second growing seasons following construction*” [Submittal 20170630-5393(32242507) by Mountain Valley Pipeline LLC, Exotic and Invasive Species Control Plan (Revised July 2016), p. 9. An identical statement was included in prior versions of the Plan.] The EIS states that the applicant would monitor revegetation for “at least” two years [e.g. EIS, p. 2-52], while the Commission’s Plan states that the applicant would monitor revegetation for two years “minimum” (p. 17; document p. 19 of 20).

⁹⁷ Certificate Order, paragraph 204, p. 75.

⁹⁸ The interior quoted language is identical to that of FERC’s “Upland Erosion Control, Revegetation, And Maintenance Plan” (Commission’s Plan), and is near-identical to language describing revegetation success in the EIS (e.g. “Restoration is deemed complete when the density and cover of non-nuisance vegetation are similar in density and cover to adjacent, undisturbed areas.” EIS, p. 2-52; document p. 156 of 930).

⁹⁹ FERC Certificate Order, paragraph 203.

¹⁰⁰ Commission’s Plan, p. 17 (document p. 19 of 20).

temporary workspaces of forested areas.

False: Hand-cutting of Exotic Plants:

FERC's Certificate Order states:

"Dr. Zipper ... recommends handcutting of invasive species."

This statement is false. It is FERC that has recommended hand cutting of invasive plants. The Exotic and Invasive Species Control Plan, incorporated into the EIS by reference, stated:

*"Eradication measures could include hand cutting ..."*¹⁰¹

The lead petitioner criticized that statement as *"incorrect and misleading"*¹⁰² and submitted extensive documentation to demonstrate such.¹⁰³ Yet, the both the Certificate Order and the EIS reference the applicant's Exotic and Invasive Species Control Plan which is essentially identical to that criticized by the lead petitioner and which continues to recommend *"Eradication measures"* that include *"hand cutting"*.

False and Highly Significant to the Issues At Hand:

The Certificate Order also claims that

[the lead petitioner] *"does not offer new information or a change of circumstance since the final EIS was issued. Therefore, a Supplemental EIS is not necessary."*

This allegation is clearly false. In an above-quoted statement, FERC has claimed that the woody-seed-mix strategy is essential to adverse-effects' mitigation.¹⁰⁴ Yet, the "woody seed mix" proposal was not described by the DEIS; was not described clearly, as a practice similar to the EIS-proposed strategy, or as a primary means of mitigating adverse effects by DEIS documents incorporated-by-reference.¹⁰⁵ Hence, the woody seed mix strategy was not commented upon in response to the Draft EIS (because it had not yet been proposed as a means of minimizing adverse effects), but was commented upon extensively in response to the EIS although the EIS incorporated the woody seed mix strategy only by reference.¹⁰⁶

In contrast to the Draft EIS, the EIS stated *"Mountain Valley would supplement the herbaceous seed mix with a woody seed mix comprised of native overstory, understory, and shrub oak-hickory forest species"* in forested areas¹⁰⁷ but provided no details on the seed-mix composition; those details were described by an applicant submission and was only incorporated into the EIS by reference.¹⁰⁸ Subsequent to EIS issuance, the lead petitioner submitted extensive

¹⁰¹ Exotic and Invasive Species Control Plan, p. 9 (Submittal 20160718-5161(31585150) to FERC, document p. 46 of 304).

¹⁰² Submittal 20170725-5023, p. 15.

¹⁰³ Submittal 20170725-5023, Appendix E.

¹⁰⁴ "... the proposed use of a woody seed mix is a reasonable measure to minimize impacts on forests." Certificate Order, paragraph 203.

¹⁰⁵ See footnote 28 ("The DEIS document does mention ...")

¹⁰⁶ Mountain Valley's Habitat Mitigation Plan, submittal 20170511-5018, was incorporated by reference of the EIS Table 2.4-2. The woody seed mix is described in Section 2.2, p. 7, of that document's Appendix C.

¹⁰⁷ EIS, p. 4-181 (document p. 463 of 930).

¹⁰⁸ Ibid., (Mountain Valley's Habitat Mitigation Plan, submittal 20170511-5018, was incorporated by reference of the EIS Table 2.4-2. The woody seed mix is described in Section 2.2, p. 7, of that document's Appendix C).

comments to FERC concerning the woody-seed-mix strategy, its uninformed nature, and its inadequacy as a means of mitigating adverse effects.¹⁰⁹ Clearly, such constitutes “*new information*”; and, clearly, the FERC Certificate Order assertion as quoted above is false.

FERC’s false assertion of no “*new information*” is especially significant to these proceedings, as FERC’s Certificate Order contends that

“the proposed use of a woody seed mix is a reasonable measure to minimize impacts on forests.”

To emphasize: FERC is claiming that the woody seed mix (which was not described by the DEIS or by DEIS-incorporated documents) but was commented upon extensively following the EIS) is essential to adverse-effects’ minimization; yet FERC is also claiming that those extensive comments on the woody seed mix proposal did not constitute “*new information*”.

H. Prescriptions for mitigation of adverse effects, and the Certificate Order which embodies them, should be considered as “arbitrary and capricious”

A common consideration in determining whether or not an agency’s decision is “*arbitrary and capricious*” concerns whether or not the agency engaged in “*rational*” decision-making. In making such decisions,

*“the reviewing court must determine whether the agency has ‘examine[d] the relevant data and articulate[d] a satisfactory explanation for its action including a rational connection between the facts found and the choice made.’ ”*¹¹⁰

Such “*relevant data*” would include recommendations for more-effective mitigation of adverse effects that were proposed, described, and documented for FERC during the DEIS comment period.¹¹¹ The record reveals no evidence for FERC conduct of “*analytical steps*” or other examination of those “*relevant data*”; and that FERC did not “*articulate a satisfactory explanation*” for its adverse-effects’ mitigation proposals. As another statement of the “*arbitrary and capricious*” standard, a reviewing court must

*“consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment,”*¹¹²

The record indicates that measures proposed by the EIS and by the Certificate Order for mitigating adverse effects were those proposed by the applicant,¹¹³ and that FERC has merely

¹⁰⁹ See submittal 20170725-5023, “FERC’s Proposed ‘Woody Seed Mix’ Strategy is Uninformed and Unwise”, pp. 17-26.

¹¹⁰ Outer quote from: Rosenberg LD, Re RM. Basic Legal Doctrines Frequently Arising In the D.C. Circuit, https://www.americanbar.org/content/dam/aba/administrative/litigation/materials/sac_2012/34-basic_legal_doctrines.authcheckdam.pdf Inner quote is a citation from: Motor Vehicle Mfr. Ass’n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983)

¹¹¹ Ibid.; see footnote 26 (“C.E. Zipper informed FERC ...”) above.

¹¹² Citizens to Preserve Overton Park v. Volpe, 401 U. S. 402, 401 U. S. 416. Pp. 419 U. S. 285-286.

¹¹³ Mountain Valley Pipeline LLC. 23 October 2015. Application for Certificate of Public Convenience and Necessity and Related Authorizations. The application did not propose the “woody seed mix” revegetation strategy, but that strategy was proposed subsequently by the applicant (see footnote 28 above, “The DEIS document does mention ...”). Furthermore, the EIS does not describe woody seed mix composition; that is described by Mountain Valley’s “Habitat Restoration Plan” (submittal 20170511-5018(32156808); Appendix C, MVP’s

accepted measures proposed by the applicant for mitigation of EIS-defined adverse effects without considering “*a rational connection between the facts found and the choice made*” or any other basis consistent with legal precedents. In fact, the record reveals no evidence that FERC has given applicant’s proposed measures for mitigating EIS-define adverse effects analytical scrutiny of any type.

FERC’s method for specifying the adverse-effects’ mitigation measures at issue herein appears to have been mere acceptance of the applicant’s recommendations. The record reveals no “*analytical steps*” or “*examination*” of the applicant’s proposed measures; and no “*satisfactory explanation*” for why those measures were accepted as proposed despite the detailed and well-documented criticisms of those measures provided to FERC in accord with its required procedures. In describing adverse-effects mitigation measures, FERC has failed to engage in “*reasoned decision making*”.¹¹⁴

Considering FERC’s failures to apply rationale or reasoned decision making when specifying measures for mitigation of adverse effects; the inadequacies of FERC’s mitigation prescriptions relative to NEPA; FERC’s failure to abide by its own Certification Policy; the FERC Policy’s failure to reflect NEPA requirements; the uninformed nature of FERC’s decision-making; and the uninformed, misleading, and false statements of relevance to these issues in FERC’s Certificate Order: We contend that FERC’s mitigation prescriptions are arbitrary and capricious.

Given the essential nature of EIS-defined adverse-effects’ mitigation to FERC’s proposed actions, we also contend that FERC’s Certificate Order should be considered as “*arbitrary and capricious*”.

A Supreme Court precedent also requires that EIS agencies take a “*hard look at environmental consequences ...*”¹¹⁵ of major federal actions. The information reviewed herein makes it clear that FERC has not taken a “*hard look*” at the adverse-effects mitigation proposed by the applicant and by FERC’s EIS, or at the environmental consequences of EIS-prescribed mitigation measures that are inadequate to minimize EIS-defined adverse effects.

A commonly cited legal principle is that courts are not to

*“flyspeck’ an agency’s environmental analysis, looking for any deficiency no matter how minor.”*¹¹⁶

Our request for rehearing, stay, and further relief is not “*flyspecking*”. FERC’s own EIS has found the proposed pipeline’s impacts to forest resources would be an “adverse effect” – as that term is defined under NEPA.¹¹⁷

Restoration and Rehabilitation Plan, Table 5 Oak-hickory forest woody seed mix and recommended application rate, Appendix C p. 7, document p. 36 of 67).

¹¹⁴ City of Kansas City v. Dep’t of Hous. & Urban Dev., 923 F.2d 188, 189 (D.C. Cir. 1991)

¹¹⁵ Ibid.; Robertson v. Methow Valley Citizens Council.

¹¹⁶ Nevada v. U.S. Dep’t of Energy, 457 F.3d 78, 93 (D.C.Cir.2006) (quoting Fuel Safe Wash. v. FERC, 389 F.3d 1313, 1323 (10th Cir.2004)). We note that FERC itself has cited this legal precedent: Brief of Respondant, Sierra Club et al. vs. FERC In the United States Court of Appeals for the District of Columbia Circuit, Nos. 16-1329 and 16-1387 (31 January 2017).

¹¹⁷ The EIS itself did not describe impacts to forest using the term “adverse effect”. However, submittal 20161121-5051 called attention to that omission (“The term ‘adverse effects’ is of significance to FERC’s execution of its mission, yet the DEIS fails to clarify if ‘significant impacts’ to forest resources are equivalent to ‘adverse effects’). FERC’s response to that comment (EIS, Appendix AA, Part 18 of 36; p. 36 of 54; FERC’s response to comment IND244-1) states: “The draft EIS concluded that the MVP would result in an adverse impacts on forest

I. Errors are “Extraordinary Circumstances” that justify reopening the record and justify additional relief; a rehearing is warranted.

New Information:

We contend that “*new information*” has been presented subsequent to EIS issuance; and that, by FERC’s own logic, such “*new information*” justifies “*reopening the record.*” FERC’s Certificate Order claims falsely that:

“Dr. Zipper does not offer new information or a change of circumstance since the final EIS was issued. Therefore, a Supplemental EIS is not necessary.”¹¹⁸

However, we have described above in Section II.B that FERC’s introduction in the EIS of the “*woody seed mix*” strategy for revegetating temporary workspaces constitutes a substantial change. FERC’s Certificate Order describes that strategy as fundamental to mitigation of adverse effects:

“However, the proposed use of a woody seed mix is a reasonable measure to minimize impacts on forests.”¹¹⁹

Information submitted to the FERC Docket following EIS issuance addressed the woody seed mix strategy and its deficiencies.¹²⁰ Therefore, the Certificate Order’s allegation of no “*new information*” is false. Furthermore and by FERC’s own admission in the statement above, that new information is substantive to the issues raised herein.

resources.”

¹¹⁸ Certificate Order, paragraph 201, p. 75.

¹¹⁹ Certificate Order, paragraph 203, p. 75.

¹²⁰ Submittal 20170725-5023; see esp. pp. 17-26, “FERC’s Proposed “Woody Seed Mix” Strategy is Uninformed and Unwise.”

Heart of the Case: In a recent decision,¹²¹ FERC has stated:

*“In order to persuade the Commission to exercise its discretion to reopen the record, the requesting party must demonstrate the existence of extraordinary circumstances. The Commission has held that the requesting party must demonstrate a change in circumstances that is more than just material — it must be a change in core circumstances that goes to the **very heart of the case**. This policy against reopening the record except in extraordinary circumstances is based on the need for finality in the administrative process.”*

We contend that the issues raised herein are extraordinary circumstances that go to the “*heart of the case*” and justify reopening the record, but we reject the FERC’s restriction of such to “*change in core circumstance*”. In our view, these are extraordinary circumstances because of:

- FERC’s failure to prescribe mitigation measures to minimize adverse effects as required by NEPA and as required by federal regulations specific to FERC, despite the presentation of those measures in numerous submittals to FERC Docket CP16-10.
- FERC’s failure to execute its own Certification Policy, insofar as that policy concerns environmental effects in accord with procedures stated by that policy.
- The inadequacies of FERC’s Certification Policy, insofar as that policy concerns adverse effects to the human environment (as such are defined under NEPA) and mitigation thereof.
- FERC’s failure to provide “fully informed” and “well considered” decisions concerning mitigation of adverse effects by the proposed Mountain Valley Pipeline; and its failure to apply “reasoned analysis” as a means of justifying those decisions; and, hence, the arbitrary and capricious nature of those decisions.
- The extraordinary nature of the environmental resources that are at-risk, should Mountain Valley Pipeline be constructed as proposed (see Section IV.A.iii below).
- The “uninformed” nature of FERC’s proposed measures for mitigation/minimization of EIS-defined adverse effects, as documented herein.

Furthermore, we contend that FERC’s restriction of “*extraordinary circumstances*” to “*a change in circumstances*” is not justified and is not supported by case law, as the primary citations quoted by FERC in support of the above judgement are FERC’s own.¹²² We contend, however, that the issues raised herein go “*to very heart of the case*” but have been inadequately addressed by FERC’s Certificate Order; and are, therefore, “*extraordinary circumstances*” that justify “*reopening the record*”.

¹²¹ 157 FERC ¶ 61,194; Jordan Cove Energy Project, L.P. Docket No. CP13-483-001; Pacific Connector Gas Pipeline, LP, Docket No. CP13-492-001, Order Denying Rehearing (Issued December 9, 2016). <https://www.ferc.gov/CalendarFiles/20161209152707-CP13-483-001.pdf>

¹²² FERC’s supporting citation for the above quote concerning extraordinary circumstances is: “*See Millennium Pipeline Co., L.L.C., 142 FERC ¶ 61,077, at PP 8-9 (2013) (Millennium Pipeline) (internal citations and quotations omitted)*. See also *Gulf States Utilities Co. v. Southern Co. Services, Inc.*, 43 FERC ¶ 61,003, at 61,024 (1988) (citing *Bowman Transp., Inc. v. Ark.-Best Freight System, Inc.*, 419 U.S. 281, 296 (1974)). See also *Am. Fin. Services. Ass’n v. FTC*, 767 F.2d 957, 964 n.5 (D.C. Cir. 1985), cert. denied, 475 U.S. 1011.”

A review of the two cited cases (*Bowman Transp.*; and *Am. Fin. Services*, see esp. para. 129) leads us to conclude that FERC’s contention that only a “*change in circumstances*” can be interpreted as sufficiently “*extraordinary*” to justify a re-opening of the record is not supported by case law.

III. BACKGROUND

A. Procedural Background

Mountain Valley Pipeline LLC (Mountain Valley) has proposed to construct a new natural gas pipeline through forested areas of the eastern United States.¹²³ Appalachian forests are a globally significant ecological resource¹²⁴ and are among the most biodiverse non-tropical ecosystems in the world.¹²⁵ Large segments on Appalachian forest would be fragmented by the pipeline's construction, causing diminishment of these areas' ecological value and of the ecosystem services that they provide.¹²⁶

Mountain Valley Pipeline LLC submitted a pre-filing request to FERC in October 2014.¹²⁷ FERC established Docket PF15-3 for posting of documents relevant to Mountain Valley's pre-filing and its public review.

In April 2015, FERC issued a "Notice of Intent to Prepare an Environmental Impact Statement for the Planned Mountain Valley Pipeline Project"¹²⁸ which included a schedule for public hearings during May 2015 in apparent violation of its own Certification Policy.¹²⁹

On 23 October 2015, Mountain Valley Pipeline LLC submitted an application to construct such pipeline to FERC.¹³⁰ FERC accepted that application, established Docket CP16-10 for posting of documents relevant to that application and their public review, and issued a "Notice of Applications" for Mountain Valley Pipeline and the associated but separately proposed Equitrans Expansion Project.¹³¹

In June 2016, FERC issued a Notice of Schedule for Environmental Review for the Mountain Valley and Equitrans projects,¹³² describing an intent to analyze the two projects "*in a single environmental impact statement (EIS)*". This notice described an EIS scoping process and an intent to issue a Draft EIS in September 2016 and a Final EIS in March 2017.

FERC issued a DEIS for the combined projects in September 2016.¹³³ C.E. Zipper

¹²³ FERC's EIS states that "The MVP pipeline route would cross about 249 miles of forested land (82 percent of the route)" (p. 4-301; document p. 583 of 930).

¹²⁴ K Riitters *et al.* 2000. *Conserv. Ecol* 4. <http://www.consecol.org/vol4/iss2/art3/>.

¹²⁵ TH Ricketts *et al.* 1999, *Terrestrial ecoregions of North America: a conservation assessment*. Island Press.

¹²⁶ See EIS, Section 4.4, Vegetation; esp. Section 4.4.1.2, Interior Forest.

¹²⁷ Submittal 20141027-5136(29872505) to FERC Docket PF15-3, by Mountain Valley Pipeline LLC.

¹²⁸ Submittal 20150417-3022 to Docket PF15-3.

¹²⁹ See section II.D above.

¹³⁰ Submittals 20151023-5035, 20151023-5036, and 20151023-5037 to FERC Docket CP16-10, Mountain Valley Pipeline LLC. The application was preceded by a FERC pre-filing processes, initiated on 31 October 2014 and posted by FERC on Docket PF15-3.

¹³¹ FERC, Notice of Applications, Mountain Valley Pipeline, LLC, Docket No. CP16-10-000 and Docket No. PF15-3-000; Equitrans, LP, Docket No. CP16-13-000 and Docket No. PF15-22-000.

¹³² Submittal 20160628-3050(31551188) to FERC Docket CP16-10. Also published in Federal Register 81 (128), 43596-43597. 5 July 2016.

¹³³ FERC/DEIS-D0272, September 2016, Mountain Valley Project and Equitrans Expansion Project Draft Environmental Impact Statement. See also: "FERC Staff Issues the Draft Environmental Impact Statement for the Mountain Valley Project and Equitrans Expansion Project (CP16-10-000 and CP16-13-000) Issued September 16, 2016", <https://www.ferc.gov/industries/gas/enviro/eis/2016/09-16-16-eis.asp>

responded to that DEIS in November 2016, with a submittal to FERC.¹³⁴ That submittal called attention to two significant deficiencies of DEIS proposals for mitigation of adverse effects which are the focus for this rehearing-and-stay request:

1. Failure to prescribe practicable measures that would re-establish forest ecosystems in temporary workspace areas with greater assurance and more rapidly than measures proposed by the DEIS.
2. Failure to propose practicable measures that would prevent or control establishment of exotic invasive plants in areas disturbed by pipeline construction.

That submittal called attention to the fact that these two deficiencies are interconnected because establishment of exotic invasive plants in temporary workspaces would interfere with re-establishment of forest trees and would likely cause additional adverse effects to uncleared forest;¹³⁵ while failure to re-establish forest trees in temporary workspaces would create conditions favorable to further establishment of exotic invasive plants in temporary workspaces and adjacent uncleared forest.¹³⁶

That submittal described procedures for reforestation temporary workspaces (“active reforestation”) differing from those prescribed by FERC’s DEIS (described as “natural regeneration”); contended that active reforestation procedures would be more effective for mitigation of EIS-described adverse effects than those prescribed by FERC’s DEIS; and supported those contentions by citing peer reviewed scientific studies, the submitter’s professional experience, and the submitter’s personal experience as an owner of forested land within the project area.¹³⁷ That submittal also called attention to the inadequate measures for control of exotic invasive plant species proposed by the DEIS, and to the importance of such controls to successful mitigation of adverse effects. The submittal included information to support the submitter’s contention that recommended procedures are “practicable” as well as more effective.

Also during the DEIS comment period, C.E. Zipper submitted additional information concerning inadequate mitigation of adverse effects to forest resources, as that inadequate mitigation might affect migratory birds.¹³⁸ The mitigation adequacies of concern, as stated by that submittal, were of two types:

- Failure “to Prescribe Active Reforestation for Temporary Workspaces”

¹³⁴ 20161121-5051(31787590) to FERC Docket CP16-10. Document 20161121-5051(31787590) was submitted to FERC within the formal DEIS comment period. The submitter (C.E. Zipper) was registered with FERC as an intervener for the Mountain Valley Pipeline project, and sent the comment to the Docket CP16-10 service list upon submission to FERC, on 11/20.2016, as per FERC policies.

¹³⁵ See submittal 20161121-5051 to CP16-10, “Exotic and Invasive Species Control Plan (EISC Plan) is inadequate and fails minimize adverse effects”, starts on p. 11. See esp. paragraph that begins “Establishment, proliferation, and growth of certain exotic invasive species can suppress or prevent establishment of native plants including forest trees” and cited scientific references. See also submittal EIS 20170725-5023(32295953) to CP16-10, Appendix F, Table F-1, “Known to form dense monotypic stands or otherwise interfere directly with natural plant succession / forest tree regeneration?”

¹³⁶ See Submittal 20161121-5051 to CP16-10, “Exotic and Invasive Species Control Plan (EISC Plan) is inadequate and fails minimize adverse effects”, starts on p. 11. See esp. paragraph that begins “Invasive plant species disperse across landscapes” (p. 12). See also submittal EIS 20170725-5023(.32295953) to CP16-10, Appendix F, Table F-1, “Establishes readily in and/or prefers conditions created by pipeline construction?”

¹³⁷ See Exhibit C and D.

¹³⁸ Submittal 20161201-5078

- Failure “to Prescribe Measures that Would Control Invasive Exotic Species in Disturbed Areas”.

Following the DEIS comment period but prior to EIS issuance, C.E. Zipper submitted additional information of direct relevance to the DEIS comment but not available to the public until following the DEIS comment period.¹³⁹ The information provided by that submittal supported the contention that procedures for control of exotic invasive plants in pipeline-disturbance areas, more effective than those described by FERC’s EIS but as recommended by the prior DEIS comment, are practicable.

Also following the DEIS comment period and prior to EIS issuance, C.E. Zipper submitted additional information to FERC that stated “*Adverse effects to forest resources are not adequately described, avoided, minimized, or mitigated*” by the DEIS proposals.¹⁴⁰ That submittal provided further detail concerning major points made by prior submittals, including the significant ecological value of the Appalachian forests that would be subjected to “adverse effects” if Mountain Valley Pipeline is constructed as proposed.

FERC issued an EIS for the combined projects in June 2017.¹⁴¹ FERC’s EIS differed minimally from the DEIS with respect to prescribed measures for reforestation of temporary workspaces and exotic invasive plant species’ controls. One EIS change, relative to the DEIS, is stated as:

“In forested areas, Mountain Valley would supplement the herbaceous seed mix with a woody seed mix comprised of native overstory, understory, and shrub oak-hickory forest species.”¹⁴²

Following EIS issuance, C.E. Zipper submitted another filing to FERC¹⁴³ which called attention to FERC’s failure to remedy fundamental DEIS deficiencies through issuance of the EIS. That filing contended that the “woody seed mix” proposal failed to address substantive issues concerning adverse-effects’ mitigation inadequacies raised during the DEIS comment period; and that FERC responses to his prior comments demonstrated that the agency’s responses to his DEIS comments and its proposals for adverse effects’ mitigation were unformed.

That filing requested that FERC remedy those deficiencies by issuing a Supplemental EIS. Several parties, including owners of forested lands that would be directly impacted by the pipeline’s construction, filed to submittals to FERC supporting C.E. Zipper’s contentions and requesting to “sign on” to his submittal to FERC.¹⁴⁴

In September 2017, C.E. Zipper submitted another filing to FERC, as an addendum to the prior-described filing.¹⁴⁵ That submittal included additional information that had become available subsequent to the prior-described submittal’s filing. The additional information

¹³⁹ Submittal 20170112-5005.

¹⁴⁰ Submittal 20170221-5103, Section 3 (pp. 14-24).

¹⁴¹ FERC/EIS-0272F, June 2017, Mountain Valley Project and Equitrans Expansion Project, Final Environmental Impact Statement.

¹⁴² see footnote 28 above, “The DEIS document does mention ...”.

¹⁴³ Submittal 20170725-5023.

¹⁴⁴ See Exhibit A for a listing of parties signing-on to submittal 20170725-5023, and for excerpts from the submitted supporting comments..

¹⁴⁵ Submittal 20170920-5051, an addendum to submittal 20170725-5023

emphasized the environmental consequences of pipeline construction to forest resources, and of failure by FERC to prescribe mitigation measures that would reduce adverse effects relative to EIS prescriptions.

On 13 October 2017, FERC issued a Certificate Order for Mountain Valley Pipeline.¹⁴⁶ The Certificate Order's terms and conditions prescribed mitigation measures consistent with those described by the EIS and which fail to minimize adverse effects.

B. Technical Background: Failure to require mitigation that is adequate to minimize adverse effects.

EIS Deficiencies:

The EIS states that:¹⁴⁷

*“In considering the total acres of forest affected, the quality and use of forest for wildlife habitat, and the time required for **full restoration in temporary workspaces**, we conclude that the MVP would have significant impacts on forest.” [emphasis added].*

The term “restoration”, as commonly used, means “a bringing back to a former position or condition.”¹⁴⁸ In this context, “restoration” would mean the re-establishment of forest ecosystems with vegetation of similar in species composition, growth characteristics, and other respects to that present prior to disturbance; and, therefore, similar to that of adjacent undisturbed forest, as it grows and matures over time. Throughout both the DEIS and the EIS, FEC contended that the extended duration of pre-restoration conditions contributed to the adverse effect.¹⁴⁹

The EIS indicates that adverse-effects mitigation would be achieved through measures such as “regeneration of trees”, and “restoration” and “recovery” of forest. We contend that alternative measures which were described, documented, and proposed to FERC in response to the DEIS, could achieve such outcomes with greater certainty and more rapidly than measures

¹⁴⁶ Ibid, footnote 3 above (161 FERC ¶ 61,043; Dockets CP16-10-000 and CP16-13-000).

¹⁴⁷ EIS, Executive Summary, p. ES-7. Similar statements are present in the body of the document.

¹⁴⁸ Excerpt of definition of “restoration” by Merriam-Webster, <https://www.merriam-webster.com/dictionary/restoration>. Other dictionaries contain similar definitions.

¹⁴⁹ See submittal 20161121-5051, pp. 4&5; and submittal 20170725-5023, p. 4, for additional examples.

The EIS states, perhaps as an effort to defend its current inadequate proposals for adverse effects' mitigation, “Restoration of the temporary construction right-of-way would provide early successional habitat adjacent to the forested landscape, as recommended for upland areas” (p. 4-210; document p. 492 of 930). However, it does not state the basis for the supposed recommendation; nor does it state any justification for establishing the full temporary workspace area as early successional. The above recommendation also conflicts with multiple statements throughout the EIS that the time required for forest trees to re-grow and mature in temporary workspaces contribute to the forest impacts. For example: “In the temporary workspaces, trees would be allowed to regenerate after pipeline installation and restoration; however, larger trees likely would not grow to maturity for many decades, making this a long-term impact” (EIS p. 4-304; document p. 586 of 930).

described by the EIS; and, hence, would be more effective as means for mitigating adverse effects.¹⁵⁰

The EIS failure concerns practices intended to:

1. Restore forest plant communities and ecosystems to areas used for pipeline construction but not for operation (i.e. “temporary workspaces”) that were forested prior to pipeline construction.
2. Prevent or control proliferation of exotic invasive plants, not present prior to pipeline construction, in areas affected by pipeline construction including temporary workspaces and other disturbance areas.

Infestations by exotic invasive plants would hinder re-establishment of forest plant communities; would cause forest plant communities that regenerate in temporary workspaces to differ in character from native plant communities if those exotic invasive plants persist during forest tree regeneration; and would affect adversely forest plant communities adjacent to disturbance areas if exotic invasive plants migrate from disturbance areas where not adequately controlled following construction into adjacent forest. Prevention and control of exotic invasive plants is practicable.¹⁵¹

Specific practices intended to achieve more rapid and assured forest restoration (as per number 1 above) are described as “active reforestation” and are documented in submittal 20161121-5051.¹⁵² Those measures are:

- A. Topsoil salvage and replacement
- B. Amelioration of soil compaction
- C. Planting of trees and associated management
- D. Protection of established seedlings from deer browse (where necessary)
- E. Invasive plant controls (more effective than those proposed by FERC)
- F. Monitoring and follow-up

Those recommended measures were documented as being both more effective than EIS-proposed measures and as practicable; the recommended measures include “Invasive Plant Controls” (i.e. Point No. 2 above).¹⁵³ Yet with the exception of the “woody seed mix” proposal that is discussed extensively herein, mitigation procedures prescribed by the EIS differed minimally than those prescribed by the DEIS.

¹⁵⁰ Those alternative were described, documented, and proposed to FERC in Submittal 20161121-5051; and with additional detail by submittal 20170725-5023.

¹⁵¹ See submittal 20161121-5051, pp. 16&17 (“Effective measures to control exotic invasive plants are practicable”). See also submittal 20170112-5005 to FERC Docket CP16-10, which is reproduced in submittal 20170725-5023 as Exhibit B.

¹⁵² Submittal 20161121-5051 was posted by FERC on 21 November 2016 by C.E. Zipper, a registered intervenor, and copied to the CP16-10 service list as per FERC requirements, on 20 November 2016. The DEIS comment period period extended from DEIS issuance in September, 2016, to 22 December 2016.

¹⁵³ Lack of effective invasive plant controls has potential to impair the forests that remain in place adjacent to construction disturbance areas, as well as to hinder forest restoration within temporary workspaces. Lack of effective invasive plant controls can cause harms to landowners, environmental values, and forest resources in addition to those that would arise from inadequate reforestation.

Statements in EIS Support These Contentions:

FERC’s EIS includes statements that support the approach advocated here: Active measures to increase the certainty and rate of forest regeneration in temporary workspaces. In discussing impacts on vegetation (including forest vegetation), the EIS states:

“The degree of impact would depend upon the type and amount of vegetation, the rate of vegetation regeneration, and the frequency of vegetation maintenance conducted on the rights-of-way during operation. Other local conditions such as rainfall amount, elevation, animal grazing, and soil characteristics would also influence the rate of vegetation regeneration.”¹⁵⁴

Based on that statement alone, it is logical to conclude that management of “local conditions” such as soil characteristics and, when necessary, animal grazing (e.g. white-tailed deer) in a manner that would increase the certainty and rate of forest regeneration would be a way to minimize adverse effects.

FERC’s own EIS provides direct demonstration that most of the adverse-effects’ mitigation measures we recommend are available, practicable, and more effective than what the EIS has proposed for temporary workspaces in forested areas:

Topsoil Segregation¹⁵⁵ and Replacement:

The EIS states that segregation and replacement of topsoil would promote “increased vegetation success” due to the “existing seed bank in the topsoil” which would be “retained”;¹⁵⁶ states that

“Topsoil would be segregated ... in agricultural areas, residential areas, within the Jefferson National Forest, and in non-saturated wetlands”¹⁵⁷;

but fails to state that topsoil would be segregated and replaced in forest-restoration areas other than Jefferson National Forest despite the stated advantages of this practice for restoration of vegetation. The inclusion of Jefferson National Forest within areas proposed for topsoil-segregation-and-replacement is notable, considering:

- The potential for US Forest Service (and associated Bureau of Land Management) to deny a permit forest removal and pipeline construction, unlike non-federal land managers and land owners;
- The status of US Forest Service as recognized authority in matters concerning forest ecosystems in the United States of America;
- The fact that all areas proposed by Mountain Valley for disturbance within the Jefferson National Forest are currently forested; and presumed intentions by US Forest Service for restoration of forest vegetation on temporary workspaces within Jefferson National Forest;

¹⁵⁴ EIS, p. 4-177 (document p. 459 of 930).

¹⁵⁵ The terms “salvage” and “segregation”, as they are used here to describe practices for handling soil, should be considered as equivalent. Both terms refer to the separation of topsoil from subsoil, during soil removal operations, and maintaining the topsoil in a conditions such that it can be replaced on the top of the land, so as to simulate the land’s original condition prior to soil removal.

¹⁵⁶ EIS, Section 4.2.2.2, p. 4-180 (document p. 462 of 930)

¹⁵⁷ Ibid.: EIS, Section 4.2.2.2, p. 4-180 (document p. 462 of 930)

- The request by US Forest Service for topsoil segregation and replacement on Jefferson National Forest lands.¹⁵⁸

EIS specification of topsoil segregation and replacement measures for residential and agricultural areas and for Jefferson National Forest demonstrates that such measures are practicable. FERC's specification of topsoil segregation and replacement for Jefferson National Forest demonstrates FERC's implicit understanding that those measures would be more effective what it has proposed for forested areas under non-federal ownership.

Amelioration of Soil Compaction:

The EIS notes the potential for soil compaction to hinder vegetation establishment.¹⁵⁹ The EIS proposes more rigorous mitigation of soil compaction in agricultural areas than in forested areas,¹⁶⁰ despite the EIS finding that impacts to forests, not to agricultural lands, would be "adverse effects" if the pipeline were to be constructed as proposed. Soils in forested areas would not be tested routinely for compaction effects, as in agricultural areas; and the only decompaction measure for forested areas, "discing", has been scientific studies to be less-effective than the deep-tillage that is proposed for application in agricultural areas.¹⁶¹

EIS specification of routine soil-compaction testing and rigorous mitigation (deep tillage) in agricultural areas demonstrates that such measures are practicable; and demonstrates implicit understanding that those measures would be more effective as means for mitigating negative effects on deep-rooted vegetation (such as agricultural crops and forest trees) than what is proposed for forested areas.

¹⁵⁸ "Line 1: The Forest Service requests that topsoil be stripped from the permanent ROW and the temporary ROW (112.5 ft.) and stockpiled for use in restoration." Submittal 20161115-5013 by US Forest Service to FERC Docket CP16-10.

"The [Forest Service] requires segregation of all topsoil, regardless of depth, on all National Forest System (NFS) lands that would be affected by the proposed Mountain Valley Pipeline Project (MVP Project)." Submittal 20161116-5006 by US Forest Service to FERC Docket CP16-10.

¹⁵⁹ For example: "Soil compaction modifies the structure and reduces the porosity and moisture-holding capacity of soils" (EIS p. 4-78, document p. 360 of 930). "The movement of heavy machinery in the right-of-way could result in soil compaction and rutting. The alteration of natural hydrologic patterns could inhibit seed germination and regeneration of vegetation species" (EIS p. 4-160, document p. 442 pf 930).

¹⁶⁰ The following text describes mitigation for soil compaction: "Compaction testing would be left to the discretion of the [Environmental Inspector] except for in agricultural and residential areas where Mountain Valley's EIS would conduct topsoil and subsoil compaction tests using a penetrometer or other appropriate device at regular intervals. The results of the compaction tests would be compared and matched to undisturbed soil under similar moisture conditions to ensure any affected soils are properly decompacted. If compaction is found to have occurred, the area would be tilled and retested. If additional decompaction of the area is required, deep tilling would be used." (EIS, p.4-85, document p. 367 of 930). In contrast to the deep-tilling that is proposed for agricultural lands that are adequately decompacted by other measures, only "discing" is proposed as a decompaction measure for forested areas.

As demonstrated by submittal 20170725-5023 (p. 9 including footnotes), discing is inadequate as a measure for mitigation of soil compaction at depth. As demonstrated below ("The allegation's validity is also demonstrated by FERC's contention that soil compaction effects, if not mitigated by means other than discing, would be 'temporary' ", including footnote), soil compaction at depth is likely within the construction zone. As demonstrated by submittal 20161121-5051, p. 6&7 including footnotes 27-29, soil compaction, if not mitigated effectively, can hinder survival and growth of trees generally and on forest restoration projects.

¹⁶¹ See submittal 20170725-5023, p. 9.

Efforts to Manage Herbaceous Competition:

The EIS describes a mix of herbaceous plant species that would be seeded in disturbed areas. Herbaceous competition can influence native tree establishment on Appalachian disturbed areas where topsoil and forest vegetation have been removed.¹⁶² However, FERC's EIS includes no information to indicate whether or not the proposed herbaceous seeding strategy would be compatible with forest re-establishment. The proposed herbaceous seeding strategy is novel.¹⁶³ Therefore, past experience cannot be relied upon to indicate its compatibility with natural regeneration of forest plant communities in temporary workspaces,¹⁶⁴ or its ability to repel exotic invasive plants as alleged by the EIS,¹⁶⁵ or lack thereof.

Planting of Trees:

The EIS proposes "hand planting woody vegetation" in areas of exceptional environmental value, including Jefferson National Forest.¹⁶⁶

EIS specification of hand planting of trees and shrubs for areas of exceptional environmental value demonstrates that these procedures are practicable, and demonstrates an implicit understanding that those measures would be more effective what FERC has proposed for forested areas.

The EIS also makes it clear that oaks and similar species are unlikely to regenerate in temporary workspaces using the EIS-proposed mitigation measures, i.e., in the absence of hand-

¹⁶² Franklin JA, Zipper CE, Burger JA, Skousen JG, Jacobs D. 2012. Influence of herbaceous ground cover on forest restoration of eastern US coal surface mines. *New Forests* 43: 905—924.

¹⁶³ Neither FERC's EIS nor applicant submissions, of which I am aware of, describe other applications of method proposed by Mountain Valley to revegetate disturbance areas using "seed mixes recommended by the Wildlife Habitat Council" (quoted from EIS p. ES-5).

¹⁶⁴ This exact argument was not advanced during the DEIS comment period. However, the DEIS did not state the seed mix that would be applied; therefore, the novel nature of the herbaceous seed mix that is currently proposed could not be known. Also, the DEIS contained conflicting information about the nature of the herbaceous to be seeded for revegetation and erosion control in disturbed areas; this conflicting information was noted during the DEIS comment period (submittal 20161121-5051, pp. 17-18 and 26; and submittal 20161201-5078, pp. 3, 7).

DEIS comments do state that "Certain forms of herbaceous vegetation can hinder forest regeneration; but the DEIS fails to make it clear that such vegetation would not be established in temporary workspaces by seeding" (submittal 20161201-5078, p. 3). DEIS comments also provide clear discussion of potential negative effects by herbaceous plants established by seeding on forest tree establishment and growth in disturbed areas (submittal 20161121-5051, pp. 19-20), but that discussion is focused on seed mixes proposed by the DEIS Erosion and Sedimentation Control Plans (DEIS Appendices N-11 and N-12).

¹⁶⁵ The EIS states: "*Mountain Valley and Equitrans would restore and reseed construction areas as quickly as possible which would promote establishment of native species within disturbed areas, which would tend to limit colonization by invasive plants*" (EIS, p. 4-189, document p. 421 of 930). The DEIS contained the exact same statement. Submittal 20161121-5051, responding to the DEIS within the DEIS comment period, and submitted by a registered intervenor while copied to the service list in accord with FERC policies, stated: "*I am aware of no scientific studies that demonstrate the presence of native plants is able to limit colonization by invasive plants in any way that is unique due to their nativity, when those native plants are established in an environment that is divorced from the native ecosystems in which they typically reside. Clearly, intact and healthy native ecosystems 'limit colonization by invasive plants', but that would not be the situation within the pipeline corridor and that is not what is stated.*"

¹⁶⁶ Hand-planting is proposed for stream crossings, forested wetlands, loggerhead shrike habitat, and the Jefferson National Forest: Habitat Mitigation Plan (MVP submittal 20170511-5018(32156808, p. 7 of 67), which is incorporated into the FEIS by reference from Table 2.4-2; and US Forest Service, Draft Record of Decision, Mountain Valley Project Land and Resource Management Plan Amendment for the Jefferson National Forest, June 2017, p. 23 (document p. 29 of 41).

planting of seedlings for these species.¹⁶⁷

Monitoring and Follow-up: FERC's EIS proposes monitoring of hand-planting areas (areas of exceptional environmental value) to assess woody-plant survival success following each growing season, and follow-up planting when woody plant establishment fails to satisfy successful establishment criteria,¹⁶⁸ again demonstrating FERC's implicit concurrence that this practice would be more effective than what is proposed elsewhere and is practicable.

Hence, we conclude that FERC's own record demonstrates its concurrence that adverse-effects mitigation measures, more effective than what it has proposed for routine application, are available and are practicable. Yet, FERC has failed to propose that these measures be applied routinely in forested areas under non-federal ownership where they would aid in mitigating EIS-defined adverse effects; and, therefore, FERC has failed to execute its responsibilities under NEPA.

FERC's failure to prescribe monitoring of reforestation success, and follow-up measures, is notable given large white-tailed deer populations in parts of the project area including Montgomery County, and the well-known and well-documented potential for browsing by white-tailed deer to interfere with forest regeneration.¹⁶⁹

Certificate Order deficiencies:

The Certificate Order includes numerous deficiencies that are of direct relevance to the issues raised herein. Those deficiencies are described in Section II.F above.

¹⁶⁷ The EIS states: "Based on the assessment by the FS [Forest Service], existing species are unlikely to regenerate in the cleared areas since adequate advanced oak reproduction is lacking. While stump sprouting potential may be adequate in some areas that may not be graded such as wetland and waterbody buffers, the FS anticipates that the grading along the entire upland construction right-of-way would be quite heavy and would result in removal of most, if not all, stumps to an extent that seriously reduces or eliminates stump sprouting potential. These areas would likely be regenerated with light seeded species such as red maple, various pine species, and/or yellow poplar, depending upon site quality." (EIS, p. 4-173, document p. 455 of 930). The conditions so described for US Forest Service lands would also occur in temporary workspaces of forested areas more generally. Nowhere does the EIS make the case that replacement of oaks with light-seeded species would constitute adequate mitigation of adverse effects.

¹⁶⁸ Habitat Mitigation Plan (MVP submittal 20170511-5018(32156808)), incorporated into the FEIS by reference from Table 2.4-2; the Restoration and Rehabilitation Plan is Appendix C of that Plan. Text on p. 24 (p. 53 of 67) states that MVP will conduct monitoring and follow up procedures, including replanting where needed to achieve successful woody plant establishment, on both Riparian and Forested Wetland Restoration (Section 5.3.1) and Loggerhead Shrike Shrub Plantings (Section 5.3.2).

¹⁶⁹ See Submittal 20161121-5051, p. 9, "Protection from deer browse" including scientific references cited by footnotes.

C. Technical Background: Adverse effects' mitigation prescriptions appear as uninformed and are unsupported by reasoned analysis.

The uninformed and ill-advised nature of certain FERC statements and prescriptions were documented in a prior submittals to FERC¹⁷⁰ and, with respect to the Certificate Order, in Section II.G above. Here, we provide further information to support an allegation: adverse effects' mitigation prescriptions appear as uninformed and are unsupported by reasoned analysis.

Forests are ecosystems. Prescriptions for adverse effects' mitigation appear as if uninformed by basic soil, plant, and ecosystem restoration principles. Trees of desired species (meaning those present in adjacent forests) can be established more assuredly and more rapidly by planting than by natural regeneration, especially where soils have been disturbed via removal of topsoil, stumps, seeds, and living roots. Trees will survive and grow better where topsoil either remains in place or is replaced after disturbance, relative to their survival and growth in exposed subsoils. Trees are deep-rooted plants that will survive and grow better in disturbed soils if the compaction caused by heavy equipment is mitigated effectively, relative to a condition where only the upper few inches of surface is loosened. Removal of native mature forest and its replacement with early successional herbaceous, scrub-shrub, and forest edge habitat will create conditions favorable to certain species of exotic invasive plants; those conditions will persist for multiple years under the management conditions proposed; and those areas will remain more vulnerable to invasions by exotic plants that, by their nature, are able to move across landscapes (and, hence, are labeled as "invasive") relative to an undisturbed condition in native mature forest. Exotic plant invasions can interfere with forest ecosystem restoration processes; hence, effective forest restoration requires that such conditions be monitored and managed to remove or prevent proliferation by exotic plants that do become established. These are basic and fundamental concepts; but the prescriptions appear as uninformed by those concepts.

FERC also fails to provide reasoned analyses to support and justify its prescriptions for adverse effects' mitigation. This is understandable in one sense: Given the nature of those prescriptions, their inadequacies, and their inconsistencies with essential soil, plant, and ecosystem restoration science concepts, the development of reasoned analysis as an effort to justify and support them would be quite challenging and quite difficult. The fact is, however, that such reasoned explanations are either quite rare or totally absent.

These problems with proposed prescriptions for adverse effects' mitigation are so extensive that we are unable to document them thoroughly in this submission. Hence, we continue by providing examples.

- (i) The allegation's validity is demonstrated by FERC's failure to require routine application of adverse-effects' mitigation measures that its own EIS found to be both practicable and more effective than what it has proposed,¹⁷¹ and by its failure to justify such.

FERC prescribes certain of the more-effective adverse effects' mitigation measures that we recommend here and in prior submittals¹⁷² for application in special-status areas (forested

¹⁷⁰ See footnote 26 above for a listing of prior submittals calling attention to these deficiencies. See esp. submittal 20170725-5023, pp. 11-26 and Exhibit C.

¹⁷¹ See text within Section III.B above ("Statements in FERC's EIS Support These Contentions").

¹⁷² See especially submittal 20161121-5051, pp. 5-11.

wetlands, riparian disturbances for a number of streams, protected species' habitat, Jefferson National Forest, etc.) where it seeks to ensure forest tree re-establishment. These prescriptions indicate implicit understanding by FERC that such measures will enable establishment of forest trees more assuredly and more rapidly than the measures proposed for routine application. However, FERC provides no reasoned analysis or rationale for its failure to prescribe such measures in forested areas more generally.

- (ii) The allegation's validity is demonstrated clearly by FERC's failure to provide reasoned analysis to support proposed measures for exotic invasive species control.

Comments submitted to FERC during the DEIS comment period described these measures' inadequacies, with extensive supporting documentation.¹⁷³ As well as documenting the ineffectiveness of proposed exotic invasive plant control measures, that submittal documented that alternative measures, likely to be more effective, are practicable by citing supporting evidence including recommendations by the Wildlife Habitat Council, an organization cited elsewhere in the EIS as if authoritative.

FERC responded to those DEIS comments in a manner that failed to address the substance of the comments, and also failed to demonstrate reasoned analysis to justify the proposed measures.¹⁷⁴

For example, Comment IND244-18 claims that the EIS itself contains statements that indicate proposed Exotic Invasive Species Control Plan would be ineffective. Comment IND244-18 begins:

"As stated by the DEIS:

'The new pipelines rights-of-way could also introduce non-native invasive species'

'Removal of vegetation could increase the potential for the spread of invasive species in areas of ground disturbance and routine vegetation mowing during operation'

Effective control of exotic invasive plants would be essential to mitigation of the adverse effects identified by the DEIS as a likely outcome of pipeline construction, and the DEIS indicates a likelihood that current plans for such would be ineffective."

FERC's response states, simply:

"We conclude that the invasive species control plan would be adequate."

However, FERC's response does not describe, document, reference within the DEIS or

¹⁷³ Submittal 20161121-5051, see esp. pp. 11-17; as well as documenting the ineffectiveness of FERC's proposed exotic invasive plant control measures, the submittal documented that alternative measures are both more effective and are practicable while citing supporting evidence including recommendations by the Wildlife Habitat Council. See also submittal 20161201-5078.

¹⁷⁴ EIS, Appendix AA, Responses to comment IND244-14, IND244-15, IND244-16, and IND244-18. FERC has identified submittal 20161121-5051, which is referenced extensively herein, as comment IND244. See also submittal 20170725-5023, Exhibit C, which summarizes and comments upon FERC's responses to submittal IND244 comments.

elsewhere, or even suggest any structured or “reasoned analysis” that may have led to that conclusion. FERC’s own DEIS (as quoted above) and EIS document that pipeline construction would produce conditions conducive to establishment and proliferation of invasive plants, and that such conditions would persist beyond the two-year time frame for which post-construction monitoring is proposed.¹⁷⁵

A major point of issue is the duration of proposed post-construction monitoring and controls for exotic plants: two years.¹⁷⁶ This proposed duration has been claimed inadequate by commenters repeatedly, yet FERC has failed to provide reasoned analysis to support its effectiveness and utility.

For example, in response to comment IND244-15, which contends that the proposed monitoring/control plan, confined to 2 years, will be ineffective, FERC responded:

“The discussion regarding the duration of post-restoration vegetation monitoring has been updated in section 4.4 of the final EIS.”

However, Section 4.4 of the EIS contains no references or reasoned analysis to support the two-year limitation,¹⁷⁷ nor does any other section of the EIS, or any document referenced by the EIS (including the so-called Exotic and Invasive Species Control Plan) that I am aware of.

Subsequently, additional comments were submitted to FERC on this topic, including documentation of another proposed pipeline that would extend its invasive plant monitoring and control procedures for the project lifetime;¹⁷⁸ extensive documentation on the habitat preferences of exotic invasive plant species within the project area, which include open sun and forest edge habitats that would be created by the project and would persist beyond two years;¹⁷⁹ a government agency submission encouraging FERC to extend invasive plant monitoring and controls for the project’s duration and providing rationale for that request;¹⁸⁰ and a submittal documenting exotic invasive plant invasions of linear corridors associated with energy extraction over multiple-year time frames in Pennsylvania forests.¹⁸¹

As another example of how pipeline construction would create conditions conducive to species invasions, and that such conditions would persist for longer than two years, the EIS describes invasive species as:

¹⁷⁵ In addition to the DEIS-quoted statements above, which also appear in the EIS, see additional text below that concerns the EIS statement “non-native species that ... may out-compete ...”.

¹⁷⁶ The EIS states that exotic invasive plants would be controlled over “at least 2 years” (see EIS p. 2-52 and 4-185). However, I am unable to find any statement by the applicant indicating such controls may extend beyond two years. For example, the Exotic and Invasive Species Control Plan, July 2016 revision (FERC submittal 20170630-5393(32242507)) states that “MVP will monitor the right-of-way annually after the first and second growing seasons following construction ...” (submittal 20170630-5393(32242507); Plan p. 9, document p. 11 of 13), thus limiting the proposed post-construction monitoring and controls to two years.

¹⁷⁷ FERC’s Certificate Order, paragraph 197, also seeks to use EIS section 4.4 as justification for proposed invasive species controls, but that section contains no reasoned analysis to support the proposed two-year time frame.

¹⁷⁸ Submittal 20170112-5005. The referenced entity is Atlantic Coast Pipeline, which is proposed for construction in close proximity to the proposed Mountain Valley.

¹⁷⁹ Submittal 20170725-5023; see esp. Exhibit E.

¹⁸⁰ Submittal 20170720-5143(32289092), by Virginia Department of Conservation and Recreation.

¹⁸¹ Submittal 20170920-5051.

*“non-native species that ... may out-compete native species and take over micro-habitats, especially in disturbed areas where **native vegetation may have been removed or altered.**”¹⁸²[with emphasis added].*

The native vegetation in forested areas is forest; and the DEIS and EIS make it clear that forest restoration, and therefore conditions of altered native vegetation, would require far longer than two years.

Perhaps in response to these concerns about the proposed duration invasive plant monitoring and control, FERC issued two Environmental Information Request (EIR) questions to the applicant; but these questions, Mountain Valley’s answers, and FERC’s lack of reasoned response to those answers also demonstrate failure to provide reasoned analysis to justify or support the proposed two-year time frame.

The first EIR question asked the applicant to:

“indicate whether Mountain Valley would agree to increase the duration of invasive plant species monitoring within the maintained right-of-way and temporary workspaces after initiation of service.”¹⁸³

The above EIR question fails to request reasoned analysis or justification for the confined-to-two-years monitoring proposal – it merely asks if the applicant “*would agree to*” a time extension. In a subsequent EIR, FERC requested that the applicant to justify the two years:

“Provide additional information, including references to scientific literature if available, to support Mountain Valley’s assertion in DR4 General 3c that colonization of the permanent right-of-way by invasive plants following two growing seasons after restoration ‘would not be attributable to the construction or operation of the Project.’”¹⁸⁴

Mountain Valley responded to this question by stating an intent to manage invasive species “*for up to two growing seasons*” and while citing scientific studies describing vectors that cause invasive plants to spread (e.g., wind, wildlife, and gravity) but while also stating

“Any invasive species that emerge via these various natural mechanisms after two years are beyond Mountain Valley’s control and occur regardless of project construction and operations.”¹⁸⁵

Mountain Valley’s response contains no mention of the change in environmental conditions that would result from the pipeline’s construction (including increased open-sun and forest edge habitat, and linear non-forested corridors that would aid and encourage transit by humans and wildlife). Such conditions were claimed (with scientific citations) by a DEIS comment to create conditions more suitable for exotic plant invasions than the natural forest areas that would be

¹⁸² EIS, p. 4-173.

¹⁸³ FERC Post-DEIS Environmental Information Request, submittal 20170127-3018, Vegetation question 2. This Environmental Information Request question is discussed further above, in Section II.C.

¹⁸⁴ FERC Post-DEIS Environmental Information Request, submittal 20170320-3003, Vegetation Question 3.

¹⁸⁵ Mountain Valley submittal 20170330-5339. This submittal includes multiple files which are unlabeled. Mountain Valley’s response, as quoted herein, occurs in a 118-page file, “Response to Post-Draft Environmental Impact Statement Environmental Information Request #2 Issued March 20, 2017,” which contains narrative responses. The response in question is on pages 38-39 of 118.

disturbed and replaced.¹⁸⁶ Such conditions were also stated by the DEIS and, subsequently, by the EIS as potentially enabling exotic species invasions (as noted above).¹⁸⁷ Although Mountain Valley's response made no mention of relevant factors noted by both the DEIS and the EIS, the record reveals no follow-up by FERC to address Mountain Valley's inadequate response. Hence, it is clear that FERC failed to apply "reasoned analysis" to Mountain Valley's proposal to restrict exotic invasive plant monitoring and control to only two years. In fact, FERC has incorporated Mountain Valley's inadequate proposal into its EIS and Certificate Order.

The Certificate Order states

*"Based on our staff's experience monitoring revegetation efforts where the spread of invasive species was successfully limited, we conclude that Mountain Valley's Exotic and Invasive Species Control Plan would limit the spread of invasive species during revegetation."*¹⁸⁸

However, the phrase "*during revegetation*" describes a very limited time period. Both the DEIS and the EIS contend that the *duration* of forest loss in temporary workspaces would contribute to adverse effects.¹⁸⁹ We have provided peer-reviewed scientific information and reasoned analysis to support our contention that exotic invasive species control in forested areas is essential to mitigation of adverse effects.¹⁹⁰ Hence, the Certificate Order's confinement of proposed invasive species control to "*during revegetation*" is inconsistent with minimization of adverse effects.

Both the DEIS and the EIS contain the statement:

*"However, in forest the regeneration of trees would take many years, resulting in a long-term effect on forested vegetation."*¹⁹¹

¹⁸⁶ Submittal 20161121-5051 included extensive comments, to this effect, with scientific citations. For example, the commenter stated "The pipeline's construction, if approved by FERC, will create conditions that are more conducive to invasion by invasive exotic plants than the natural forests that they replace." See esp. pp. 11-17.

¹⁸⁷ "The new pipelines rights-of-way could also introduce non-native invasive species" (originally quoted from the DEIS but also present in the EIS, p. 4-181). "Removal of vegetation could increase the potential for the spread of invasive species in areas of ground disturbance and routine vegetation mowing during operation" (originally quoted from the DEIS but also present in the EIS, p. 4-177; emphasis here is on the "routine vegetation mowing" as that operation would continue for the proposed pipeline's operating lifetime). "non-native species that ... may out-compete native species and take over micro-habitats, especially in disturbed areas where native vegetation may have been removed or altered." (EIS, p. 4-173).

¹⁸⁸ Certificate Order, paragraph 204. The limitation of FERC's experience to "during revegetation" is consistent with a statement in the EIS: "The FERC staff would conduct post-construction restoration inspections to monitor for vegetation cover, invasive species, soil settling, soil compaction, excessively rocky soils, drainage problems, and erosion. Those inspections would continue until the problems are corrected and the right-of-way is stable and revegetated." (p. 2-53).

¹⁸⁹ Both the DEIS (p.5-5) and the EIS (p. 5-6) state: "However, in considering the total acres of forest affected, the quality and use of forest for wildlife habitat, and the *time required for full restoration* in temporary workspaces, we conclude that the projects would have significant impacts on forest" [Emphasis added].

¹⁹⁰ Establishment and proliferation of exotic invasive plants has potential to inhibit forest re-establishment in temporary workspaces. Certain species of exotic invasive plants, if established in temporary workspaces, have potential to persist if or as forest trees re-establish/ regenerate in those temporary workspaces. Certain species of exotic plants, if established in pipeline disturbance areas, have potential to invade, establish, and proliferate within adjacent native forest areas. Hence, failure to control establishment and proliferation of exotic invasive plants in temporary workspaces is likely to inhibit mitigation and to interfere directly with minimization of adverse effects. These concepts are stated, described, and documented in submittals 20161121-5051 and 20170725-5023.

¹⁹¹ DEIS p. 4-141; EIS p. 4-177.

Hence, it is clear that the limitation of exotic invasive plant controls within disturbed areas to two years (as stated by the Exotic and Invasive Species Control Plan, incorporated by reference into both the DEIS and the EIS)¹⁹² or to “*during revegetation*” (as stated by the Certificate Order, as quoted above) is inconsistent with minimization of adverse effects.¹⁹³ Yet, FERC has failed to note this inconsistency. Hence, it is clear that FERC has failed to apply “*reasoned analysis*” to exotic invasive plant control measures proposed by both the applicant and the DEIS/EIS; or is uninformed of scientific concepts essential to such measures; or both.

As another example of the uninformed nature of exotic invasive plant controls proposed by the applicant and, by extension, by FERC, we can consider the following statement from the Exotic and Invasive Species Control Plan. The Plan states that, if exotic invasive plants are observed in revegetated areas following the first or second growing season:

*“Eradication measures could include hand cutting unless requested to use herbicides by a state or federal management agency to achieve effective removal of these species.”*¹⁹⁴

The unlikelihood of achieving “*eradication*” of most of the exotic plant species that are problematic in the project area via “*hand cutting*” is documented by a submittal to the FERC Docket.¹⁹⁵ The existence of this highly inaccurate statement within a Plan that FERC has “concluded” to be effective demonstrates clearly that the personnel supervising this issue are uninformed concerning exotic invasive plant controls, and that FERC’s so-called conclusion is similarly uninformed. In fact, this statement’s inaccuracy undermines Mountain Valley’s supposed justification (quoted above) for the two-year time frame. Should exotic invasive plants be observed within disturbed areas by Mountain Valley after the first or second growing season, and should Mountain Valley seek to control those plants via hand cutting, it is likely that the species of plant would persist as either live seed, living plant tissue, or both. Hence, Mountain Valley’s abandonment of controls after the second growing season would enable exotic plants entering the disturbance area during the two-year monitoring period to proliferate and to invade other areas.

Also, I am unable to find in the DEIS, EIS, Certificate Order, or any other FERC document statements demonstrating recognition that effective controls of exotic invasive plants in temporary workspaces and the proposed right-of-way is essential to minimization of forest impacts. FERC’s apparent lack of recognition of this fundamental and essential concept demonstrates an “uninformed” approach to minimization of adverse effects.

(iii) The allegation’s validity is also demonstrated by FERC’s responses to the adverse-effects mitigation measures proposed by submittal 20161121-5051.¹⁹⁶ Among other responses,

¹⁹² The July 2016 revision is submittal 20170630-5393(32242507).

¹⁹³ Certificate Order, paragraph 130, states: “However, in the case of the clearing of forest, the final EIS concludes that impacts will be *long-term* and significant.” [emphasis added, presuming “long-term” to mean longer than two years or “during revegetation”].

¹⁹⁴ Exotic and Invasive Species Control Plan, p. 9 (submittal 20170630-5393(32242507))

¹⁹⁵ Submittal 20170725-5023, see p. 15-16 (“Second”); and see especially supporting documentation in Exhibit E.

¹⁹⁶ Those responses are in the EIS, Appendix AA. Submittal 20161121-5051 is classified in Appendix AA as comment

FERC states:¹⁹⁷

- “We do not believe that re-planting of trees in this ecoregion on this scale would provide a significant advantage to natural reforestation.” FERC is stating its “belief” and cites no evidence or reasoned analysis to support that belief which is contradicted by both common practice¹⁹⁸ and by scientific logic: planting of tree seedlings with intact root systems and above-ground tissue, when done properly, establishes those plants more rapidly and assuredly than does natural regeneration; while “heavy seeded” plant species, such as the oaks and hickories that are dominant in many sections of Appalachian forests, do not migrate readily areas where currently established into areas where not established.¹⁹⁹ As well as being unsupported by reasonable analysis, it appears that FERC’s belief is uninformed.
- “Replanting would limit the species planted to what is commercially available on a very large scale.” This statement demonstrates an uninformed approach by FERC to the issue of re-planting. First of all, oak species are among common of replanted species in reforestation projects, would be desirable species for planting in oak- and oak-hickory dominated forests, of which there are many along the project route. More directly, common re-planting strategies include multiple species, with major species planted in large numbers but with other species planted in smaller numbers.²⁰⁰ There is no reason to limit the species’ planted to those available “on a very large scale”, as species that are available on not-so-large scales could be included in smaller numbers. Hence, the above statement is clearly uninformed, as well as unsupported by reasoned analysis.

(iv) The allegation’s validity is also demonstrated by the “woody seed mix” proposal.²⁰¹

The “woody seed mix” proposal was not described by the DEIS; was not described clearly, as a practice similar to the EIS-proposed strategy, or as a primary means of mitigating adverse

IND244.

¹⁹⁷ Verbatim quotations of FERC’s responses, and rationales for characterizing those responses as “uninformed”, are in submittal 20170725-5023, Exhibit C and pp.11-16.

¹⁹⁸ It is common for reforestation projects to be carried out by replanting trees, not by seeding woody species. For example, reforestation for coal surface mines commonly employ replanting of trees. In fact, I am not aware of any coal-mine reforestation projects that rely on woody-plant seeding to establish primary species. As another example: tree planting is commonly employed as a means of establishing woody vegetation in riparian areas when restoring streams (see CT Agouridis et al. Planting a Riparian Buffer. University of Kentucky Cooperative Extension publication ID-185, <http://www2.ca.uky.edu/agcomm/pubs/id/id185/id185.pdf>).

¹⁹⁹ See text below that discusses issues concerning re-establishment of heavy seeded species in greater detail. See also text above in section II.B that concern “Planting of Trees”, including supporting footnote 167 (“The EIS states: ‘Based on the assessment by the FS ...’”). See also submittal 20170725-5023, p. 19, paragraph that begins “A logical method for selecting species ...” including that submittal’s footnote 76.

²⁰⁰ See Davis V, JA Burger, R Rathfon, CE Zipper, CR Miller. 2017. Selecting Tree Species for Reforestation of Appalachian Mined Lands. Chapter 7, in: Adams M.B. (ed). The Forestry Reclamation Approach: Guide to Successful Reforestation of Mined Lands. USDA Forest Service, General Technical Report NRS-169. (Reprinted from a 2012 publication, Forest Reclamation Advisory No. 9, Appalachian Regional Reforestation Initiative, US Office of Surface Mining, <https://arri.osmre.gov/>)

²⁰¹ As stated by the EIS: “In forested areas, Mountain Valley would supplement the herbaceous seed mix with a woody seed mix comprised of native overstory, understory, and shrub oak hickory forest species” (EIS p. 4-181; document p. 463 of 930). See footnote 28 above (“The DEIS document does mention ...”) for further information on the woody seed mix proposal.

effects by DEIS documents incorporated-by-reference;²⁰² but was described by the Certificate Order as “*a reasonable measure to minimize impacts on forests*”²⁰³ thereby inferring that this specific practice is essential to minimization of adverse effects. We have argued above that the woody seed mix constitutes a “substantial change” (Section II.B).

The woody seed mix proposal appears as uninformed, and its potential efficacy is not supported by reasoned analysis:

- Neither FERC nor the applicant provide or cite “reasoned analysis” to support the woody seed mix proposal as an effective mechanism for minimizing adverse effects, or as mechanism that would be more effective than the “active reforestation” measures that we have recommended.²⁰⁴ In fact FERC’s prescription of certain active reforestation measures for application in special-status areas demonstrates implicit understanding that “active reforestation” would be more effective (see point (i) above).
- The EIS proposes to seed plant species as equal weights per unit area (0.3 lbs. per acre for all species), with no consideration of differing seed densities (seeds per pound), resulting in dramatically differing numbers of seeds per acre among species;²⁰⁵ but FERC provides no basis or rationale for proposing such differing seeding rates.
- The EIS states no rationale for selection of woody species to be seeded; states no target densities or density ranges for seeded species; demonstrates no recognition of factors that might influence establishment rates of applied species or of how such establishment rates might be influenced by season, land characteristics, animal predation of seeds prior to germination, or the differing characteristics by species of the seeds themselves; or any of the other numerous factors that should be considered in order for application of woody-plant seeds to be considered as a viable strategy for forest restoration in the Appalachian mountains.²⁰⁶ While some might consider EIS specification of methods for accommodating such influences to be “flyspecking”, the EIS does not even acknowledge that such influences exist and does not specify that such factors should be considered by the applicant when selecting species for seeding and applying seed. Hence, it appears that FERC is uninformed concerning these issues; while the EIS leaves open the likelihood that convenience and cost, rather than forest re-establishment goals, would govern the applicant’s seeding practices.
- The EIS includes no rationale for selection of which woody species would be seeded in which locations or during which seasons,²⁰⁷ and states no rationale or principle for

²⁰² See footnote 28 above (“The DEIS document does mention ...”).

²⁰³ Certificate Order, paragraph 203.

²⁰⁴ See submittal 20161121-5051.

²⁰⁵ FERC-proposed seeding rates for forest overstory species are stated by submittal 20170725-5023, p. 18 Table 1; further detail on the uninformed nature of this proposal are described by accompanying text.

²⁰⁶ For background information to support this allegation, see submittal 20170725-5023, pp. 18-23 (“Proposed Woody Seed Mix Strategy is Uninformed”).

²⁰⁷ The “woody seed mix” proposal includes lists of species of three types, and states “At minimum, three of the five overstory, four of the seven understory, and two of the four shrub species will comprise the woody seed mix.” Mountain Valley Pipeline LLC, Restoration and Rehabilitation Plan, p. 7 (Submittal 20170901-5204, document p. 40 of 228).

The EIS states “In forested areas, Mountain Valley would supplement the herbaceous seed mix with a woody seed mix comprised of native overstory, understory, and shrub oak-hickory forest species”. (p. 4-181; document

species selection; again suggesting that convenience and cost, rather than forest restoration goals, would govern seeding practices. FERC, apparently, fails to recognize the potential for the strategy's application to result in establishment of pine-dominated plant communities within deciduous forest areas.²⁰⁸

- Among other species, the EIS proposes seeding of *Vitis aestivalis* (wild grape). The EIS mischaracterizes *Vitis aestivalis* as a shrub when in fact it is a vine. Also, the species has been documented as one that can and often does damage timber-producing and other overstory trees in native Appalachian forests. Hence, purposeful establishment of *Vitis aestivalis* would be contrary to the goal of restoring overstory trees, which are characteristic of Appalachian forest plant communities, in temporary workspaces; but the EIS does not recognize this characteristic of *Vitis aestivalis* (the proposed use of this species appears as uninformed), nor does it provide a rationale for the species' inclusion.²⁰⁹

- (v) The allegation's validity is also demonstrated by the EIS contention that soil compaction effects, if not mitigated by means other than discing, would be "temporary".²¹⁰

Countless peer-reviewed studies of agricultural cropping systems have demonstrated that soil compaction occurs at depths well below the upper few inches as a result of traffic by agricultural equipment and is persistent.²¹¹ Although neither application materials nor the EIS present information concerning construction equipment weights, it is reasonable to expect that pipeline construction equipment weights would be comparable to or greater than weights of typical agricultural equipment. Furthermore, agricultural producers have an incentive to prevent equipment traffic during wet-soil conditions when soils are most vulnerable to compaction, as such practice can prevent or limit soil productivity impairment; but Mountain

p. 463 of 930).

²⁰⁸ This likelihood is documented by submittal 20170725-5023, pp. 17-26.

²⁰⁹ For further information, see submittal 20170725-5023, pp. 25&26, "Wild Grape".

²¹⁰ EIS p. 4-88 (document p. 370 of 930): "*Most of the impacts on soil resources would be temporary to short term in duration, including ... soil compaction ...*".

²¹¹ Entering the search term "crops compaction persistence" into Google Scholar yields >10,000 citations. Among them are Hamza MA and Anderson WK (2005. Soil compaction in cropping systems: a review of the nature, causes and possible solutions. Soil and tillage research 82: 121-145) who state "*Wheeled traffic from machinery with axle load in excess of 9 Mg can cause increases in bulk density and penetrometer resistance in subsoil at a depth >30 cm below the surface. These changes in physical properties can lead to long-term yield suppression.*" [9 Mg = 9.9 tons as U.S. measure].

Factors that contribute to soil compaction at depth include axle weight of trafficking equipment, soil moisture, and lack of soil organic matter. Although FERC's EIS does not describe the weight of pipeline construction equipment, it is reasonable to expect the equipment to be large relative to typical agricultural equipment; but the EIS does make it clear that multiple pieces of equipment will be used, and that soils in the construction corridor and on temporary roadways will be subject to multiple soil-compaction events by construction equipment. Since topsoils will be removed prior to construction, the soils subjected to compaction will be subsoils, with relatively low organic matter contents and, therefore, more subject to compaction than would soils with higher organic matter contents. Given that pipeline construction is scheduled to occur in all seasons and that no measures are proposed by the EIS to limit construction traffic when soils are wet, it is reasonable to expect that equipment will be operating on soils that are subject to compaction due to high moisture contents.

A complete and full review of the soil compaction topic is not appropriate for this space; but FERC's suggestion that soil compaction effects would be "temporary" is not supported, is contrary to findings by dozens (if not hundreds) of peer-reviewed scientific studies that suggest otherwise, and provides evidence that the agency (and/or its staff) is uninformed concerning soil compaction effects.

Valley Pipeline LLC faces no such incentive. In fact, Mountain Valley's incentive is to continue work during wet-soil conditions so as to speed construction and reduce costs. Hence, it is clear that soil compaction in temporary workspaces would be equally or more severe than is common on agricultural lands, where scientific studies have demonstrated that disking (the decompaction practice proposed for routine application in forested areas) is inadequate to mitigate soil compaction below the upper few inches.²¹² The inadequacies of proposals for soil compaction mitigation were addressed by a DEIS comment,²¹³ but FERC has provided no reasoned analysis for its soil decompaction proposals for forested areas.

Furthermore in the subject of compaction, the EIS acknowledges the potential for pipeline construction operations to compact soils, and acknowledges that

*“Grading, spoil storage, and equipment traffic can compact soil reducing porosity and increasing runoff potential ...”*²¹⁴

However, the EIS fails to acknowledge the potential for soil compaction to inhibit natural regeneration of forest trees in any locations other than wetlands, which occur over only a small segment of the proposed pipeline corridor. Hence, the EIS fails to acknowledge soil compaction within temporary workspaces as capable of inhibiting adverse-effects' mitigation, giving the impression that FERC is uninformed on this issue; and fails to provide a reasoned analysis as an effort to justify the effectiveness of its proposed measures.

- (vi) The allegation's validity is also demonstrated by statements within the Certificate Order. Those deficiencies are described in Section II.G above.
- (vii) The allegation's validity is also demonstrated by FERC's invocation of novel mitigation strategies while employing no reasoned analysis to assess their potential for efficacy.

As one example, we have commented on the woody seed mix strategy above (part (iv) of this section). If either FERC or the applicant has provided any examples of successful application of such a reforestation strategy, I have not found it.

The proposed seeding of disturbance areas with native plant species as recommended by the Wildlife Habitat Council also appears as a novel mitigation strategy that has not been tested for adverse-effects' mitigation effectiveness. If either FERC or the applicant has provided any examples of successful application of such a seeding strategy, I have not found it. It is well known that herbaceous vegetation influences forest re-establishment success in disturbed areas.²¹⁵ If either FERC or the applicant has provided any “reasoned analysis”, or any information whatsoever, to indicate that the species selected for seeding would be compatible with forest re-establishment in temporary workspaces, I have not found it.

A review of stated expertise areas by FERC personnel reveals no information to suggest that personnel in the Office of Energy Projects (OEP) are well informed concerning issues relevant to

²¹² Additional information on this topic is presented by submittal 20170725-5023, p. 9, “Limited amelioration of soil compaction as a routine practice using disking only”. See esp. scientific references, footnote 33.

²¹³ Submittal 20161121-5051, p. 6 & 7.

²¹⁴ FERC's EIS, Section 4.2.2, “Environmental Consequences”, p. 4-81 (document p. 363 of 930).

²¹⁵ Submittal 20161121-5051 discusses this concept.

mitigation of the proposed Mountain Valley Pipeline's adverse effects. FERC's personnel listing for OEP reveals numerous engineers, but no foresters, soil scientists, plant biologists, restoration ecologists, or types of expertise that would be essential to mitigation of adverse effects.²¹⁶ While it is possible that certain FERC OEP personnel have primary expertise in such areas, that is not apparent from the expertise listing that we evaluated.

²¹⁶ Federal Energy Regulatory Commission Phone Book, 23 August 2017. Office of Energy Projects (OEP) staffing is listed as: 7 Administrative / Clericals, 5 Archeologists, 55 Biologists (specializations are environmental, fish, and wildlife), 11 Ecologists (no specializations listed), 2 Energy Industry Analysts, 166 engineers (specializations are chemical, civil, environmental, general, mechanical, petroleum), 12 Environmental Protection Specialists, 4 Geologists, 1 Historian, 8 Hydropower specialists, 20 parties with titles such as Manager or (Deputy) Director, 15 Outdoor Recreation Planners, 1 Physical Scientist, 1 Physical Security Specialist, 2 Program Analyst / Information Specialists, 2 Regulatory Gas Utility Specialists, 1 Senior Permit Coordinators, 2 Soil Conservationists, 1 Technical Adviser, 10 Trainees, and 3 with expertise unstated. In some case, I have aggregated similar titles to prepare the above list. Soil conservationists are not necessary soil scientists, since they are often focused primarily in soil erosion prevention, and not necessarily on the properties of soils as plant growth media. The FERC employee with primary responsibility for overseeing Mountain Valley Pipeline's application and EIS is stated as having expertise as an "archeologist".

IV. MOTIONS AND ARGUMENTS FOR RELIEF

A. Argument for rehearing

Should pipeline construction proceed under conditions described by the current EIS, results would include harms to the environment and to the affected landowners' interests, some of which are irreparable, that could be avoided if NEPA requirements are complied with. Those irreparable harms would result from adverse-effects mitigation measures that are clearly less effective than available and practicable alternatives described by submittal 20161121-5051 to CP16-10.

i. In the absence of rapid and effective adverse-effects' mitigation: Landowner interests would be harmed in a manner above and beyond the minimum required to build the pipeline.

Multiple owners of forested land that would be directly affected by pipeline construction have signed on to submittal 20170725-5023 (CP16-10) and have stated in comments submitted to the Commission how their interests would be harmed if the pipeline were to be constructed. These comments are excerpted in Exhibit A, as attached to this request; complete comments are available in FERC Docket CP16-10 as cited (see Exhibit A for Docket citations)..

In these comments, landowners express multiple reasons for desiring rapid and full restoration of forest trees on temporary workspaces, within their owned lands, and for desiring effective controls on exotic invasive plants that may enter their owned lands as a direct effect of pipeline construction. These include:

- Aesthetic value.
- Watershed protection.
- Wildlife enhancement
- Recreational value
- Economic value
- Avoidance of economic costs for exotic invasive species control.

Regardless of motivation, it is a landowner's right to manage owned land in a manner that suits their personal preferences, insofar as such manner is within the requirements of law. It is clear that petitioning landowners, and other landowners who have submitted related comments to the FERC Docket, wish to have their properties restored to forest vegetation, similar to that present pipeline disturbance, as rapidly and to the fullest extent that is possible.

Furthermore, proposed mitigation prescriptions fail to follow 18 CFR 380.15(b), which states that "*The desires of landowners should be taken into account.*" The landowners petitioning here desire active measures for re-establishment of forest trees in temporary workspaces within forested areas, such as re-planting of trees of species characteristic of adjacent forest, and more effective plans for control of exotic invasive plants that may become established as a result of the proposed forest disturbance. We contend that the desires of landowners petitioning here are not unique, and that these desires are shared by owners of forested land more generally; and neither FERC nor Mountain Valley has provided any information to indicate otherwise.

ii. In the absence of rapid and effective adverse-effects' mitigation: Forests and forested lands would suffer adverse effects above and beyond the minimum required to build the pipeline, and some would be irreparably harmed.

Adverse effects that would result, should FERC fail to revise the adverse-effects mitigation measures described by the EIS, so as to make them more effective as recommended herein, would be of two distinct types:

a. Above-minimum Adverse Effects: Delayed re-establishment of native forest or forest-like plant communities and ecosystems in temporary workspaces.

Such effects would occur as a result of:

- Altered soils:²¹⁷ In the absence of further FERC action as recommended herein: Forest trees would re-establish in subsoil, not topsoil.

Failure to replace topsoil can be expected to reduce growth rates of trees of most native species, however established. Topsoils often contain large pools of nutrients that are essential for tree growth but not present in large quantities in subsoils, especially nitrogen and phosphorous.²¹⁸ Topsoils typically contain nitrogen in organic forms which are retained in the soil (those forms not readily leached from the soil into groundwaters and surface waters by rainfall) and released over time through microbial conversions of organic nitrogen to mineral forms that can be taken up by trees to support growth.²¹⁹ Soil phosphorous, also a component of the soil organic matter that is contained in topsoils, is also essential to forest trees' growth.²²⁰

Although essential nutrients would be applied during restoration as fertilizer applications, such fertilizers cannot be expected to support tree growth over long terms in a manner that is similar to the release of nutrients (including nitrogen) by organic materials. Fertilizer nitrogen is typically applied as nitrate, ammonium, or ammonium-like forms such as urea. Nitrate is readily mobilized and leached from soil into groundwaters and surface waters by rainfall. Ammonium and urea forms of nitrogen when applied to well-aerated surface soils, if not taken up by plants or microbes, are converted to nitrate forms which are not retained in the soil (they are readily leached) and cannot be expected to remain available to support tree growth over multiple-year

²¹⁷ Review of scientific literature on the topic of altered soils is admittedly cursory and incomplete. My contention that loss of topsoil and non-mitigated soil compaction would have a negative impact on a forest ecosystem, and on the ability of that ecosystem's capacity for regeneration and growth, is derived from basic soil and plant science principles. Hundreds, if not thousands, of scientific studies have addressed these topics; and most are consistent with what is stated herein.

²¹⁸ Zipper CE, Burger JA, Barton CD, Skousen JG. 2013. Rebuilding soils on mined land for native forests in Appalachia, USA. *Soil Science Society of American Journal* 77: 337-349.

²¹⁹ Weil RR, Brady NC. 2016. *The nature and properties of soils*. 15th edition. Pearson. See Chapter 13, Nitrogen and Sulfur Economy of Soils.

²²⁰ Attiwill PM, Adams MA, 1993. Nutrient Cycling in Forests. *The New Phytologist* 124: 561-582. "

Vitousek PM, Porder S, Houlton BZ, Chadwick OA. 2010. Terrestrial phosphorus limitation: mechanisms, implications, and nitrogen-phosphorus interactions. *Ecological Applications* 20: 5-15.

periods.²²¹

Another problem reliance on fertilizer applications to supply a developing forest ecosystem with nitrogen is the effect on herbaceous vegetation. Nitrogen fertilizers can stimulate rapid growth by herbaceous vegetation.²²² Rapidly growing and dense herbaceous vegetation will suppress establishment, survival and growth of forest trees.²²³

Failure to replace topsoil within temporary workspaces can be expected to result in slower growth of most native trees, however established, and will therefore delay forest restoration.

Certain tree species, however, are able to obtain nitrogen from the atmosphere; these are called “nitrogen-fixing” species. Growth rates for of such species would not be slowed by lack of topsoil-supplied nitrogen. Few native tree species are nitrogen fixers. The most prominent of nitrogen-fixing native Appalachian tree species is black locust, *Robinia pseudoacacia*. This species “is often a component of mature forest on [productive Appalachian forest sites] but is seldom very abundant”.²²⁴ Among the more problematic and common exotic invasive plant species that in the project area is the nitrogen-fixing autumn olive, *Elaeagnus umbellata*, a woody species that is able to invade disturbed areas with altered soils and forms dense canopies that can suppress native tree establishment in the Appalachian mountains.²²⁵

- Altered soils: Compacted soils

Trees grow by extending their roots in the below-ground environment, as well as by extending shoots and branches above ground. Below-ground rooting is essential to above-ground growth, as the roots access the soil water and soil nutrients that enable above-ground

²²¹ Id. (Weil, Brady. 2016).

²²² This statement embodies a fundamental plant science principal, as applied to nutrient-deficient soils such as the subsoils that would be exposed by the mitigation practices defined by FERC’s EIS.

²²³ Balandier P, Collet C, Miller JH, Reynolds PE, Zedaker SM. 2005. Designing forest vegetation management strategies based on the mechanisms and dynamics of crop tree competition by neighbouring vegetation. *Forestry* 79:3-27. “During plantation establishment or natural forest regeneration after a disturbance, high light levels and, sometimes, increased availability of water and nutrients favour the development of opportunistic, fast-growing herbaceous and woody species which capture resources at the expense of crop trees. As a consequence, the growth and survival of crop trees can be dramatically reduced.”

Royo AA, Carson WP. 2006. On the formation of dense understory layers in forests worldwide: consequences and implications for forest dynamics, biodiversity, and succession. *Canadian Journal of Forest Research* 36: 1345-1362. “A dense understory canopy can suppress regeneration directly through resource competition, allelopathy, and physical impediment of seedling germination and growth, or indirectly through modifications of interspecific interactions”.

Franklin JA, Zipper CE, Burger JA, Skousen JG, Jacobs D. 2012. Influence of herbaceous ground cover on forest restoration of eastern US coal surface mines. *New Forests* 43: 905—924. “Competitive effects of dense herbaceous vegetation (ground cover) can inhibit forest restoration on mine sites.”

²²⁴ USDA Forest Service. *Silvics of North America*. Agriculture Handbook 654. https://www.na.fs.fed.us/spfo/pubs/silvics_manual/table_of_contents.htm

²²⁵ See submittal 20170725-5023, p. 85, “*Elaeagnus umbellata*, Autumn olive”.

See also Evans D.M., C.E. Zipper, J.A. Burger, B. Strahm, A. Villamagna. 2013. Reforestation practice for enhancement of ecosystem services on a compacted surface mine: Path toward ecosystem recovery. *Ecological Engineering* 51: 16-23.

See also: Oliphant AJ, RH Wynne, CE Zipper, W.M. Ford, P.F. Donovan, J. Li. 2017. Autumn olive (*Elaeagnus umbellata*) presence and proliferation on former surface coal mines in eastern USA. *Biological Invasions* 19:179–195.

growth.

Soil bulk density is a critical soil property for forest trees.²²⁶ Root growth of forest trees is limited at bulk densities greater than 1.2 g cm^{-1} and nearly stops bulk densities greater than 1.55 g cm^{-1} for clayey soils and greater than 1.7 g cm^{-1} for sandy soils.²²⁷ In order to thrive, trees of native species such as oaks and hickories must extend roots deep into the subsoil. Soils that have been compacted at depth by equipment operation, but with compaction having been mitigated only at the surface by discing, can be expected to hinder rooting by such species and, by extension, to also hinder above-ground growth.

Numerous studies have found that high soil bulk density, such as occurs in response to soil compaction, hinders both forest-tree survival and forest-tree growth on natural soils²²⁸ and on coal surface mines.²²⁹ Such results are consistent with basic soil science principles; it is reasonable to expect similar outcomes on natural soils affected by pipeline-construction disturbances.

²²⁶ Gale, M.R., D.F. Grigal, and R.B. Harding. 1991. Soil productivity index: Predictions of site quality for white spruce plantations. *Soil Sci. Soc. Am. J.* 55:1701–1708.

²²⁷ Pritchett, W.L., and R.F. Fisher. 1987. *Properties and management of forest soils*. 2nd ed. John Wiley & Sons. New York

²²⁸ See Jordan D, Ponder F, Hubbard VC. 2003. Effects of soil compaction, forest leaf litter and nitrogen fertilizer on two oak species and microbial activity. *Applied Soil Ecology* 23: 33-41. These authors demonstrated detrimental effects of soil compaction on two species of oak that occur in the project area with a greenhouse study. However, they also cite extensive scientific literature that demonstrate such detrimental effects on forest trees more generally.

See also Grigal DF. 2000. Effects of extensive forest management on soil productivity. *Forest Ecology and Management* 138: 167-185. This author evaluated effects of soil compaction, generally; and also evaluated effects of roads (the repeated equipment passes through pipeline disturbance areas indicate that these areas would be affected in a manner similar to forest harvest roads) and “disturbance” (see Table 1). The author states that: *“My qualitative evaluation of the significance of effects of extensive forest management on productivity indicates an overwhelming importance of alterations of soil physical properties (Table 1). Physical properties are easily altered, and those alterations are of relatively long duration, of high certainty, are not easily repaired, represent deviations from the natural range of conditions, and have significant and well-documented negative effects on productivity.”*

²²⁹ Andrews, J.A., J.E. Johnson, J.L. Torbert, J.A. Burger, and D.L. Kelting. 1998. Minesoil properties associated with early height growth of eastern white pine. *J. Environ. Qual.* 27:192–198.

Ashby WC. 1997. Soil ripping and herbicides enhance tree and shrub restoration on stripmines. *Restoration Ecology* 5:169–177.

Burger JA, Evans DM. 2010. Ripping compacted mine soils improved tree growth 18 years after planting. In: Barnhisel RI (ed). *Proceedings, American Society of Mining and Reclamation, 2010*, pp 55–69.

Conrad PW, Sweigard RJ, Graves DH, Ringe JM, Pelkki MH. 2002. Impacts of spoil conditions on reforestation of surface mine land. *Mining Engineering* 54:39–47.

Davidson, W.H., R.J. Hutnik, and D.E. Parr. 1984. Reforestation of mined land in the northeastern and north-central U.S. *Northern J. Appl. Forestry* 1:7–11.

Jones, A.T., J.M. Galbraith, and J.A. Burger. 2005. A forest site quality classification model for mapping reforestation potential of mine soils in the Appalachian coalfield region. In: R.I. Barnhisel, editor, *Proceedings of the American Society of Mining Reclamation, 2005*. KY. p. 523–539.

Skousen J, Gorman J, Pena-Yewtukhiw E, King J, Stewart J, Emerson P, DeLong C. 2009. Hardwood tree survival in heavy ground cover on reclaimed land in West Virginia: mowing and ripping effects. *Journal of Environmental Quality* 38:1400–1409.

Torbert JL, Burger JA. 1990. Tree survival and growth on graded and ungraded minesoil. *Tree Planters Notes* 41:3–5.

Torbert, J.L., A.R. Tuladhar, J.A. Burger, and J.C. Bell. 1988. Minesoil property effects on the height of ten-year-old white pine. *J. Environ. Qual.* 17:189–192.

- *Failure to replant trees:*

Planting of tree seedlings in disturbed areas, when done competently such that a large fraction of planted seedlings are able to survive, provides assurance that seedlings of desired species will become established during the first year. When relying on natural seeding, no such assurances are possible – especially for the oak and hickory species that are common components of most Appalachian forests. The seeds of such species are attractive to wildlife as food sources, soil conditions in disturbed areas will be dissimilar to those of natural forests, and seeded herbaceous vegetation will affect these species’ capacity for natural regeneration in disturbed areas. Hence, there is no assurance that “natural regeneration” will establish such species successfully during the first growing season, even in segments of temporary workspaces that are directly below seed-bearing branches of those species.

The likelihood of quick establishment of trees of such species in corridor segments not subject to free-fall of those species’ heavy seeds is remote, as establishment would depend on wind sufficient to blow the seeds from seed-bearing trees into non-adjacent corridor segments or on animals to carry and deposit the seeds into the disturbed areas. Even if seeds of such species were to enter such areas, soil and vegetation conditions would be dissimilar to those of natural forests where such seeds are, in the absence of excessive seed predation or deer browse, often able to germinate. The EIS supports our conclusions that oaks, hickories, and other heavy-seeded species are unlikely to establish rapidly in temporary workspaces in the absence of hand-planting:

*“Based on the assessment by the FS [Forest Service], existing species are unlikely to regenerate in the cleared areas since adequate advanced oak reproduction is lacking”.*²³⁰

When reforesting disturbed areas, it is common practice to establish heavy-seeded species by replanting because of the slow speeds at which such species are able to migrate from seed-bearing individuals across landscapes.²³¹ In any circumstance, transplanted seedlings established during revegetation would be established and growing prior to trees establishing in-situ from seed; and, hence, would grow more rapidly into mature individuals.

When reforesting disturbed areas, tree seedlings of one or two years in age are commonly planted. In order for tree planting to be successful, it is essential that the seedlings’ root systems be preserved and that planting holes be adequate to accommodate the roots.²³² Hence, planted

²³⁰ EIS, p. 4-173 (document p. 455 of 930). See also footnote 167 (The EIS states: “Based on the assessment ...”) above.

²³¹ Bradshaw, A. 2000. The use of natural processes in reclamation—Advantages and difficulties. *Landscape Urban Plann.* 51:89–100.

Davis V, JA Burger, R Rathfon, CE Zipper, CR Miller. 2017. Selecting Tree Species for Reforestation of Appalachian Mined Lands. Chapter 7, in: Adams M.B. (ed). *The Forestry Reclamation Approach: Guide to Successful Reforestation of Mined Lands*. USDA Forest Service, General Technical Report NRS-169.

Parrotta, J.A. 2001. Restoring tropical forests on lands mined for bauxite: Examples from the Brazilian Amazon. *Ecol. Eng.* 17:219–239.

Parrotta, J.A., Knowles, O.H., and Wunderle, J.M. 1997. Development of floristic diversity in 10-year-old restoration forests on a bauxite mined site in Amazonia. *For. Ecol. Manage.* 99:21–42.

²³² Davis V, J Franklin, CE Zipper, P Angel. 2017. Planting hardwood tree seedlings on reclaimed mine land in Appalachia. Chapter 9, in: Adams MB (ed). *The Forestry Reclamation Approach: Guide to Successful Reforestation of Mined Lands*. USDA Forest Service, General Technical Report NRS-169.

tree seedlings are established with living and functional rooting systems. In contrast, trees establishing from seed must grow roots as the first stage of establishment. Thus, trees were to be become established in-situ from seed (whether of natural origin or applied by a mechanical seeder) during the first year following disturbance, the transplanted seedlings would have a one- or two-year head start on the seedlings originating from in-situ seed.

Peer-reviewed scientific research has found that transplanted seedlings had greater survival and were taller after one growing season than seed-grown seedlings, when testing re-establishment, techniques for American chestnut on coal surface mines.²³³

To summarize: If exotic invasive plants are controlled successfully, forest plant communities consistent with forest restoration goals will become established in temporary workspaces more rapidly relative to reliance in natural regeneration, if seedlings of essential restoration species are planted,.

- *Failure to monitor and follow-up with appropriate management where needed:*

Monitoring and follow-up are essential to any plant-community restoration strategy, given that establishment success will be influenced by natural processes over which the party intending restoration has no control. The monitoring activity would determine, after an initial time period, if target forest-tree species have established at intended rates and if unintended processes with potential to interfere with restoration are occurring. If target tree species are found to be establishing at less-than intended rates, additional effort to establish target species (such as additional re-planting of seedlings) can be undertaken. If unintended effects with potential to interfere with restoration are found to be occurring, remedial actions intended to forestall such unintended effects can be undertaken.

For Mountain Valley Pipeline, monitoring of temporary workspaces in years following restoration would determine rates of native forest tree re-establishment. If re-establishment rates were less than what was expected based on review of reforestation studies from similar areas, or were less in some Mountain Valley Pipeline reforestation areas than in other areas, or were less for specific species than intended, additional seedlings could be planted as needed to remediate those deficiencies.

Within the project area and more widely, excessive browsing by white-tailed deer has been found to inhibit re-establishment of native trees following disturbance.²³⁴ Should such be detected by post-revegetation monitoring within temporary workspaces of a given area, that unintended effect could be mitigated by re-planting of seedlings with deer-browse protection.

Within the project area and more widely, proliferation of invasive plants are major problem; certain of the invasive plant species that are common in the project area are capable of inhibiting forest regeneration.²³⁵ Should such be detected by post-construction monitoring within

²³³ Fields-Johnson C.W., J.A. Burger, D.M. Evans, C.E. Zipper. 2012. American chestnut establishment techniques on reclaimed Appalachian surface mined lands. *Ecological Restoration* 30:99-101.

²³⁴ See Submittal 20161121-5051, p. 9.

See also: Royo, A.A., Kramer, D.W., Miller, K.V., Nibbelink, N.P. and Stout, S.L., 2017. Spatio-temporal variation in foodscapes modifies deer browsing impact on vegetation. *Landscape Ecology* (posted as "online first", as of this writing).

²³⁵ As documented by submittal 20161121-5051, pp. 11-13; and by submittal 20170725-5023, Exhibit E ("Exotic invasive plant species known as especially problematic in and near proposed disturbance areas").

temporary workspaces, that unintended effect could be mitigated by appropriate remedial action.

Under the FERC Plan: Should tree species essential to adverse effects' mitigation fail to establish successfully during the first year or two, those problems would not be detected and the forest re-establishment process in temporary workspaces would be further delayed.

b. Above-minimum Adverse Effects: Establishment of altered plant communities in disturbance areas.

“Altered plant communities”, as that term is used here, means plant communities that are dissimilar in character to those present prior to pipeline construction. Should the applicant’s revegetation efforts cause altered plant communities to become established in temporary workspaces, forest plant communities would not be restored. Hence, adverse-effects mitigation efforts would not be successful

Such effects would occur as a result of:

- Altered soils:

The subsoils intended by the EIS for reforestation would differ from pre-construction soils in at least two respects:

- Lack of topsoil: The EIS proposes to remove topsoil from disturbance areas but does not propose to replace it.
- Soil compaction: EIS proposals fail to include assured amelioration of the soil compaction that will occur in temporary workspaces, if the pipeline is constructed as proposed.

The consequences of these proposed practices are described above, and would include reduced forest productivity. Even if comprised of similar species to the undisturbed native forest, a plant community growing with reduced productivity would be an altered plant community and would not constitute successful restoration.

Forests are ecosystems; as such, the soil is a component of the forest.

- Altered Native-Species Composition:

It is quite possible that such could occur as a result of FERC’s failure to prescribe tree-planting (as discussed above). Certain species of trees common to native forests, such as oaks and hickories, would not migrate easily into temporary workspaces, due to their heavy seeds which are attractive to wildlife as food sources and are not blown readily by the wind.

It is also possible that such could occur as a result of the proposed “woody seed mix” seeding strategy due to predominance of pine species in such seed mixes.²³⁶ Should conditions be favorable to pines’ germination and establishment where seed mix is applied within a deciduous forest area, the seeding strategy would produce a forest dominated by coniferous species. Such result would be an altered plant community, and would not constitute successful

²³⁶ See submittal 20170725-5023, pp. 17-26. See also section II.G above (“Uninformed: Natural Recruitment”).

restoration.²³⁷

- *Altered Species Composition Due to Presence of Exotic Invasive Plants:*

The lack of effective controls for exotic invasive plants is an essential consideration for our designation of potential damages as “irreparable harm”. The fact that large segments of the proposed corridor occur within Large Core forests and forests of High to Outstanding quality suggests that exotic invasive plants are not currently present within much of the forest area intended for disturbance.²³⁸ As noted, however, by submittals 20161121-5051 and 20170725-5023:²³⁹

- Exotic invasive plant species disperse across landscapes. Hence, an absence of exotic invasive plants in a given area at the time of construction disturbance cannot be interpreted to indicate that exotic invasive plants would remain absent from that area permanently.²⁴⁰
- Conditions created by pipeline construction, in the absence of effective exotic-invasive plant controls, can be expected enhance exotic species dispersal through the corridor. Such conditions include the removal of forest canopy, soil disturbances, the creation of open-sun and forest-edge habitat, the creation of open corridors that would enable movement of wildlife, people, vehicles, and corridor maintenance equipment, all of which can serve as vectors for dispersal of invasive plants.²⁴¹
- Certain species of exotic invasive plants can established under conditions of open sun or forest edge, and can either suppress forest-tree re-establishment and/or persist in the emerging plant community during forest re-establishment.²⁴²
- Certain species of exotic invasive plants, once established in forest openings or other areas adjacent to forest plant communities, can migrate into those adjacent forests and become part of those plant communities.²⁴³

Should exotic invasive plants become established as persistent and influential components of ecosystems within temporary workspace areas intended for forest regeneration, the resulting

²³⁷ The majority of forest disturbances are proposed for deciduous forest areas. According to EIS Table 4.4.1-1, 88% of forest disturbances are proposed for deciduous forest (EIS, p. 4-165; document p. 447 of 930).

²³⁸ As noted by the EIS Executive Summary (p. ES-7): “The MVP would impact about 2,428 acres of contiguous interior forest designated as Large Core (greater than 500 acres) forest areas in West Virginia. In Virginia, the MVP would impact about 547 acres of contiguous interior forest during construction classified as High to Outstanding quality. “

²³⁹ Submittal 20161121-5051, pp 14&15 (including footnotes); submittal 20170725-5023, Appendix E including Table F-1, and submittal 20170725-5023, pp. 14-17.

²⁴⁰ For supporting detail: see submittal 20161121-5051, pp. 13&14, paragraphs that begin “Invasive plant species disperse across landscapes” and “My own experience as a landowner ...”

²⁴¹ For supporting detail: see submittal 20161121-5051, section entitled “Proposed monitoring/control plan, confined to 2 years, will be ineffective” (starts on p. 13); see also submittal 20170725-5023, Exhibit E including Table F-1 (should be Table E-1) on pp. 84-86; and see also submittal 20170920-5051, pp. 2&3 (“Exotic invasive plant controls”).

²⁴² For supporting detail: see submittal 20170725-5023, Exhibit E including Table F-1 (should be Table E-1) on pp. 84-86.

²⁴³ For supporting detail: : see submittal 20170725-5023, Exhibit E including Table F-1 (ibid. above).

environments would be described ‘novel ecosystems.’²⁴⁴ Establishment of novel ecosystems in disturbed areas would not constitute successful forest restoration or successful mitigation of adverse effects. Should exotic invasive plants become established in disturbed areas, disperse from those areas into adjacent forests, and become established as persistent components of those adjacent forests, results would include adverse effects in addition to those described by the EIS.

The above scenarios are far from speculative. Submittal 20161121-5051 described seven exotic invasive plant species with potential to interfere with natural forest regeneration, become established in forest understories, or invade and persist in forest overstories.²⁴⁵ Submittal 20170112-5005 supported the contention that exotic invasive plant controls, more effective than those prescribed by the EIS, are practicable. Submittal 20170725-5023 provided further documentation for those allegations, and documented additional exotic invasive plant species with potential to interfere with adverse-effects mitigation in the absence of effective controls.²⁴⁶ Submittal 0170920-5051 provided further support for contention that more effective exotic invasive plant controls are essential to mitigation of EIS-defined adverse effects.

The EIS demonstrates that invasive species incursions into disturbance areas are possible or likely under current proposed plans. The EIS states:

“Removal of vegetation could increase the potential for the spread of invasive species in areas of ground disturbance and routine vegetation mowing during operation.”²⁴⁷

“Invasive species could also spread during operation due to transmission of seeds or viable plant fragments from infested areas via mowing equipment. Mountain Valley and Equitrans have also committed to monitoring for invasive species for at least two growing seasons following construction.”²⁴⁸

iii. In the absence of rapid and effective adverse-effects’ mitigation: Valued environmental resources will suffer EIS-defined adverse effects, and other forms of injury above and beyond the minimum required to build the pipeline, and some would be irreparably harmed.

- *Appalachian forest resources*

Forests are valued, both locally within Appalachia and worldwide, for the environmental

²⁴⁴ “Novel ecosystems” are ecosystems that “comprise different species, interactions and functions”, relative to natural ecosystems. Quote from: Hobbs, R.J., Higgs, E. and Harris, J.A., 2009. Novel ecosystems: implications for conservation and restoration. *Trends in ecology & evolution*, 24(11), pp.599-605.

See also: Hobbs, R.J., Arico, S., Aronson, J., Baron, J.S., Bridgewater, P., Cramer, V.A., Epstein, P.R., Ewel, J.J., Klink, C.A., Lugo, A.E. and Norton, D., 2006. Novel ecosystems: theoretical and management aspects of the new ecological world order. *Global ecology and biogeography*, 15(1), pp.1-7.

Entry of the term “novel ecosystems” (with quotes) into Google Scholar yields 5390 results (18 Sept.2017).

²⁴⁵ Submittal 20161121-5051, p. 10, first full paragraph.

²⁴⁶ Submittal 20170725-5023, Appendix E.

²⁴⁷ EIS, p. 4-177 (document p. 459 of 930).

²⁴⁸ EIS, pp. 4-189&190 (document pp. 471&472 of 930).

quality and ecosystem services that they provide. As noted by United Nations' Food and Agriculture Organization:²⁴⁹

“The contributions of forests to the well-being of humankind are extraordinarily vast and far-reaching. Forests play a fundamental role in combating rural poverty, ensuring food security and providing decent livelihoods; they offer promising mid-term green growth opportunities; and they deliver vital long-term ecosystem services, such as clean air and water, conservation of biodiversity and mitigation of climate change.”

As noted by US Forest Service:²⁵⁰

“Forests are invaluable to our Nation's well-being economically and ecologically. Forests provide innumerable benefits in the form of tangible products like sawtimber and pulpwood; nonwood forest products like mushrooms and berries; and intangible services such as aesthetics, carbon sequestration, wildlife habitat, recreation, and water quality improvement. Tracking this precious resource, therefore, is vital to our national security and the health of our Nation.”

Appalachian forests are of ecological significance globally as well as locally.²⁵¹ Temperate-region forests, such as those occurring in Appalachia areas proposed for disturbance by the EIS are the world's most biologically productive non-tropical forest ecosystems; and temperate broadleaf forests such as those proposed for disturbance are among the world's richest non-tropical forests.²⁵² Compared to other of the world's temperate forests, Appalachia's are among the world's most diverse, as they contain far more plant and animal species than European forests, for example.²⁵³ Among the world's temperate forests, Appalachia's are the best preserved and most extensive.²⁵⁴

The adverse effects to forest proposed by the EIS are significant and would be felt over extensive areas. The FEIS states that 4,874 acres of forest would be directly affected by construction, and an additional 21,773 acres of would be converted from forest to forest edge.²⁵⁵ Hence, a total of 26,674 forest acres would be affected directly and indirectly by the pipeline's construction.

²⁴⁹ Food and Agriculture Organization of the United Nations. 2016. Global Forest Resources Assessment 2015. <http://www.fao.org/3/a-i4793e.pdf>

²⁵⁰ US Forest Service. 2014. Forest Resources of the United States, 2012. Forest Service Technical Report WO-91. https://www.srs.fs.usda.gov/pubs/gtr/gtr_wo091.pdf

²⁵¹ Ricketts TH, Dinerstein E, Olson DM, Loucks CJ, Eichbaum W, DellaSalla D, Kavanagh K, Hedao P, Hurley P, Carney K, Abell R, Walters S. 1999. Terrestrial ecoregions of North America: a conservation assessment. Island Press, Washington.

²⁵² We use the term “richest” to mean the most tree species. Data from Lliang J et al. 2016. Positive biodiversity-productivity relationship predominant in global forests. *Science* 354:196, and 354 (6309), aaf8957 1-12.

²⁵³ Pickering J, Kays R, Meier A et al. 2003) The Appalachians. In: Gil PR, Mittermeier RA, Mittermeier CG, et al. (eds), *Wilderness - Earth's Last Wild Places*. Conservation International, Washington, DC.

²⁵⁴ Riitters KH, Wickham JD, O'Neill RV et al. 2000. Global scale patterns of forest fragmentation. *Conservation Ecology* 4(2):3 [online] URL: <http://www.ecologyandsociety.org/vol4/iss2/art3/>

²⁵⁵ EIS, Executive Summary, p. ES-5 (document p. 45 of 930).

Of the 4,874 acres of forest that would be directly, approximately 3,164 acres would be temporary workspaces and available for reforestation and adverse-effects mitigation.²⁵⁶ Hence, up to 3,164 acres of temporary workspaces directly by increasing the likelihood that forest ecosystems would be established in these areas directly. Given that some temporary workspaces are roads and workyards that are not directly adjacent to the pipeline right-of-way, an even greater area of forest-to-edge-habitat conversions would be mitigated more effectively if FERC were to prescribe mitigation measures adequate to reduce adverse effects more effectively than what is currently proposed, as recommended herein and in accord with FERC's responsibilities under NEPA and the NGA.

- *Segments of forest that are of exceptional environmental value within the Appalachian Forest*

Many of the forested areas potentially affected by pipeline construction are of exceptionally high value and environmental significance within the Appalachian forest. As noted by the EIS:²⁵⁷

“The MVP would impact about 2,428 acres of contiguous interior forest designated as Large Core (greater than 500 acres) forest areas in West Virginia. In Virginia, the MVP would impact about 547 acres of contiguous interior forest during construction classified as High to Outstanding quality.”

Thus, approximately 60% of proposed forest disturbance would occur within Large Core areas (in WV) or forests of High to Outstanding quality (in VA).

Most of the proposed pipeline's forest impacts would occur within the mixed mesophytic segment of the Appalachian forest, described as “The richest forests, in terms of species”.²⁵⁸ E.L. Braun (1950) tallied >50 overstory tree species in different segments of the mixed mesophytic forest, and noted that the mixed mesophytic segment of the Appalachian forest is exceptionally rich and diverse.²⁵⁹

Approximately 80 miles of the pipeline corridor occur within “Forest Legacy Areas”, which have been described by US Congress as “environmentally important forest areas”.²⁶⁰

Much of the eastern West Virginia region proposed for impact contains forests that are exceptionally well preserved, as that region of the state remains unaffected by the surface coal mining and hydrofracturing activities that have affected other Appalachian forest areas.²⁶¹

²⁵⁶ Data on direct effects are from FEIS, Table 4.8.1-1, p. 4-248, document p. 540 of 930.

²⁵⁷ EIS, p. ES-7 (document p. 45 of 930).

²⁵⁸ Quote from: E.O. Box, 2015, Warm-temperate deciduous forests of eastern North America. Pp. 225-256, in: E.O. Box and K. Fujowara (eds.). 2015. Warm-Temperate Deciduous Forests around the Northern Hemisphere. Springer International Publishing, Switzerland (p. 227). The mixed mesophytic forest designation dates from E.L. Braun's Ph.D. dissertation in 1914.

The mixed mesophytic segment of the Appalachian forest was described to FERC with greater detail and documentation in submittal 20170221-5103 to CP16-10, Section 3, “Adverse effects to forest.”

²⁵⁹ E.L. Braun. 1950, Deciduous Forests of Eastern North America. Collier MacMillan, New York and London.

²⁶⁰ See West Virginia Division of Forestry, “About the Forest Legacy Program”, http://www.wvforestry.com/forest_legacy_program.cfm?menucall=flp

²⁶¹ Submittal 20170221-5103, Section 3, Adverse Effects to Forest, pp. 14-24.

- Visual resources:

If the pipeline is constructed as proposed, the cleared corridor would be visible over large areas within a region that is known for its scenic beauty.²⁶² More effective forest restoration within temporary workspaces of the pipeline corridor would reduce visual impacts of construction by reducing the deforested corridor's width from 125 feet to 50 feet more assuredly and more rapidly than would occur under FERC's prescriptions. Failure to perform effective reforestation would enable 125-foot corridor visual impacts to persist for longer durations than would occur if more effective measures were to be adopted as we recommend.

Should the proposed woody seed mix strategy result in preferential establishment of pines in temporary workspaces of highly visible corridor segments within deciduous forest, that outcome would enhance the corridors' visibility.²⁶³ That enhancement would be highly visible during deciduous trees' leaf-off seasons, during which coniferous vegetation retains needles and green coloration, but would also be visible during leaf-on seasons due to the differing colorations and textures of deciduous and coniferous canopies.

Should the lack of effective invasive species controls enable dense establishment highly visible invasive plants within pipeline corridor, that outcome would enhance the corridor's visibility. Autumn olive (*Elaeagnus umbellata*) is an invasive shrub that is prolific in parts of the project area and has a significant potential for establishment in disturbed areas in the absence of effective controls. Autumn olive is capable of forming dense monotypic stands.²⁶⁴ Autumn olive is highly visible within deciduous forest landscapes during certain seasons: Early spring, when it leafs out sooner than most native hardwoods; mid-spring, when its light-green coloration and white flowers create visual contrasts to most native deciduous vegetation; and late autumn, as it retains its leaves longer than most native deciduous vegetation.²⁶⁵ Should autumn olive become established and proliferate in temporary workspaces to an extent that it suppresses regeneration of native trees,²⁶⁶ such effect would also enhance corridor visibility over longer terms than is necessary for pipeline construction.

Visual resources are important economic and environmental assets in the project area. For example, Giles and Roanoke Counties have stated:

"From the Counties' perspectives, the visual impacts of the permanent ROW are among the greatest impacts of the MVP Project as they will affect all residents and visitors to the Counties. This is due in large part to the location of the permanent ROW on hillsides and steep slopes which will be visible from multiple

²⁶² See submittal 20161213-5106, which was submitted during the DEIS comment period and contains multiple visibility analyses. See also submittal 20161121-5049, also submitted during the DEIS comment period, especially pp. 7 & 8, "Visual Resource Impacts are Not Insignificant."

²⁶³ See Section II.G, "Uninformed: Natural Recruitment", above.

²⁶⁴ Oliphant AJ, RH Wynne, CE Zipper, W.M. Ford, P.F. Donovan, J. Li. 2017. Autumn olive (*Elaeagnus umbellata*) presence and proliferation on former surface coal mines in eastern USA. *Biological Invasions* 19:179–195. See especially Figure 1.

²⁶⁵ See Figure 3 in: Oliphant AJ, RH Wynne, CE Zipper, W.M. Ford, P.F. Donovan, J. Li. 2017. Autumn olive (*Elaeagnus umbellata*) presence and proliferation on former surface coal mines in eastern USA. *Biological Invasions* 19:179–195.

²⁶⁶ As documented by Evans DM, Zipper CE, Burger JA, Strahm B, Villamagna A. 2013. Reforestation practice for enhancement of ecosystem services on a compacted surface mine: Path toward ecosystem recovery. *Ecological Engineering* 51: 16-23.

locations, even those miles away. The Counties are sensitive to these impacts as they bear on both quality of life for existing and potential residents and enjoyment by visitors.”²⁶⁷

- Recreational resources: The Appalachian National Scenic Trail

The visual resource impacts discussed above will affect users of the Appalachian National Scenic Trail, and will degrade the Trail’s scenic character, if the pipeline is constructed as proposed. The Appalachian National Scenic Trail is a valued recreational resource within the project area and more widely.

Organizations charged with the Trail’s management have expressed concern with visual impacts that would be caused by the pipeline’s construction. The Appalachian Trail Conservancy states:

“The Appalachian Trail Conservancy (ATC) is strongly opposed to the proposed Mountain Valley Pipeline project, which would dramatically scar the scenic landscape of the Appalachian Trail (A.T.) ... Multiple iconic viewpoints in Virginia are predicted to be severely impacted, including Angels Rest, Kelly Knob, Rice Fields and Dragons Tooth — some of the most visited and photographed locations on the entire A.T.”²⁶⁸

Both the Appalachian Trail Conservancy and the Roanoke Appalachian Trail Club have submitted filings to FERC expressing concern with the proposed pipeline’s effects on Appalachian National Scenic Trail visual resources.²⁶⁹ As stated above under “Visual resources”, more effective forest restoration within temporary workspaces of the pipeline corridor would reduce visual impacts.

iv. Numerous irregularities in the FERC process.

Those irregularities include:

- Failure to require mitigation adequate to minimize adverse effects using practicable measures as per requirements of NEPA and of federal regulations governing its own activities;
- A process for prescribing the at-issue mitigation failed to satisfy FERC’s Certification Policy;
- Failure to follow Certification Policy procedures more generally;
- Issuance of the Certificate Order under a Certification Policy that is not NEPA compliant;

²⁶⁷ Quoted from submittal 20170918-5180 by Giles and Roanoke Counties, p. 13.

²⁶⁸ Appalachian Trail Conservancy, <https://www.appalachiantrail.org/home/conservation/advocacy/conservation-current-issues-full-story/advocacy---current-issues/2017/06/15/mountain-valley-pipeline-project-threatens-ecosystems-and-landscape-of-virginia-and-west-virginia>

²⁶⁹ See, for example, submittals 20170222-5062 and 20161208-5043 (ATC); 20161220-5163 (RATC as submitted by ATC); and 20170620-5108, 20170223-5090, and 20161221-5276 (RATC). This is just a partial listing of filings by these two organizations expressing concern with visual impacts of Mountain Valley Pipeline, if constructed as proposed, on the Appalachian National Scenic Trail. Potomac Appalachian Trail Club (submittal 20170626-5009) expressed a similar concern.

- Adverse effects’ mitigation prescriptions that appear as uninformed by basic soil, plant, and ecosystem restoration science principles; and are not supported or justified by reasoned analyses;
- The Certificate Order includes uninformed, misleading, and false statements
- The prescriptions for mitigation of adverse effects to forest, and the Certificate Order which embodies them, appear to be “arbitrary and capricious”
- These errors are “Extraordinary Circumstances” that justify reopening the record and other relief.

B. Motion for stay and argument for such

The standard that the Commission uses for granting a stay is whether “justice so requires.”²⁷⁰ Here, the interests of justice require that the Certificate and any potential disturbance of forested areas be stayed pending the Commission’s decision on this request for rehearing.

In addressing a motion for stay, the Commission considers “(1) whether the moving party will suffer irreparable injury without the stay; (2) whether issuing the stay will substantially harm other parties; and (3) whether the stay is in the public interest.”²⁷¹ Furthermore, “[t]he key element in the inquiry is irreparable injury to the moving party.”²⁷² Courts also take into account the availability of a legal remedy for the harm caused, as well as the likelihood of success on the merits.

Here, justice requires the granting of Petitioners’ request for a stay. Absent such a stay, Petitioners will be left without an adequate remedy at law to address the irreparable harms inflicted by the construction. In addition, the public will permanently lose important environmental resources. If Petitioners prevail on rehearing, or prevail on judicial review, they will have already suffered irreversible harms relating to forest-land disturbance if such activities are permitted to proceed. Thus, absent a stay by the Commission, meaningful judicial review could be hindered if not foreclosed.

We request a stay of forest and forested-land disturbance until such time as FERC completes the requested remedial actions and the applicant is able to demonstrate appropriate plans and capabilities to comply with the remediated EIS and Certificate Order.

i. A stay is necessary to avoid irreparable injury

An injury is “irreparable” if damages are not adequate to compensate the injury.²⁷³ “Environmental injury, by its nature, can seldom be adequately remedied by money damages and is often permanent or at least of long duration, i.e., irreparable.”²⁷⁴

²⁷⁰ 5 U.S.C. § 705.

²⁷¹ 98 FERC ¶ 61,086

²⁷² Id. (98 FERC ¶ 61,086)

²⁷³ Greater Yellowstone Coalition v. Flowers, 321 F.3d 1250, 1258 (10th Cir. 2003).

²⁷⁴ Amoco Production Co. v. Village of Gambell, 480 U.S. 531, 545 (1987); see also Brady Campaign to Prevent Gun Violence v. Salazar, 612 F. Supp. 2d 1, 25 (D.D.C. 2009) (“[E]nvironmental and aesthetic injuries are

Absent a stay, forest disturbances would move forward without an adequate plan for mitigation, thus precluding mitigation adequate to satisfy FERC's obligations under NEPA, NGA, and federal regulations governing its own actions; and with a likelihood of causing irreparable harms. Establishment of altered plant communities in temporary workspaces would be likely in the absence of our requested actions and, for practical purposes, would be irreversible. Similarly, establishment of exotic invasive plant species in disturbance areas often becomes, for practical purposes, irreversible if those plants are allowed to produce and disperse seed or other propagules to the surrounding environment – as would be likely given FERC's plans to monitor and attempt to control invasive plant incursions for only two years as proposed by the applicant. While it would be physically possible for the applicant to repair such damage by removing the plant materials and affected soils²⁷⁵ so as to initiate a new round of revegetation on freshly prepared soils, such an outcome is not likely or feasible in a practical sense; and would be especially infeasible in areas of thin soils of which there are many in forested areas of the pipeline corridor.

Parties injured by establishment of altered plant communities in temporary workspaces and by establishment of exotic invasive plants on pipeline right-of-ways, would include:

- owners of potentially affected forested lands who are petitioners herein;
- other owners of potentially affected forested lands who, although not parties to this request, share our values and interests;
- parties enjoying visual resources in the project area, including residents and tourists, many of whom visit the area for recreation;
- users of recreational resources in the project area such as the Appalachian National Scenic Trail;
- area residents more generally given the ecological importance of Appalachian forests to the local environment; and the nature of ecosystem services provided by local forests such as water quality and watershed protection;
- and human beings more generally, given the ecological importance of Appalachian forests in a global context.

We note that all of these interests would suffer injury even if FERC were to act as advocated by this rehearing-and-stay request, but those injuries would be greater than the minimum necessary to build the pipeline should FERC fail to take the actions requested herein.

It is essential that forest disturbance should not proceed in the absence of restoration plan adequate to satisfy FERC obligations and, hence, more effective than what is proposed. Should forest disturbances move forward in a manner that precludes mitigation adequate to minimize

irreparable.”)

²⁷⁵ Removal of affected soils would be required to replace one plant community with another, in the absence of extended treatment, if undesirable produce viable seed that enters the soil or produce roots that can remain viable even if plant top material to be removed. Many exotic invasive plant species that are present in the project have these characteristics. For example, tree of heaven (*Ailanthus altissima*), autumn olive (*Elaeagnus umbellata*), multiflora rose (*Rosa multiflora*), and Japanese stiltgrass (*Microstegium vimineum*) all produce copious amounts of seed, which are spread by environmental vectors where they become lodged in the soil; and are also capable of reproducing by sprouting from live roots.

adverse effects to forest, results would include irreparable harm to the above-stated interests.

Topsoil:

A stay is necessary to prevent clearing and grading operations by the applicant from occurring in a manner that would preclude topsoil replacement in forest restoration areas. Failure to replace topsoil in forest-disturbance areas intended for forest restoration would cause irreparable harm.

Pipeline construction would be initiated by removal of trees and other vegetation, topsoil, and large rocks from the construction corridor. Clearing the right-of-way would involve removing topsoil as well as trees, shrubs, brush, roots, and large rocks. Petitioners allege that forest topsoil is an essential resource that is of significant value for forest restoration, as it contains essential nutrients in organic forms, organic materials that affect the physical properties of the soil in a manner that is conducive to forest tree growth and forest restoration, and propagules such as living roots and viable seeds of forest plants that can aid regeneration of forest plant communities. Petitioners allege that soil is essential to the forest; and that topsoil replacement is essential to achieving the maximum potential and practicable level of forest restoration.

It can be noted that the EIS describes “impacts on forested *land*” to be adverse effects.²⁷⁶ Appalachian forested land has soil media comprised of topsoils over subsoils, with trees and other forest plants growing in that topsoil-over-subsoil soil medium. Forests are ecosystems; an ecosystem is

*“A biological community of interacting organisms and their physical environment”.*²⁷⁷

Soil is an essential component of Appalachian forest ecosystems and of the physical environment that is essential for Appalachian forest trees.

The EIS states “restoration” as a goal for minimizing adverse effects. The EIS states “*time required for full restoration in temporary workspaces*” as a reason for concluding that “*MVP would have significant impacts on forest.*”²⁷⁸ The term “restoration”, as commonly used, means “a bringing back to a former position or condition.”²⁷⁹ Regulations implementing NEPA state:

*“Federal agencies shall, to the fullest extent possible ... **restore** and enhance the quality of the human environment ... ”*²⁸⁰

indicating that the EIS goal of “restoration” is NEPA-compliant.

All of this leads to the conclusion that replacement of topsoil, so as to reconstruct a forest soil medium similar to that preceding disturbance to the extent that is possible using practicable measures, should be considered as essential to ecosystem restoration of temporary workspaces in

²⁷⁶ Quoted text is from p. 5-1, first page of section entitled “Conclusion and Recommendations” for the EIS.

²⁷⁷ English Oxford Living Dictionaries, <https://en.oxforddictionaries.com/definition/ecosystem>

²⁷⁸ EIS, Executive Summary, p. ES-7. Similar statements are present in the body of the document.

²⁷⁹ Excerpt of definition of “restoration” by Merriam-Webster, <https://www.merriam-webster.com/dictionary/restoration> Other dictionaries contain similar definitions.

²⁸⁰ Ibid. (40 CFR § 1500.2).

disturbed forest areas.

The manner in which topsoil is removed, and managed subsequent to removal will influence the feasibility of its replacement following construction. As stated by the EIS:²⁸¹

“Clearing and grading would remove trees, shrubs, brush, roots, and large rocks from the construction work area and would level the right-of-way surface to allow operation of construction equipment.”

“Grading would be conducted where necessary to provide a reasonably level work surface. More extensive grading, referred to as two-tone construction, would be required in uneven terrain and where the right-of-way traverses side slopes. Equipment used for clearing and grading activities could include grinding machines, motor-graders, bulldozers, track-hoes, and dump trucks.”

“The Applicants have indicated that they would separate topsoil from subsoil in residential and agricultural areas. Mountain Valley would also segregate topsoil within the Jefferson National Forest.”

In the absence of a stay of forest disturbance as requested herein, clearing and grading operations in forested areas other than Jefferson National Forest would be likely to occur in a manner that mixes topsoil with other soil materials and with clearing and disturbance debris, and therefore would preclude its replacement on surface subsequent to construction.

Since segregation and replacement of topsoil on disturbed areas is practicable and would restore pre-disturbance conditions to a greater extent than would lack of such practice, it is clear that minimization of adverse effects requires segregation and replacement of topsoil on disturbed areas. Topsoil segregation and replacement must be conducted in disturbed areas, especially temporary workspaces in forested areas, in order to avoid irreparable harm to the above-named interests and essential environmental resources. Hence, a stay of further disturbance of forested areas, until such time as EIS and Certificate Order deficiencies can be remedied and the applicant is able develop an appropriate response, is essential to avoid irreparable harm.

Essential Equipment, Contracts, and Plans:

A stay is also necessary to ensure that equipment, contracts, and plans essential to NEPA-compliant mitigation measures should be in place prior to forest disturbances. The EIS states

*“Construction and restoration at any particular point along the pipeline route would take about 3 weeks to complete; although progress could be delayed by topography, weather, or other factors”.*²⁸²

Although the 3-week period stated above does not include clearing, grading, and trenching, the statement makes clear the applicant’s intent to move quickly once construction-related activities have begun. Should the construction and revegetation process in a given area be completed in the absence of equipment, contracts, and plans essential to adverse-effects minimization, results would be similar to those described above: failure to minimize adverse effects; establishment of altered plant communities in disturbance areas including temporary workspaces; and injuries to

²⁸¹ EIS, Section 2.4.2.2 Clearing and Grading, p. 2-37 (document p. 141 of 930).

²⁸² EIS, p. 2-35 (document p. 139 of 930).

the above-stated interests. Given the unlikelihood that the applicant would volunteer or that FERC would require re-disturbance of previously revegetated areas, the injuries caused by inadequate mitigation would be, for all practical purposes, irreparable.

Equipment, contracts, and plans required to execute NEPA- and FERC-compliant mitigation, but not required for the current EIS-proposed mitigation, include the following:

- A. Adequate supplies of any materials that will be needed to conduct topsoil segregation and replacement over forested areas, including erosion-control supplies that may be applied when segregating and replacing topsoil on slopes.²⁸³
- B. Equipment needed for routine testing of disturbed soils for compaction; and equipment needed for at-depth decompaction of soils that have become compacted by pipeline construction activities.²⁸⁴

Should revegetation occur in the absence of such essential equipment, results would likely include compacted soils and impaired forest-tree growth in temporary workspaces. Depending on the degree of unmitigated compaction, such results could also include conditions favorable to exotic invasive plants that are able to thrive on compacted soils.²⁸⁵

- C. Plans for planting of tree seedlings in temporary workspaces, including species and quantities suitable for forest restoration.

Such plans should include details such as numbers of seedlings by species per acre for disturbance areas of different types (landscape position, aspect, adjacent forest type, etc.); total numbers of seedlings, by species, required by planting season (etc.). Such plans would be essential to enable tree procurement and planting contracts, as stated below.

- D. Contracts for procurement of tree seedlings of suitable species and in quantities adequate for planting according to the above plans; and plans or contracts for personnel to conduct the planting operations.²⁸⁶

²⁸³ It is clear that such procedures are practicable, given that the EIS proposes segregation and replacement of topsoil within Jefferson National Forest, where forested slopes are among the steepest for the entire project; those procedures would likely employ “erosion blankets” and similar materials as means of preventing excessive erosion despite the steep slopes.

²⁸⁴ The EIS states that “*Compaction testing would be left to the discretion of the EI except for in agricultural and residential areas where Mountain Valley’s EIs would conduct topsoil and subsoil compaction tests using a penetrometer or other appropriate device at regular intervals. The results of the compaction tests would be compared and matched to undisturbed soil under similar moisture conditions to ensure any affected soils are properly decompacted. If compaction is found to have occurred, the area would be tilled and retested. If additional decompaction of the area is required, deep tilling would be used*” (p. 4-85; document p. 367 of 930).

Thus, it is clear that the applicant would have available equipment for soil compaction testing and soil decompaction at depth (deep tillage). However, EIS Table 4.8.1-1 (“Land Use Types Affected by Construction and Operation of the Mountain Valley Project and the Equitrans Expansion Project”) states that forested lands disturbed by pipeline construction (4874 acres) would far exceed agricultural and residential lands (976 acres, in total). Hence, it is not clear that the equipment available for soil compaction testing and decompaction via deep tillage would be adequate, should routine usage be required in forest-disturbance areas as we advocate here.

²⁸⁵ Such as autumn olive, *Elaeagnus umbellata*, which is common in parts of the project area; is classified as “noxious” by West Virginia Department of Agriculture, “highly invasive” by West Virginia Department of Natural Resources, and with a “high” invasiveness rank by Virginia Department of Conservation and Recreation; and is well-adapted to and prolific on compacted surface-soils in Virginia and West Virginia (see AO Oliphant et al. 2017, Biological Invasions 19:179–195; C.E. Zipper et al. 2011, Journal of Environmental Quality 40:1567-1577).

²⁸⁶ Multiple firms are available to conduct tree-planting over extensive areas, such as coal surface mines and other large-area disturbances. Such firms are able to provide the tree seedlings to be planted, if contracted to do so

E. Plans for monitoring of revegetation efforts.

Who would conduct post-revegetation monitoring of revegetation in temporary workspaces? When, how frequently, and over what time period would monitoring be conducted to determine if forest trees characteristic of Appalachian forests are establishing successfully? What species would be considered as characteristic of Appalachian forest and indicative of tree-establishment success? What density of characteristic tree establishment would be considered as adequate? How would growth rates of established trees be evaluated? What rate of growth would be considered as adequate? If inadequate forest-tree establishment and/or growth were to be found, how would factors responsible for the poor establishment and/or growth (causation) be assessed?

F. Plans for follow-up of revegetation monitoring efforts.

Such plans would include at least two components:

- i. Plans for remedial actions that would take place if post-revegetation monitoring were to find establishment and/or growth of forest trees to be inadequate. Such plans should consider possible mechanisms of causation (Poor quality soils? Excessive deer browse? Excessive competition by native herbaceous plants? Excessive competition by exotic invasive plants?), and should describe remedial actions appropriate to each potential cause.
- ii. Plans for monitoring and control of exotic invasive plants that would be adequate to the nature of the disturbance and would extend for the life of the project.

In the absence of a stay of forest disturbance as requested herein, such disturbance would occur in the absence of equipment, contracts, and plans essential to adequate mitigation of adverse effects. Hence, such disturbance would occur with a likelihood of being inadequately mitigated as needed to satisfy NEPA requirements; and leading to irreparable harm to the above-stated interests.

Absent a Stay, Petitioners Will Suffer Irreparable Injury: Petitioners live, work and recreate along the proposed pipeline route. Given the nature of this project as set forth in the EIS, Intervenor’s injury would be “likely” to occur.²⁸⁷

Petitioners have stated their interests and potentials for irreparable harm in the FERC Docket (see Exhibit A). Excerpts from those statements follow below.

*“I am signing on to Mr. Zipper’s comments as a landowner whose property will be basically destroyed by the MVP.”*²⁸⁸

with sufficient time in advance of the planned plantings. In the Appalachian region, large-area tree plantings are typically conducted in late winter – early spring (see submittal 20161121-5051, pp. 8&9, “Re-Planting of trees and associated management”).

²⁸⁷ See, e.g., *Moussa I. Kourouma d/b/a Quntum Energy, LLC*, 137 FERC ¶ 61,205, 62,142 (Nov. 16, 2011); see also *Wisc. Gas Co. v. FERC*, 758 F.2d 669, 674 (D.C. Cir. 1985).

²⁸⁸ Comments by Mr. Maury Johnson, of Monroe County WV, an intervenor. Submittal 20170731-5051 to CP16-10. Mr. Johnson is a registered intervenor who forwarded his submittal to the service list on 31 July 2017, Subject = “Please be advised that over the weekend, July 29th thru July 31st I submitted the following documents with FERC, The USFS and the BLM.”

“My use and enjoyment of the property will be diminished by the loss of forest trees, other vegetation, and wildlife that would be caused by pipeline construction. I want disturbed areas to be restored to a condition that is as similar as possible to what is in place right now, and to have that restoration occur quickly as possible.”²⁸⁹

“I value the forest on my property and, as a landowner, it is my strong desire that any areas of forest destroyed by pipeline construction should be restored to native forest vegetation with native forest trees, and that such restoration should occur as rapidly as possible.”²⁹⁰

“In their present form, the mitigation measures proposed by EQT for the MVP are deficient, and these deficiencies will be borne by the many families along the MVP route.”²⁹¹

“The aesthetic value of the fall foliage is priceless for us as landowners but also adds economic value when the property was operated as a bed-and-breakfast. The property could be an operating B&B again in the future and the loss of mature hardwoods is difficult to calculate as an attraction in the fall months to potential guests.”²⁹²

“By removing the forest in a 125’ corridor, our use and enjoyment of our property will be greatly diminished. The loss of forest trees and other vegetation will disturb the wildlife and beauty of this forest. We want disturbed areas of our property to be restored to a condition that is as similar as possible to what is in place right now, and to have that restoration occur as soon as possible. That means replanting all areas possible with live trees and vegetation of the same species as those being removed for construction.”²⁹³

“We most certainly value the forest on our property. As landowners, it is our strong desire that any areas of forest destroyed by pipeline construction be restored to native forest vegetation with native forest trees, and that such restoration should occur as rapidly as possible.”²⁹⁴

“We want seedlings planted to quickly and effectively reestablish the forest. Our forest is part of the beauty of our property and should not be destroyed to generate profit for a private company.”²⁹⁵

²⁸⁹ Comment by Mr. Bruce Zoecklein, Submittal 20170731-5052 to CP16-10.

²⁹⁰ Comment by Ms. Pam Ferrante, of Montgomery County VA, an intervenor. Submittal 20170731-5063 to CP 16-10. Ms. Ferrante is a registered intervenor who forwarded her comments to the service list on 30 July 2017.

²⁹¹ Comment by Mr. Dwayne Milam, Summers County WV. Submittal 20170801-5227 to CP16-10.

²⁹² Comment by Mr. Mode Johnson, Montgomery County VA. Submittal 20170803-5053 to CP16-10. Mr. Johnson is a registered intervenor who forwarded his comments to the service list on 30 July 2017.

²⁹³ Comment by Thomas W and Bonnie Triplett, of Montgomery County VA. Submittal 20170803-5154 to CP16-10. Thomas W. Triplett is a registered intervenor who forwarded his comments to the service list on 3 August 2017.

²⁹⁴ Comment by Thomas W and Bonnie Triplett, of Montgomery County VA. Submittal 20170803-5154 to CP16-10. Thomas W. Triplett is a registered intervenor who forwarded his comments to the service list on 3 August 2017.

²⁹⁵ Comment by Thomas W and Bonnie Triplett, Montgomery County VA. Submittal 20170803-5154 to CP16-10.

“It is imperative that the MVP parties be required to utilize the most effective forest reforestation strategies available.”²⁹⁶

“I value the forest on my property. As a landowner, it is my strong desire that any areas of forest destroyed by pipeline construction should be restored to native forest vegetation with native forest trees, and that such restoration should occur as rapidly as possible.”²⁹⁷

“My use and enjoyment of the property will be diminished by the loss of forest trees, other vegetation, and wildlife that would be caused by pipeline construction. I want disturbed areas of my property to be restored to a condition that is similar to what is in place right now, and to have that restoration done quickly.”²⁹⁸

“I strongly feel that any areas of my property destroyed, if construction occurs, should be restored to native forest trees, and this should be done as quickly as possible!”²⁹⁹

“The forest land on my 5th generation family farm, known as the Welford Dowdy property, located on Old Furnace Road, Newport, VA, Giles County, will be devastated by clearing, mowing, grubbing, trenching, blasting, pipe welding etc. ... I value the forest on my property. As a landowner, it is my strong desire that any areas of forest destroyed by pipeline construction should be restored to native forest vegetation with native forest trees, and that such restoration should occur as rapidly as possible.”³⁰⁰

“I value the forest on my property. As a seventh-generation landowner, it is my fervent wish that any areas of forest destroyed by pipeline construction should be restored to native forest vegetation with native forest trees (oaks, maples, locusts, preferably hardwoods such as those presently growing on the property of 69.5 acres). Furthermore, this native forest restoration should be done as quickly as possible.”³⁰¹

No amount of money can mitigate what will be done to the land which has been in my family since the 1790s when it was bought by a fifth-great grandfather, a

Thomas W. Triplett is a registered intervenor who forwarded his comments to the service list on 3 August 2017.

²⁹⁶ Comment by Mr. Zane Lawhorn, Princeton WV. Submittal 20170807-5003 to CP16-10. Mr. Lawhorn is a registered intervenor who forwarded his comments to the service list on 11 August 2017.

²⁹⁷ Comment by Mr. Cliff Shaffer, Giles County VA. Submittal 20170807-5051(32323867) to CP16-10. Mr. Shaffer is a registered intervenor who forwarded his comments to the service list on 7 August 2017.

²⁹⁸ Comment by Mr. Del Dyer, Montgomery County VA. Submittal 20170808-0055(32328894) to CP16-10. Mr. Dyer is a registered intervenor who forwarded his comments to the service list on 4 August 2017.

²⁹⁹ Comment by Mr. Cletus Bohon, Elliston (Montgomery County) VA. Submittal 20170811-0011(32343060) to CP16-10.

³⁰⁰ Comment by Ms. Frances Dowdy Collins of Riner, Virginia, an owner of forested land in Newport (Giles County), Virginia. Submittal 20170811-0012(32343061) to CP16-10.

³⁰¹ Comment by Ms. Brenda Lynn Williams, Newport (Giles County) VA. Submittal 20170815-0040(32347778) to CP16-10.

Revolutionary War veteran. My use and pride in the property will be diminished by the loss of my trees, other vegetation (including strawberry and blackberry bushes), and wildlife that would result from pipeline building. I want disturbed regions of my land to be restored to a condition as identical as possible to what presently grows there today, and to have that replanting happen as rapidly as possible.”³⁰²

“We value the forest on our properties. As landowners, it must be required that any areas of forest destroyed by pipeline construction be restored to native forest vegetation with native forest trees, and that such restoration should occur as rapidly as possible, if indeed it is possible.”³⁰³

ii. A stay will not substantially harm other parties.

The injury to Petitioners, the public, and the environment outweighs any harm that a stay may cause the applicants or the Commission. If Petitioners’ request is granted, and the Certificate is revoked or suspended, applicants obviously should not suffer irreparable harm by a stay pending a final decision in this matter. To the extent that Petitioners’ Request is granted but construction is merely delayed until the EIS is amended such that it complies with environmental law (NEPA) and Commission requirements, any injury from such delay would not be “damages” in a legal sense.

Economic harm is not irreparable and does not provide an adequate basis for denying a stay.³⁰⁴ To the extent that pipeline construction is allowed once compliance with NEPA and FERC Certification Policy has been achieved, any delays in pipeline operations would be purely temporary economic harms while the undisputed environmental harms in this case are permanent and irreversible.³⁰⁵

In any event, any injury to applicants due to prematurely proceeding with construction would be “self-inflicted” because they assumed the risk that Petitioners’ request for rehearing might be granted. Such self-inflicted harm caused by “jump[ing] the gun” or “anticipat[ing] a pro forma result” in permitting applications makes the pipeline companies “largely responsible for their own harm.”³⁰⁶ Under such circumstances, the pipeline companies’ assumption of the risk weighs heavily against any harm they might claim based on the issuance of a stay.³⁰⁷

³⁰² Comment by Ms. Brenda Lynn Williams, Newport (Giles County) VA. Submittal 20170815-0040(32347778) to CP16-10.

³⁰³ Submittal 20170911-0014(32394277) to CP16-10.

³⁰⁴ See e.g., *Sampson v. Murray*, 415 U.S. 61, 90 (1974) (potential monetary injury is not irreparable).

³⁰⁵ See, e.g., *OVEC v. U.S. Army Corps of Eng’s*, 528 F. Supp. 2d 625, 632 (S.D. W. Va., 2007) (“Money can be earned, lost, and earned again; a valley once filled is gone.”); *San Louis Valley Ecosystem Council v. U.S. Fish & Wildlife Serv.*, 657 F. Supp. 2d 1233, 1242 (D. Colo. 2009) (“delay in drilling the exploratory wells is not irreparable. . . .”); *Alaska Center for the Env’t v. West*, 31 F. Supp. 2d 714, 723 (D. Alaska 1998) (longer permit processing time was “not of consequence sufficient to outweigh irreversible harm to the environment”); *Citizen’s Alert Regarding the Env’t v. U.S. Dep’t of Justice*, 1995 WL 748246, *11 (D.D.C. Apr. 15, 1995) (potential loss of revenue, jobs, and monetary investment that would be caused by project delay did not outweigh “permanent destruction of environmental values that, once lost, may never again be replicated.”)

³⁰⁶ *Sierra Club v. U.S. Army Corps of Engineers*, 645 F.3d 978, 997 (8th Cir. 2011); see also *Davis v. Mineta*, 302 F.3d 1104, 1116 (10th Cir. 2002).

³⁰⁷ *Id.* (*Sierra Club v. U.S. Army Corps of Engineers*; *Davis v. Mineta*).

Thus, in contrast to the irreparable injury that Petitioners, other forested-land owners with comparable interests and values, and the Appalachian forests that the EIS has found would be adversely affect if the pipeline is constructed as proposed, any potential harm to the applicants from delaying construction to ensure compliance with the law is minimal. Granting a stay that prohibits the forest-disturbances activities authorized by the Certificate Order³⁰⁸ would only serve to preserve the *status quo* until the parties have fully resolved their claims.

iii. A stay is in the public interest.

The Natural Gas Act, under which FERC derives its authority to certificate new interstate natural-gas pipelines, bestows upon FERC such authority only if the new natural-gas pipeline will serve the “public interest”.³⁰⁹ Because Petitioners seek to compel compliance with a federal law designed by Congress to protect the environment (NEPA) and with FERC’s own regulatory obligations³¹⁰, and because a stay would prevent permanent environmental damage, the public interest weighs heavily in favor of granting a stay.

The public interest is protected by preventing irreparable harm to the environment that will result from the construction activities.³¹¹ Moreover, the public interest is served by ensuring that federal agencies scrupulously comply with their statutory duties.³¹² The public “has a strong interest in maintaining the balance Congress sought to establish between economic gain and environmental protection.”³¹³

Given the high stakes, a stay of the Certificate and construction pending a final decision on the merits is clearly in the public interest. A stay will help ensure that a full and complete analysis of potential mitigation measures occur before alternatives are foreclosed by the construction. Furthermore, given the level of interest demonstrated by the public in this controversial pipeline project, the public interest lies in maintaining the status quo until the pending request is considered fully on the merits.³¹⁴

³⁰⁸ *Ibid.*, footnote 3 (161 FERC ¶ 61,043; Dockets CP16-10-000 and CP16-13-000).

³⁰⁹ 615 USC 717h. “Whenever the Commission, after notice and opportunity for hearing, finds such action necessary or desirable in the **public interest**, it may by order direct a natural-gas company to extend or improve its transportation facilities ...” [emphasis added].

³¹⁰ 18 CFR 380.15

³¹¹ See *Nat’l Wildlife Fed’n v. Burford*, 676 F. Supp. 271, 279 (D.D.C. 1985) (“a preliminary injunction would serve the public by protecting the environment from any threat of permanent damage”).

³¹² See *Fund for Animals v. Espy*, 814 F. Supp. at 152 (finding “meticulous compliance with the law by public officials” as relevant to the public interest); *Citizen’s Alert*, 1995 WL 748246, *11 (compliance with law “is especially appropriate in light of the strong public policy expressed in the nation’s environmental laws” (citation omitted)).

³¹³ *OVEC*, 528 F. Supp. 2d at 633

³¹⁴ See *San Luis Valley Ecosystem Council v. U.S. Fish & Wildlife Serv.*, 657 F. Supp. 2d 1233, 1242 (D. Colo. 2009).

iv. Justice requires that the Certificate Order and forest disturbance be stayed pending rehearing and judicial review.

Consideration of the elements described above strongly favors the granting of a stay. Furthermore, where, as here, the parties requesting a stay are likely to succeed on the merits, justice requires granting a stay. The Commission has noted in previous orders that the factors it examines when considering whether to grant a stay do not include the likelihood of success on the merits. However, this inquiry is intertwined with the inquiry regarding whether justice requires a stay. If the party requesting a stay is likely to prevail, this tips the balance in favor of granting the stay. It would be unjust to allow the project proponents to move forward with construction activities that would cause irreversible environmental harm even though Petitioners are likely to succeed on the merits.³¹⁵

³¹⁵ See *Found. on Econ. Trends v. Heckler*, 756 F.2d 143, 157 (D.C. Cir. 1985) (“If plaintiffs succeed on the merits, then the lack of an adequate environmental consideration looms as a serious, immediate, and irreparable injury.”).

C. Motion for additional relief and arguments for such

A Revised EIS is Needed. The EIS fails to satisfy a fundamental NEPA requirement: Use of practicable measures to minimize adverse effects. The EIS reveals a decisionmaking process that can be described, at best, as “*uninformed*”, and resulting decisions that are not supported or justified by reasoned analysis. Available and practicable measures that the EIS failed to prescribe were described and documented as such in multiple submittals to FERC by a registered intervenor and in accord with FERC policies; several of those submittals occurred during the DEIS comment period and were submitted in accord with FERC policies. Yet, FERC failed to give such comments reasoned analysis.

The EIS and the process by which it was developed fail; to follow legal requirements. The EIS should be withdrawn.

A Revised Certification Policy is Needed: FERC’s Certification Policy includes no requirement for minimization of adverse effects as defined under NEPA. Here, FERC has issued a Certificate which its personnel, apparently, believe to satisfy its Certification Policy; yet it fails to satisfy NEPA requirements. Furthermore, the record reveals no effort or activity by FERC conducted with the intent of determining if mitigation requirements satisfy NEPA. Yet the Certificate Order was issued despite these clear deficiencies. FERC should revise its Certification Policy in a manner that clarifies the term “adverse effects”³¹⁶ and in a manner that requires minimization of NEPA-defined adverse effects using practicable measures.

The Certificate Order Should be Withdrawn by FERC: Reasons for withdrawing the Certificate Order include the following:

- The Certificate Order was developed under a Certification Policy that is non-compliant with NEPA.
- FERC failed to follow procedures described by its Certification Policy while preparing its Certificate Order.
- The Certificate Order fails to require mitigation using measures that are available and are practicable, and would reduce EIS-defined adverse effects relative to is proposed; is therefore non-compliant with NEPA, with federal regulations that apply directly to FERC, and with FERC’s obligations under the NGA.
- The Certificate Order includes uninformed statements that concern mitigation of NEPA-defined adverse effects.
- The Certificate Order includes misleading statements that concern mitigation of NEPA-defined adverse effects.
- The Certificate Order includes false statements that concern mitigation of NEPA-defined adverse effects; including a false statement fundamental to the Order.
- The process for prescribing mitigation of EIS-defined adverse effects and which led to the Certificate Order was arbitrary and capricious.

³¹⁶ The Certification Policy uses the term “adverse effects” and analogous terms (“adverse impacts”, “adverse environmental effects”) repeatedly, but often in a manner that is inconsistent with NEPA; and the Certification Policy does not mention NEPA or NEPA compliance.

A Stay of Land Disturbance is Needed Pending Remedy of Deficiencies:

FERC's prescriptions for mitigation of adverse effects to forests and forested lands fail to minimize EIS-defined adverse effects. FERC's comments and statements demonstrate that the agency's process is uninformed concerning mitigation of adverse effects to forest within the Appalachian mountains, and likely within other segments of the project area. Should pipeline construction proceed despite these deficiencies, interests of forest landowners would be irreparably harmed; as would Appalachian forest resources that are highly significant, both locally and globally; and as would visual resources within segments of the mountainous project area from which the pipeline corridor would be visible including multiple viewpoints and segments of the Appalachian National Scenic Trail.

The majority (82%) of the lands proposed for disturbance are forested.³¹⁷ Disturbance of forested lands is essential to pipeline construction as proposed, but forested lands' disturbances are essential to the issues raised herein. The proposed pipeline cannot be constructed in the absence of forested lands' disturbance, yet FERC proposals for mitigation of such disturbances are clearly inadequate. Hence, all forms of land disturbance should be stayed pending remediation of the deficiencies described herein.

A stay is necessary to prevent clearing and grading operations by the applicant from occurring in a manner that would preclude topsoil replacement in forest restoration areas. Given that the applicant plans to conduct topsoil segregation and replacement on National Forest lands, it is clear that topsoil replacement, as well as essential to adverse-effects' mitigation, is practicable. A stay is also necessary to ensure that equipment, contracts, and plans essential to NEPA-compliant mitigation measures would be in place prior to forest disturbances

Absent a stay, forest disturbances would move forward without an adequate plan for mitigation, thus precluding mitigation adequate to minimize adverse effects and to satisfy FERC's obligations; and with a likelihood of causing irreparable harms. Such harms would include altered plant communities and forest soils within temporary workspaces and enhanced potentials for exotic species invasions of disturbance areas and adjacent forests.

Numerous parties would suffer injuries in the event of such outcomes, including owners of forested lands impacted by pipeline construction; parties enjoying visual resources within the project area; parties enjoying recreational resources dependent upon pipeline-affected visual quality such as the Appalachian National Scenic Trail; area residents who would be affected by the loss of ecosystem services (such as water quality and watershed protection) that are provided by area forests; and human beings more generally, given the ecological importance of Appalachian forests in a global context.

³¹⁷ FERC's EIS states that "The MVP pipeline route would cross about 249 miles of forested land (82 percent of the route)" (p. 4-301; document p. 583 of 930).

V. FERC’S ISSUANCE OF AN ORDER GRANTING REHEARING FOR FURTHER CONSIDERATION WILL BE DEEMED A DENIAL OF INTERVENORS’ REQUEST FOR REHEARING AND RELIEF

Under the NGA, unless FERC “acts upon” a request for rehearing “within thirty days after it is filed,” the request for rehearing “may be deemed to have been denied.”³¹⁸ Congress expressly defined the “acts” that FERC may take upon a request for rehearing – FERC “shall have power to grant or deny rehearing or to abrogate or modify its order without further hearing.”³¹⁹ If FERC does not take one of these enumerated actions upon a request for rehearing within 30 days, an aggrieved party may file a petition for review in the appropriate Court of Appeals.³²⁰

Instead of “act[ing] upon” a request for rehearing as Congress intended, FERC often issues an “order granting rehearing for further consideration,” commonly referred to as a tolling order. Although tolling orders purportedly “grant” rehearing, no such rehearing is actually granted. Rather, tolling orders simply “afford [FERC] additional time” to consider requests for rehearing beyond the statute’s 30-day time period.³²¹ FERC’s use of tolling orders in NGA certificate proceedings has allowed project proponents to engage in extensive construction activities (and in some cases place facilities into service) before FERC addresses the issues raised in timely filed rehearing requests, thus effectively depriving parties of judicial review.³²²

The issuance of a tolling order in response to Intervenor’s request for rehearing in this proceeding will be considered a denial of rehearing. Intervenor’s members and the natural environment (as per the EIS designation of “adverse effects”) will suffer irreparable harm from implementation of forest disturbances by Mountain Valley Pipeline LLC. Intervenor must have an opportunity for judicial review of FERC’s Certificate Order in a timely manner, as Congress intended. Therefore, if FERC issues a tolling order in response to Intervenor’s request for rehearing, it will be deemed a denial of rehearing and intervenors will seek immediate review of the Certificate Order in an appropriate Court of Law.

³¹⁸ 15 U.S.C. §717r(a)

³¹⁹ *Id.* (15 U.S.C. §717r(a)).

³²⁰ See 15 U.S.C. § 717r(b).

³²¹ See e.g., National Fuel Gas Supply Corp., Order Granting Rehearing For Further Consideration (Docket No. CP14-70-000, Accession No. 20150416-3002)

³²² e.g., Delaware Riverkeepers Network vs. FERC, D.C. Circuit Court of Appeals. Decided 6 June 2014.

VI. CONCLUSION

FERC asserts that its proposed adverse-effects' mitigation measures are adequate to minimize EIS-defined adverse effects. We contend that alternative means for mitigating adverse effects are available and are practicable, and would reduce adverse effects to a greater extent than would measures prescribed by FERC; and therefore are preferable under NEPA, the NGA, and federal regulations that apply directly to FERC as alternatives to measures prescribed by FERC.

Furthermore, we contend that FERC's statements concerning mitigation of adverse effects in EIS (including Appendix AA) and its Certification Order demonstrate that the FERC process was uninformed concerning mitigation of the adverse effects that would accompany Mountain Valley Pipeline if constructed as proposed; and that proposed adverse-effects' mitigation prescriptions are not supported or justified by reasoned analysis. We contend that FERC has made errors of process, including evaluation of the applicant's proposed adverse effects' mitigation measures in a manner that fails to comply with its own Certification Policy, conducting its evaluation under a Certification Policy that is not NEPA compliant, and issuing a Certificate Order that includes uninformed, misleading, and false statements of direct relevance to the issues raised herein as well as propagating the above-described EIS deficiencies.

For the reasons stated above, FERC should:

- Grant a rehearing of the Certificate Order;
- Withdraw its deficient EIS; and revise such EIS to be compliant with legal requirements;
- Withdraw its current policies and procedures for evaluating new natural gas pipeline applications ("Certification Policy"), and revise and reissue such to be NEPA compliant;
- Withdraw its Certificate Order which was issued following a process that did not conform to its own Certification Policy (even though that policy was not NEPA compliant); and which contained uninformed, misleading, and false statements.
- Re-evaluate its Certificate Order in light of said revised EIS and said revised policies and procedures; and, if it chooses to reissue a revised version of such, ensure that it contains no uninformed, misleading, or false statements; and that it prescribes mitigation measures that minimize adverse effects as per FERC's responsibilities under NEPA, NGA, and federal regulations governing its activities.
- Stay any disturbance of forested lands, and any disturbance of other lands in light of the predominance of forested lands within the proposed disturbance, pending remediation of these FERC deficiencies, and pending applicant's demonstration of appropriate plans and capabilities to comply with the revised EIS and the revised Certificate Order

Respectfully submitted on behalf of all Petitioners, 13 November 2017.

Carl E. Zipper
Blacksburg VA 24060

EXHIBIT A. Excerpts from Statements by Landowners and Others Whose Interests Would Be Harmed in the Absence of More Effective Mitigation of Adverse Effects

Table 1. List of parties submitting supporting comments for and signing on to submittal 20170725-5023 in FERC Docket CP16-10.

FERC #	Filer	Intervener / Copied to Service List	Interests affected, as stated
20170728-5099(32302289)	Roanoke Appalachian Trail Club	No / No	Appalachian Trail
20170731-5051(32323089)	Maury Johnson	Yes/Yes	Owned forest land
20170731-5052(32303922)	Bruce Zoecklein	Yes / No	Owned forest land
20170731-5063(32304096)	Pam Ferrante	Yes / Yes	Owned forest land
20170801-5044(32307865)	Joey Fagan	Yes / Yes	Resident of potentially affected area.
20170801-5227(32310092)	Dwayne Milam	Yes / Yes	Owned forest land
20170803-5053(32315624)	Mode Johnson	Yes / Yes	Owned forest land
20170803-5154(32318070)	Tom Triplett	Yes / Yes	Owned forest land
20170804-5057(32318470)	Robert Jones	Yes / Yes	Owned forest land
20170807-5003(32323024)	Zane Lawhorn	Yes / Yes	Owned forest land
20170807-5051(32323867)	Cliff Shaffer	Yes / Yes	Owned forest land
20170808-0055(32328894)	Del Dyer	Yes / Yes	Owned forest land
20170811-0011(32343060)	Cletus Bohon	No / No	Owned forest land
20170811-0012(32343061)	Frances Dowdy Collins	No / No	Owned forest land
20170815-0040(32347778)	Brenda Lynn Williams	No / No	Owned forest land
20170911-0014(32394277)	Jerry and Jerolyn Deplazes	No / No	Owned forest land
20170914-5092(32401003)	Thomas and Susan Bouldin	Yes/Yes	Residents and owners of land in potentially affected area

- Maury Johnson, of Monroe County WV, an intervenor who states:³²³

“I am signing on to Mr. Zipper’s comments as a landowner whose property will be basically destroyed by the MVP. It would cross over 2000 ft of my family’s farm, including more than 1000 feet of forest, much of which is on a steep slope. I am totally in support of Mr. Zipper’s submittal ...

One of my major concern is that the invasive plants are not already in the forest. The pipeline corridor would provide a “roadway” from the open and forest-edge areas, where they are established - into the deep forest where they are not established. The invasive plants on my farm are in open spaces where they are easier to control without any herbicides.”

³²³ Submittal 20170731-5051 to CP16-10. Mr. Johnson is a registered intervenor who forwarded his submittal to the service list on 31 July 2017, Subject = “Please be advised that over the weekend, July 29th thru July 31st I submitted the following documents with FERC, The USFS and the BLM.”

- Bruce Zoecklein, of Montgomery County VA, who states that:

“I am writing to support and to sign on to the letter sent by Carl E. Zipper to the Commission on 25 July 2017.”

“My property is composed of forests that could be affected by the Mountain Valley Pipeline ... My use and enjoyment of the property will be diminished by the loss of forest trees, other vegetation, and wildlife that would be caused by pipeline construction. I want disturbed areas to be restored to a condition that is as similar as possible to what is in place right now, and to have that restoration occur quickly as possible.”³²⁴

- Pam Ferrante, of Montgomery County VA, an intervenor who states:

“I am writing to support and to sign on to the letter sent by Carl E. Zipper to the Commission concerning adverse effects to forest resources that would be caused by Mountain Valley Pipeline if constructed.”

“I am an owner of forested land that would be directly affected by the construction Mountain Valley Pipeline ... The 18-acre property is completely covered by a forest canopy ... The proposed pipeline route will bisect my property resulting in one-third (6.2 acres) of the forest being destroyed by the construction easement ... I value the forest on my property and, as a landowner, it is my strong desire that any areas of forest destroyed by pipeline construction should be restored to native forest vegetation with native forest trees, and that such restoration should occur as rapidly as possible ... My use and enjoyment of the property will be greatly diminished by the loss of forest trees, other vegetation, and wildlife by the pipeline construction ...”³²⁵

- Dwayne Milam, of Summers County WV, who states:³²⁶

“I am writing to support and to sign on to the letter sent by Carl E. Zipper to the Commission on 25 July 2017 ... I agree with Mr. Zipper’s arguments, and I sign on to and support his requests.

“MVP’s plan is to route the 125’ construction corridor through our forested ridge-top land which has not been timbered in 50 years and through our agricultural fields ... Keeney Mountain is the source of numerous small headwater streams and larger streams which form a vital part of the watershed for the Greenbrier and New Rivers. ... Most families here rely on well or spring water ... Farming families depend on their land and forests as a source of income. Invasive plant species are a constant threat to farmland ... In their present form, the mitigation measures proposed by EQT for the MVP are deficient, and these deficiencies will be borne by the many families along the MVP route.”

³²⁴ Submittal 20170731-5052 to CP16-10.

³²⁵ Submittal 20170731-5063 to CP 16-10. Ms. Ferrante is a registered intervenor who forwarded her comments to the service list on 30 July 2017.

³²⁶ Submittal 20170801-5227 to CP16-10.

- Mode Johnson, of Montgomery County VA, an intervenor who states:³²⁷

“I am writing to support and to sign on to the letter sent by Carl E. Zipper, Ph.D. a senior university faculty member and scientific researcher in the areas of native forest tree and other vegetation, to the Commission on 25 July 2017.

I am a Registered Intervener for FERC Docket CP16-10 and owner of forested land that would be directly affected by the Mountain Valley Pipeline, if constructed.

I value the forest on my property ... The aesthetic value of the fall foliage is priceless for us as landowners but also adds economic value when the property was operated as a bed-and-breakfast. The property could be an operating B&B again in the future and the loss of mature hardwoods is difficult to calculate as an attraction in the fall months to potential guests.”

- Thomas W and Bonnie Triplett, of Montgomery County VA (Thomas W. Triplett is a registered intervenor) who state that:

“We are writing to support and sign on to the letter sent by Carl E. Zipper to the Commission on 25 July 2017.”

“We are property owners in the Mount Tabor Area of Montgomery County, Blacksburg, Virginia. We own 32.5 acres of forested land. Approximately 1300 feet of the proposed Mountain Valley Pipeline, passes directly through the middle of our land. This property consists of heavily forested, MATURE hardwoods. Oak, Maple, Hickory Walnut, Butternut, Poplar, Dogwood and many other species of trees and bushes populate the landscape. Many trees exceed 24” in diameter and are well over 100 years old.”

“By removing the forest in a 125’ corridor, our use and enjoyment of our property will be greatly diminished. The loss of forest trees and other vegetation will disturb the wildlife and beauty of this forest. We want disturbed areas of our property to be restored to a condition that is as similar as possible to what is in place right now, and to have that restoration occur as soon as possible. That means replanting all areas possible with live trees and vegetation of the same species as those being removed for construction.”³²⁸

- Dr. and Ms. Robert Jones, of Montgomery County VA (Dr. Robert Jones is a registered intervenor) who state that:³²⁹

“We are writing to support and to sign on to the letter sent by Dr. Carl E. Zipper to the Commission on 25 July 2017.”

“We own forested land that would be directly affected by the Mountain Valley

³²⁷ Submittal 20170803-5053 to CP16-10. Mr. Johnson is a registered intervenor who forwarded his comments to the service list on 30 July 2017.

³²⁸ Submittal 20170803-5154 to CP16-10. Thomas Triplett is a registered intervenor who forwarded his comments to the service list on 3 August 2017.

³²⁹ Submittal 20170804-5057(32318470) to CP16-10. Mr Jones is a registered intervenor who forwarded his comments to the service list on 4 August 2017.

Pipeline, if constructed ... We have 73 acres of which about 50 are forested. If the pipeline crosses our property, it will destroy nearly 4 acres of trees, including the largest bigtooth aspen in the Commonwealth of Virginia. The other trees on the pipeline path are various hardwoods. The entire 1,400-foot-long pipeline path on our property is forested and 80% forested on its unfortunate five-mile-long path through the Mount Tabor area. We have had a Virginia Forest Plan for our property for four years.”

“We most certainly value the forest on our property. As landowners, it is our strong desire that any areas of forest destroyed by pipeline construction be restored to native forest vegetation with native forest trees, and that such restoration should occur as rapidly as possible. Our forest is a beautiful part of our property and part of the Mount Tabor forest. The pipeline would pass through a 24-acre parcel of cove hardwoods. Other forested areas consist mainly of pines and cedars. It would be irresponsible not to reforest the 125-foot-wide swath (less the unfortunate 50-foot-wide pipeline reserve) swath in an effective manner. Even Johnny Appleseed carefully planted actual trees in nurseries surrounded by fences! In contrast, MVP proposes to merely scatter seeds on the ground: that’s not a reforestation plan, but merely an irresponsible pretense of “reforestation” that will feed a lot of birds, but will never grow trees. We want seedlings planted to quickly and effectively reestablish the forest. Our forest is part of the beauty of our property and should not be destroyed to generate profit for a private company.”

- Zane Lawhorn of Princeton WV, and intervenor who states:³³⁰

“I want to 'sign on' to the submittal by Carl Zipper Accession Number: 20170725-5023. ... My property is primarily forested land and would be permanently affected if not properly reforested. This would include non 'right of way' areas as well. This would be detrimental to the value and functioning of my land and an invasion of my private property rights.

It is imperative that the MVP parties be required to utilize the most effective forest reforestation strategies available.”

- Cliff Shaffer of Newport VA, a registered intervenor who states:³³¹

“ I am writing to support and to sign on to the letter sent by Carl E. Zipper to the Commission on 25 July 2017 ... I am an owner of forested land that would be directly affected by the Mountain Valley Pipeline, if constructed.

I value the forest on my property. As a landowner, it is my strong desire that any areas of forest destroyed by pipeline construction should be restored to native forest vegetation with native forest trees, and that such restoration should occur as rapidly as possible. Aside from the natural beauty and natural wildlife habitat, as

³³⁰ Submittal 20170807-5003 to CP16-10. Mr. Lawhorn forwarded his comments to the service list on 11 August 2017.

³³¹ Submittal 20170807-5051(32323867) to CP16-10. Mr. Shaffer forwarded his comments to the service list on 7 August 2017.

a forested area the timber is valuable to me, and the trees provide much needed erosion protection.”

- Del Dyer of Blacksburg VA, a registered intervenor who states:³³²

I am writing to support and ‘sign on’ to the letter sent by Carl E. Zipper to the Commission on 25 July 2017. ...

I am a landowner ... The MVP crosses my 187 acres of forested land located on the south side of Brush Mountain. The proposed route crosses upland hardwoods. I follow a forest management plan which focuses on selective timber harvest ...

My use and enjoyment of the property will be diminished by the loss of forest trees, other vegetation, and wildlife that would be caused by pipeline construction. I want disturbed areas of my property to be restored to a condition that is similar to what is in place right now, and to have that restoration done quickly.

I like Mr. Zipper am concerned about FERC's lack of understanding with regard to reforestation and restoration on mountain land and what species will have the best chance of growing, giving the proper application.”

- Cletus Bohon of Elliston Virginia who states:³³³

“I am writing to support and to sign on to the letter sent by Carl Zipper to the Commission on 25 July 2017. ... I wholeheartedly agree with Mr. Zipper’s arguments and I sign on to and support his request.

I am an owner of 42 acres of forested land in Montgomery Co. Va. That will be affected by the Mountain Valley Pipeline if built. I make my home on this land also. There will be a 950 foot corridor of my land cleared for construction, all of which will be through foreste land. His will essentially cut my property in half. There are hardwoods in this section of my property. Oaks, Hickory, poplar & ash, some of which are harvest size, but some are to small to use for timber. This would be a significant loss! ...

There is a problem with Alanthis in this area. These WEEDS cannot be controlled by simple handcutting once per year. ...

There is a wonderful shady knoll on the proposed route which I live to camp with my young grandchildren. To let them experience the wonders of Mother Nature. I also hunt there, have for more than 20 years. That was one of the most appeling things to me when I bought this land. ...

I strongly feel that any ares of my property destroued, if construction occurs, should be restored to native forest trees, and this should be done as quickly as possible!”

³³² Submittal 20170808-0055(32328894) to CP16-10. Mr. Dyer forwarded his comments to the service list on 4 August 2017.

³³³ Submittal 20170811-0011(32343060) to CP16-10.

- Frances Dowdy Collins of Riner, Virginia, an owner of forested land in Newport, Giles County, Virginia, who states.³³⁴

"I am writing to support and to sign on to the letter sent by Carl E. Zipper to the Commission on 25 July 2017. ...

"I am an owner of forested land that would be directly affected by the Mountain Valley Pipeline, if constructed. The forest land on my 5th generation family farm, known as the Welford Dowdy property, located on Old Furnace Road, Newport, VA, Giles County, will be devastated by clearing, mowing, grubbing, trenching, blasting, pipe welding etc. ...

I value the forest on my property. As a landowner, it is my strong desire that any areas of forest destroyed by pipeline construction should be restored to native forest vegetation with native forest trees, and that such restoration should occur as rapidly as possible. My grandchildren have a great inheritance and I would like to see the forest left as God provided. I believe that my Grandchildren, and Great Grandchildxen should be able to enjoy their inheritance for hunting, biking, picnicking, bird watching etc. Also, it is important that our spring water be kept safe and not destroyed by construction. The spring on my family's farm provides water to our rental property as well as my sister's home."

- Brenda Lynn Williams of Newport, Virginia, who states.³³⁵

I am writing to support and sign on to the letter sent by Carl E. Zipper to the Commission on 25 July 2017. ...

I am an owner of forested land that would be directly affected by the Mountain Valley Pipeline, if constructed. Located in Giles County, VA within a historic district, the land targeted for construction contains many deciduous tmes of substantial girth on steep slopes going into the village of Newport. ...

I value the forest on my property. As a seventh-generation landowner, it is my fervent wish that any areas of forest destroyed by pipeline construction should be restored to native forest vegetation with native forest trees (oaks, maples, locusts, preferably hardwoods such as those presently growing on the property of 69.5 acres). Furthermore, this native forest restoration should be done as quickly as possible to prevent the almost certain erosion which will ensue following construction. ...

My late father loved and respected trees so much he would not cut them down. Nature supplied the trees we needed by a type of natural selection, which resulted in the weaker ones falling. I have a deep sentimental attachment to the forest which is scheduled to be removed for this project as I helped lift and carry logs to be placed on the splitter to make them small enough to be burned in the stove. ...

No amount of money can mitigate what will be done to the land which has been in my family since the 1790s when it was bought by a filt-great grandfather, a

³³⁴ Submittal 20170811-0012(32343061) to CP16-10.

³³⁵ Submittal 20170815-0040(32347778) to CP16-10.

Revolutionary War veteran. My use and pride in the property will be diminished by the loss of my trees, other vegetation (including strawberry and blackberry bushes), and wildlife that would result from pipeline building. I want disturbed regions of my land to be restored to a condition as identical as possible to what presently grows there today, and to have that replanting happen as rapidly as possible.”

- Jerry J. and Jerolyn K. Deplazes, of Newport VA, who state:³³⁶

“We are writing to support and to sign on to the letter sent by Carl E. Zipper to the Commission on 25 July 2017. ...

We are owners of forested land that would be directly affected by the Mountain Valley Pipeline, if constructed. We own two properties through which MVP proposes to route its pipeline. ... We own two properties through which MVP proposes to route its pipeline. On the Winding Way property ... It would go through the entire 2,570 feet of woodlands ...

Our other property is ... our homeplace and farm. The proposed route would cross 2,440 feet through a stand of tulip poplars, oaks and hickory trees adjacent to a neighbor's forested property which acts as erosion control for our fields. These stands of trees in addition to their timber value provide shade relief for our livestock. On the other side of the route through the farm trees in a huge sinkhole would be destroyed. This area of forestation has protected our water supply for eons. ...

We value the forest on our properties. As landowners, it must be required that any areas of forest destroyed by pipeline construction be restored to native forest vegetation with native forest trees, and that such restoration should occur as rapidly as possible, if indeed it is possible.”

- Susan and Thomas Bouldin of Summers County WV who state:³³⁷

“We are owners of forested land in Summers County, West Virginia, that would be peripherally affected by the Mountain Valley Pipeline. We deeply value the forestland on our property; it was our primary reason for choosing to buy our land and home ...

Our use and enjoyment of our property will be diminished by the loss of forest trees, other vegetation, and wildlife in the areas surrounding our land that are slated for pipeline construction.

For our forest acreage to preserve its remaining ecological significance, it is important that disturbed areas of properties throughout the Hungards Creek watershed be restored to a condition that is as similar as possible to what is in

³³⁶ Submittal 20170911-0014(32394277) to CP16-10.

³³⁷ Submittal 20170914-5092 to CP16-10; the submittal was copied to the service list by Thomas Tyler Bouldin on 14 September 2017.

place right now, and to have that restoration occur quickly as possible. One of the features of our land most precious to us is that migratory birds use the deep woods associated with our tract along Hungards Creek for nesting and as a migration passage way. Each spring sees a passing influx of such neo-tropical migrants as numerous species of woods warblers, and also the arrival of nesting pairs of wood thrushes. We know spring has arrived when we hear the beautiful, haunting song of the reticent wood thrush, a species already vulnerable to nest parasitism from cowbirds tracking the utility lines which have fragmented the area's woodlands.

EXHIBIT B. Communications from Petitioners Confirming Intent to Participate.

11/4/2017 Gmail - Re: FERC Challenge

 Carl Zipper <skybluenrv@gmail.com>

Re: FERC Challenge

Thomas Bouldin <thomasbouldin.susanbouldin@gmail.com> Sat, Nov 4, 2017 at 7:56 AM
To: Carl Zipper <skybluenrv@gmail.com>

I request FERC to grant the rehearing request of Carl E. Zipper et al. for Mountain Valley Pipeline, and I request that FERC provide the requested relief. With this e-mail, I join in that petition.

Thomas T. Bouldin
Susan A. Bouldin

11/3/2017 Gmail - Re: FERC Challenge

 Carl Zipper <skybluenrv@gmail.com>

Re: FERC Challenge

Delwyn A Dyer <ddyer@vt.edu> Fri, Nov 3, 2017 at 6:08 PM
To: Carl Zipper <skybluenrv@gmail.com>

I request FERC to grant the hearing request of Carl E. Zipper et al for Mountain Valley Pipeline, and I request that FERC provide the requested relief. With this e-mail, I join in that petition. Delwyn A Dyer, ddyer@vt.edu landowner on the route chosen by MVP

11/3/2017

Gmail - Re: FERC Challenge



Carl Zipper <skybluenrv@gmail.com>

Re: FERC Challenge

Joseph Fagan <joseph.fagan.mvp.intervenor@gmail.com> Fri, Nov 3, 2017 at 11:39 AM

To: Carl Zipper <skybluenrv@gmail.com>

Cc: Delwyn A Dyer <ddyer@vt.edu>, Jerolyn Deplazes <jdeplaze@pemtel.net>, Thomas Bouldin <thomasbouldin.susanbouldin@gmail.com>, Susan Bouldin <bouldinsusan@gmail.com>, Joseph Fagan <joseph.fagan.MVP.intervenor@gmail.com>, Maury* Johnson <maurywjohnson@yahoo.com>, Zane Lawhorn <zanel2020@hotmail.com>, Nancy Bouldin <nancy_bouldin@hotmail.com>, Robert Jones <rmjones@vt.edu>, Cliff Shaffer <cliffshaffer1@gmail.com>, tom triplet <tcsincva@gmail.com>

Carl Zipper and all others to whom it might concern:

I request the Federal Energy Regulatory Commission (FERC) to grant the rehearing request of Carl E. Zipper et al. for the Mountain Valley Pipeline, and I request that FERC provide the requested relief.

With this e-mail, I join in that petition.

Sincerely,

Joseph H. Fagan
Karst Hydrologist and Environmental Planner

403 Franklin Drive
Blacksburg, Virginia 24060

Joseph H. Fagan is a registered intervenor (FERC ID #F301391) for FERC Docket CP16-10
joseph.fagan.MVP.intervenor@gmail.com

11/12/2017

Gmail - My request to join and support the rehearing Request of Carl E. Zipper.



Carl Zipper <skybluenrv@gmail.com>

My request to join and support the rehearing Request of Carl E. Zipper.

Maury Johnson <mauryjohnson@yahoo.com> Sun, Nov 12, 2017 at 9:29 AM

Reply-To: Maury Johnson <mauryjohnson@yahoo.com>

To: Carl Zipper <skybluenrv@gmail.com>

Cc: Diana Christopulos <dianak16@earthlink.net>, Zane Lawhorn <zanel2020@hotmail.com>, Zane Lawhorn <zane08@1dni.com>, Pamela Ferrante <pamferrante04@gmail.com>, Thomas Bouldin <thomasbouldin.susanbouldin@gmail.com>, Susan Bouldin <bouldinsusan@gmail.com>, "Robert M. Jones" <bullridgejones@gmail.com>, Tammy Belinsky <tambel@hughes.net>, Roseanna Sacco <neom2864@gmail.com>

TO WHOM IT MAY CONC

I request FERC grant the rehearing request of Carl E. Zipper et al. for Mountain Valley Pipeline, and we request that FERC provide the requested relief. With this email, I join in that petition.

Furthermore, I, Maury Johnson is a landowner in the Ellison's Ridge area of Monroe County, West Virginia. With more than 100 acres of forested land, located on Ellison's Ridge, which is under ownership of me and my family I believe that the Mountain Valley Pipeline would dissect some of this forested area for about 1000 ft. if constructed as proposed.

I feel that my use and enjoyment of this property would be diminished by the loss of forest trees, other vegetation, and wildlife including a managed bird area, in the areas in and surrounding the land that is slated for pipeline construction. I have the desire that the forested acreage to retain its ecological significance.

The area proposed to be crossed on my family's farm is the headwater areas of Slate Run, a tributary of Hans Creek, there are numerous springs in the area and the intact forest near these spring aid is water retention and water quality.

Sincerely,

Maury W. Johnson
3227 Ellison Ridge
Greenville, WV
Monroe County WV

11/3/2017 Gmail - Your Petition

 **Carl Zipper <skybluenrv@gmail.com>**

Your Petition

Robert M. Jones <bullridgejones@gmail.com> Fri, Nov 3, 2017 at 8:25 AM
To: Carl Zipper <skybluenrv@gmail.com>

Might this do? I use my vt email address as am intervenor.

I request FERC to grant the rehearing request of Carl E. Zipper et al. for Mountain Valley Pipeline, and I request that FERC provide the requested relief. With this e-mail, I join in that petition. I am a registered Intervenor and own forested land over which the Mountain Valley Pipeline passes. I am deeply disturbed that MVP and FERC have ignored expert reports that their route is hazardous and damaging to the environment including the water supply of many thousands of Virginians. Robert M. Jones with email rmjones@vt.edu.

11/3/2017 Gmail - Request for rehearing

 **Carl Zipper <skybluenrv@gmail.com>**

Request for rehearing

Zane Lawhorn <ZaneL2020@hotmail.com> Fri, Nov 3, 2017 at 1:35 PM
To: Carl Zipper <skybluenrv@gmail.com>

"I request FERC to grant the rehearing request of Carl E. Zipper et al. for Mountain Valley Pipeline, and I request that FERC provide the requested relief. With this e-mail, I join in that petition."

Zane Lawhorn
Landowner
Intervenor

11/12/2017 Gmail - FERC Challenge

 **Carl Zipper** <skybluenrv@gmail.com>

FERC Challenge

Tom <tcsinc@nrvmailbox.com> Sun, Nov 12, 2017 at 8:53 PM
To: Carl Zipper <skybluenrv@gmail.com>

Carl Zipper,

I request FERC to grant the rehearing request of Carl E Zipper et al. for the Mountain Valley Pipeline, and I request that FERC provide the requested relief.

With this Email, I join in that petition.

Thomas W and Bonnie B Triplett
[2664 Mt Tabor Road](#)
[Blacksburg, VA, 24060](#)

Thank You,

Thomas W and Bonnie B Triplett

11/10/2017 Gmail - Rehearing Request

 **Carl Zipper** <skybluenrv@gmail.com>

Rehearing Request

Cliff Shaffer <cliffshaffer1@gmail.com> Fri, Nov 3, 2017 at 12:01 PM
To: Carl Zipper <skybluenrv@gmail.com>

I request FERC to grant the rehearing request of Carl E. Zipper et al. for Mountain Valley Pipeline, and I request that FERC provide the requested relief. With this e-mail, I join in that petition.

-- Clifford A. Shaffer

My name is Cletus Bohon
I live at 6210 Yellow Finch Ln.
Elliston, Va. 24087
I consent to being a petitioner
to a rehearing request on behalf
of Carl Zipper and others.
Cletus W. Bohon
11-2-17

11/3/2017 Gmail - rehearing request

 Gmail Carl Zipper <skybluenrv@gmail.com>

rehearing request

Deplazes J J <jdeplaze@pemtel.net> Fri, Nov 3, 2017 at 9:31 AM
To: skybluenrv <skybluenrv@gmail.com>

"We request FERC grant the rehearing request of Carl E. Zipper et al. for Mountain Valley Pipeline, and we request that FERC provide the requested relief. With this email, we join in that petition."

EXHIBIT C: Summary of the Lead Petitioners' Professional Experience in Areas Related to This Petition

Education: Ph.D., Agronomy, Virginia Tech, 1986.

Experience: Professional experience since 1981 conducting research and outreach activities that concern revegetation and rehabilitation of disturbed areas in the Appalachian coalfield.

Published Work: Selected peer-reviewed publications that concern forest restoration on disturbed areas (*s designate parties working under CEZ's supervision).

Book Chapters:

Zipper C.E., C.D. Barton, J.A. Franklin, J.G. Skousen, P.N. Angel, J.A. Burger. 2015. Best practices for forest restoration when reclaiming surface coal mines. Chapter 23, pp.663-704 in: Jarvie-Eggart, M. (ed). *Responsible Mining : Case Studies in Managing Social & Environmental Risks in the Developed World*. Society for Mining, Metallurgy, and Exploration. Littleton CO.

Barton C.D., C.E. Zipper, J.A. Burger. 2017. Preface. pp. vii-ix in: Adams M.B. (ed.) *The Forestry Reclamation Approach: Guide to Successful Reforestation of Mined Lands*. US Forest Service General Technical Report NRS-169. https://www.fs.fed.us/nrs/pubs/gtr/gtr_nrs169.pdf (Note: C.E. Zipper also served as co-author for each of the book's 12 chapters).

Scientific Journal Articles:

Oliphant A.J.,* R.H. Wynne, C.E. Zipper, W.M. Ford, P.F. Donovan, J. Li. 2017. Autumn olive (*Elaeagnus umbellata*) presence and proliferation on former surface coal mines in eastern USA. *Biological Invasions* 19:179–195.

Avera B.N., B.D. Strahm, J.A. Burger, C.E. Zipper. 2015. Development of ecosystem structure and function on reforested surface-mined lands. *New Forests* 46:683–702.

Fields-Johnson C.W.*, J.A. Burger, D.M. Evans*, C.E. Zipper. 2014. Ripping improves tree survival and growth on unused reclaimed mined lands. *Environmental Management* 53: 1059-1065.

Evans D.M.*, C.E. Zipper, J.A. Burger, B. Strahm, A. Villamagna. 2013. Reforestation practice for enhancement of ecosystem services on a compacted surface mine: Path toward ecosystem recovery. *Ecological Engineering* 51: 16-23.

Koropchak S.*, C.E. Zipper, J.A. Burger, D.M. Evans*. 2013. Native tree and herbaceous establishment on an experimentally reclaimed Appalachian coal mine. *Journal of the American Society of Mining and Reclamation* 2(2): 32-55.

Zipper C.E., J.A. Burger, C. Barton, J. Skousen. 2013. Rebuilding soils on mined land for native forests in Appalachia, USA. *Soil Science Society of American Journal* 77: 337-349.

Fields-Johnson C.W.*, J.A. Burger, D.M. Evans, C.E. Zipper. 2012. American chestnut establishment techniques on reclaimed Appalachian surface mined lands. *Ecological Restoration* 30:99-101.

Fields-Johnson C.W.*, C.E. Zipper, J.A. Burger, D. Evans. 2012. Forest restoration in steep slopes after coal surface mining in Appalachian USA: Soil grading and seeding effects. *Forest Ecology and Management*. 270: 126–134.

Franklin J., C.E. Zipper, J.A. Burger, J. Skousen, D. Jacobs. 2012. Influence of planted ground cover on forest restoration of eastern US coal surface mines. *New Forests* 43: 905-924.

Zipper C.E., J.A. Burger, D. Evans*, P. Donovan. 2012. Young forest composition and growth on a reclaimed Appalachian coal surface mine after nine years. *Journal of the American Society of Mining and Reclamation* 1:56-84.

- Zipper C.E., J.A. Burger, J.G. Skousen, P.N. Angel, C.D. Barton, V. Davis, J.A. Franklin. 2011. Restoring forests and associated ecosystem services on Appalachian coal surface mines. *Environmental Management* 47:751–765.
- Zipper C.E., J.A. Burger, J. McGrath*, J.A. Rodrigue, G.I. Holtzman. 2011. Forest restoration potentials of coal mined lands in the eastern United States. *Journal of Environmental Quality* 40:1567-1577.
- Showalter J., J.A. Burger, C.E. Zipper. 2010. Hardwood seedling growth on different mine spoil types with and without topsoil amendment. *Journal of Environmental Quality* 39: 483-491.
- Showalter J., J.A. Burger, C.E. Zipper, J. Galbraith, P. Donovan. 2007. Influence of mine soil properties on white oak seedling growth: A proposed mine soil classification model. *Southern Journal of Applied Forestry* 31:99-107.

Outreach Publications: Appalachian Regional Reforestation Initiative, US Office of Surface Mining.

- Horn T., P.N. Angel, C.E. Zipper, M. Ulyshen, M. French, J.A. Burger, M.B. Adams. 2017. Re-establishing pollinator habitat on mined lands using the forestry reclamation approach. *Forest Reclamation Advisory No. 14.*
- Rathfon, R. J. Groninger, D. Jacobs, J.A. Burger, P. Angel, C.E. Zipper. 2015. Tree and shrub species selection for mine reclamation in the midwest region of USA. *Forest Reclamation Advisory No. 13.*
- French M., C. Barton, B. McCarthy, C. Keiffer, J. Skousen, C.E. Zipper, P. Angel. 2015. Re-establishing American chestnut on mined lands in the Appalachian coalfields. *Forest Reclamation Advisory No. 12.*
- Burger J., C.E. Zipper, P. Angel, N. Hall, J. Skousen, C. Barton, S. Eggerud. 2013. Establishing native trees on legacy surface mines. *Forest Reclamation Advisory No. 11.*
- Wood P., J. Larkin, J. Mizel, C.E. Zipper, P. Angel. 2013. Reforestation to enhance Appalachian mined lands as habitat for terrestrial wildlife. *Forest Reclamation Advisory No. 10.*
- Davis V., J.A. Burger, R. Rathfon, C.E. Zipper, C.R. Miller. 2012. Selecting Tree Species for Reforestation of Appalachian Mined Lands. *Forest Reclamation Advisory No. 9.*
- Skousen J., C.E. Zipper, J.A. Burger, C. Barton, P. Angel. 2011. Selecting materials for mine soil construction when establishing forests on Appalachian mine sites. *Forest Reclamation Advisory No. 8.*
- Davis V., J. Franklin, C.E. Zipper, P. Angel. 2010. Planting hardwood tree seedlings on reclaimed mine land in Appalachia. *Forest Reclamation Advisory No. 7.*
- Burger J.A., V. Davis, J. Franklin, J. Skousen, C. Barton, C.E. Zipper. 2009. Tree-compatible ground covers for reforestation and erosion control. *Forest Reclamation Advisory No. 6.*
- Groninger J., J. Skousen, P. Angel, C. Barton, J.A. Burger, C.E. Zipper. 2007. Mine reclamation practices to enhance forest development through natural succession. *Forest Reclamation Advisory No. 5.*
- Sweigard R., J.A. Burger, D. Graves, C.E. Zipper C.E. Barton, J. Skousen, P. Angel. 2007. Loosening compacted soils on mine sites. *Forest Reclamation Advisory No. 4.*
- Sweigard R., J.A. Burger, C.E. Zipper, J. Skousen, D. Graves, C. Barton, P. Angel. 2007. Low compaction grading to enhance reforestation success on coal surface mines. *Forest Reclamation Advisory No. 3.*
- Burger J.A., D. Graves, P. Angel, V. Davis, C.E. Zipper. 2005. The forestry reclamation approach. *Forest Reclamation Advisory No. 2.*
- Angel P., V. Davis, J.A. Burger, D. Graves, C.E. Zipper. 2005. The Appalachian Regional Reforestation Initiative. *ARRI Forest Reclamation Advisory No. 1.*

Outreach Publications: Virginia Cooperative Extension (VCE).

- Burger J.A., C.E. Zipper. 2011. Reforestation guidelines for unused surface mined lands in the eastern United States. *VCE Publication 460-144.*
- Burger J.A., C.E. Zipper, J. Skousen. 2008. Establishing ground cover for forested post-mining land uses. *VCE Publication 460-124. (Revised 2009)*

Burger J.A., C.E. Zipper. 2002. How to restore forests on surface mined lands. VCE Publication 460-123. (Revised 2011)

Holl K., C.E. Zipper, J.A. Burger. 2001. Recovery of native plant communities after mining. VCE Publication 460-140. (Revised 2009).

EXHIBIT D: Lead Petitioner's Personal Statement as a Landowner

I am an owner and manager of ~31.5 acres of mostly-forested land in Montgomery County, Virginia. My property is located <1 mile from the proposed pipeline corridor.

Most of my property is forested. Approximately 3 acres of my property are former pasture that now have some trees but are primarily in open sun. The boundary of that area with forest vegetation extends for about 800 feet. Approximately 5 acres of forest that is adjacent to the open sun can be considered as open-canopy forest; that area transitions into a mature forest area where dominant trees are native hardwoods, many with diameters > 12 inches, and with sufficient density to provide what is essentially a closed canopy over most of the area. There is also forest-edge habitat along the boundaries of areas that are cleared for residential purposes.

Shortly after purchasing the property in 1997, I became aware that my property harbored exotic invasive plants. Below, I summarize my experience in dealing with these exotic invasive plants as I endeavor to prevent them from proliferating on my property or two adjacent properties, and to eradicate the species when possible.

I have been successfully eradicated two species to date (*Ailanthus altissima*, tree of heaven; and *Paulownia tomentosa*, princess tree) but that required protracted effort over multiple years. I am still finding occasional seedlings of both species that I presume originate from the seed that enters the property from adjacent areas. Both are tree species and had occurred at multiple locations within forested areas, in some cases with sufficient size to occupy upper canopy. Prior to eradication, the *Ailanthus altissima* formed dense (but small) monotypic stands on some areas of the property, with little to no understory; I have since learned that this occurs due to allelopathic chemicals that are produced by the roots, and which prevent other plant species from establishing. Following eradication, several years past before other plant species began occupying areas previously occupied by *Ailanthus altissima*. My experience confirms what is stated by other sources: The species forms dense stands that displace stands that displace native plant species and prevent native tree recruitment and establishment.

I eradicated all seed-bearing plants of *Elaeagnus umbellata* (autumn olive), *Rosa multiflora* (multiflora rose), and *Berberis thunbergii* (Japanese barberry) from my property years ago, and I have eradicated as many non-seed bearing juveniles as I am able to find on multiple occasions. Yet, I find it necessary to locate and eradicate large numbers of additional juvenile plants every year (dozens if not hundreds each year for each species individually); I presume these new plants originate from seed that is carried into my property by birds and other wildlife. Most of my problems with these species are in forest-edge areas, although *Elaeagnus umbellata* also establishes readily in open sun, and I find all three species deeper in the forest, away from forest edge, but with generally declining frequencies moving away from the forest edge. When I first took ownership of the property, individual plants of all three species occurred at sizes and with physical configurations (dense branching close to the ground and/or shading) that prevented native woody plant establishment within the areas that they occupied.

I purchased some seed from a reputable supplier in 2005, and used that seed to revegetate soils that had been disturbed by construction of a forest road. After one growing season, I realized that the seed had *Lespedeza cuneata* (sericea lespedeza), although I had not specified that species, and the *Lespedeza cuneata* had produced seed in the revegetated areas. Since that time, I have endeavor to eradicate all plants of *Lespedeza cuneata* that I can find, and I have been successful in preventing the *Lespedeza cuneata* from producing additional seed for the past >5 years. Yet, I still find it necessary to eradicate new *Lespedeza cuneata* plants on several occasions each year for preventing seed production. My problems with this species occur in open sun, along forest edge, and in open-canopy forested areas. I occasionally find

Lespedeza cuneata plants growing outside of the areas where I had inadvertently seeded it. Since none of the plants on my property are surviving the summer or producing seed, I presume these plants originate from seed brought into the property from elsewhere by wildlife.

Multiple thistles occur on my property every year, primarily in the open sun but also in open-canopy forest. *Cirsium vulgare* (bull thistle) is among the thistle species. During each growing season, I endeavor to prevent all thistles from producing seed and I am successful most years. Yet, every summer I find additional thistles that require my control. *Verbascum thapsus* (mullein) also occurs in the open sun, and I endeavor to control it similarly but with similar results.

Lonicera japonica (Japanese honeysuckle) occurs in the open sun areas, and in adjacent areas of open forest. It sufficiently high frequency that I will likely never eradicate it, so I endeavor to prevent seed production and to eradicate it by hand-pulling when I see it moving out of the area it occupies currently. I have seen *Lonicera japonica* occur as a vine that climbs the stem of small native trees in woods-edge and open-canopy forest areas, essentially killing the tree by wrapping itself around the tree's trunk and by cutting off access by the leaves to sunlight.

I have recently become aware that *Sorghum halapense* (Johnson grass) and *Microstegium vimineum* (Japanese stiltgrass) are also present on the property. I am finding these species where the documented sources cited here say they should be expected: open sun for *Sorghum halapense*, and under forest canopy for *Microstegium vimineum*. I have not yet developed management or control strategies for these species. When well established, *Sorghum halapense* forms dense clumps that prevent other species from becoming established within them; if the *Sorghum halapense* is allowed to persist, the size of the clumps expands.

I have recently become aware that *Securigera varia* (crown vetch) is present in an open-sun area. I believe this is a recent arrival because I would have recognized it if I had seen it in prior years. I am endeavoring to eradicate this species by preventing it from producing seed.

I am also experienced with *Schedonorus phoenix* (tall fescue). It is a major component of the herbaceous vegetation in the former pasture area. I am not attempting to eradicate or control it due to the extensive area that it occupies. Over the 20 years that I have owned the property, not a single native deciduous tree has become established through natural regeneration in the former pasture (open sun) area, despite the fact that I allow vegetation to grow freely without mowing. I attribute the lack of native deciduous volunteers to the effects of tall fescue, *Lonicera japonica* in the portion of the area where it is present, and extensive deer browse.

To summarize, I have direct personal experience with the following invasive plant species on my property:

Ailanthis altissima, tree of heaven
Berberis thunbergii, Japanese barberry
Cirsium vulgare, bull thistle
Elaeagnus umbellata, autumn olive
Lespedeza cuneata, sericea lespedeza
Lonicera japonica, Japanese honeysuckle
Microstegium vimineum, Japanese stiltgrass
Paulownia tomentosa, princess tree
Rosa multiflora, multiflora rose

Schedonorus phoenix, tall fescue

Securigera varia, crown vetch

Sorghum halapense, Johnson grass

Verbascum Thapsus, mullein

I relate my experience with these species to support my authority when addressing problems that concern exotic invasive plants in this filing. Based on my personal as well as professional experience, I expect that exotic invasive plants would migrate into disturbance areas, become established, interfere with forest regeneration, persist in developing vegetation communities, and migrate from those communities into adjacent forest areas in the absence of effective controls, such as is currently proposed by FERC's FEIS.

I will also relate my experience with *Vitis aestivalis*, known as wild grape or summer grape, which MVP (and, by extension, FERC) seeks to establish by applying seed to temporary workspaces. While native, this plant is a vine that climbs up native the trunks of native trees and is capable of killing young or old trees by extending its occupancy to the space above the tree's leaves, thus preventing the tree from receiving sunlight. During some seasons of the year, wild grape fills with water; its weight then causes the upper branches of the occupied to collapse, which aids the wild grape's strategy of occupying the space above the host tree's leaves. A number of wild grape vines were present on my property when I first purchased. In 2005, I had a forest management plan prepared for my property by a professional forester. Among the recommendations were to eliminate the wild grape vines that were impairing, and in some cases killing, the native trees growing on my property. Hence, I find the choice of wild grape for seeding within temporary workspaces of forested areas to be a curious choice.

CERTIFICATE OF SERVICE

Pursuant to Rule 2010 of FERC's Rules of Practice and Procedure, 18 C.F.R. § 385.2010, I hereby certify that I have this day served the foregoing document upon each person designated on this official list compiled by the Secretary in this proceeding.

Dated: 13 November 2017

Respectfully submitted,

Carl E. Zipper
Blacksburg VA 24060

Document Content(s)

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