

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the Matter of

MOUNTAIN VALLEY PIPELINE, LLC

**Docket Nos. CP21-57-000
CP16-10-000**

**JOINT SUPPLEMENTAL NEPA SCOPING COMMENTS ON
ENVIRONMENTAL ISSUES FOR THE PROPOSED AMENDMENT TO
THE CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY
FOR THE MOUNTAIN VALLEY PIPELINE PROJECT BY
ALLEGHENY-BLUE RIDGE ALLIANCE; APPALACHIAN VOICES;
BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE;
CHESAPEAKE CLIMATE ACTION NETWORK; DEFENDERS OF
WILDLIFE; INDIAN CREEK WATERSHED ASSOCIATION;
NATURAL RESOURCES DEFENSE COUNCIL; PRESERVE BENT
MOUNTAIN; PRESERVE CRAIG, INC.; PRESERVE FRANKLIN;
PRESERVE GILES; PRESERVE MONTGOMERY COUNTY, VA
(PMCVA); PRESERVE SALEM; PROTECT OUR WATER, HERITAGE,
RIGHTS (POWHR); SIERRA CLUB; VIRGINIA CONSERVATION
NETWORK; WEST VIRGINIA HIGHLANDS CONSERVANCY; WEST
VIRGINIA RIVERS COALITION; AND WILD VIRGINIA**

In accordance with the Commission's July 1, 2021 Notice of Supplemental Scoping Period for the Proposed Amendment to the Certificate of Public Convenience and Necessity for the Mountain Valley Pipeline Project and Request for Comments on Environmental Issues,¹ Allegheny-Blue Ridge Alliance; Appalachian Voices; Blue Ridge Environmental Defense League;

¹ Accession No. 20210701-3036. *See also* Notice of Scoping Period for the Proposed Amendment to the Certificate of Public Convenience and Necessity for the Mountain Valley Pipeline Project and Request for Comments on Environmental Issues (Accession No. 20210316-3075); Mountain Valley Pipeline, LLC, Abbreviated Application for Limited Amendment to Certificate of Public Convenience and Necessity and Request for Expedited Action (Accession No. 20210219-5176) [hereinafter Amendment Application].

Chesapeake Climate Action Network; Defenders of Wildlife; Indian Creek Watershed Association; Natural Resources Defense Council; Preserve Bent Mountain; Preserve Craig, Inc.; Preserve Franklin; Preserve Giles; Preserve Montgomery County VA (PMCVA); Preserve Salem; Protect Our Water, Heritage, Rights (POWHR); Sierra Club; Virginia Conservation Network; West Virginia Highlands Conservancy; West Virginia Rivers Coalition; and Wild Virginia (collectively, “Commenters”) submit the following supplemental comments on the scope of environmental issues that must be considered as part of the Commission’s National Environmental Policy Act² (NEPA) analysis of Mountain Valley Pipeline, LLC’s (“Mountain Valley”) proposed amendment to the certificate of public convenience and necessity for the Mountain Valley Pipeline (“MVP”).³ Mountain Valley has requested authorization to change the

² 42 U.S.C. § 4332 *et seq.*

³ We incorporate into our comments by reference, as if they were fully set forth herein, the exhibits cited herein, including, but not limited to, the following expert reports by reference, as if they were fully set forth herein:

- Starr Silvis, Review of Mountain Valley Pipeline, LLC’s Application for an Individual Section 404 Permit from the U.S. Army Corps of Engineers (May 27, 2021) (attached as Ex. 1);
- Catherine Dare and Timothy McAuley, Mountain Valley Pipeline (MVP) Project, Individual Permit Application – Virginia and West Virginia: Stream Crossing Cost Evaluation (2021) (attached as Ex. 2); and
- Evan Hansen and Meghan Betcher, Sediment Generation and Impacts from Dry-Ditch Open-Cut Stream Crossings Such as Those Proposed for the Mountain Valley Pipeline (May 26, 2021) (attached as Ex. 3).

Those experts reviewed Mountain Valley’s application materials for a Section 404 permit and concluded, among other things, that (1) because of Mountain Valley’s failure to adequately explain its stream-crossing method selection,

method of waterbody crossing for 182 waterbodies at 120 locations along the route of the MVP from a dry-ditch, open-cut method to one of several trenchless methods.⁴

As explained further below, the Commission must prepare a supplemental Environmental Impact Statement—and cannot rely solely on an Environmental Assessment—to analyze the significant environmental impacts from Mountain Valley’s proposed certificate amendment and requested Section 404 permit from the U.S. Army Corps of Engineers (“Corps”). Moreover, FERC’s environmental review must examine, on a crossing-by-crossing basis, alternative stream crossing methodologies—including the broader use of

permit issuance based on Mountain Valley’s application would be arbitrary and capricious (Dare (2021) at 5), and (2) “MVP’s application does not support its assertions that impacts [from its dry-ditch, open-cut stream crossings] will be minimal or short-term” (Hansen and Betcher (2021) at 6). And Silvis, a hydrologist and engineer who spent nearly eight years of her career with a state water regulatory agency recommends “that the Corps of Engineers deny Mountain Valley Pipeline, LLC’s . . . application for an Individual Permit (“IP”) under Section 404 of the Clean Water Act.” Silvis (2021) at 1.

There are a total of 34 exhibits to these comments.

⁴ Mountain Valley seeks the amendment because its authorizations under Nationwide Permit 12 to cross the affected streams and wetlands pursuant to Clean Water Act section 404, were revoked by the United States Army Corps of Engineers at Mountain Valley’s request after the U.S. Court of Appeals stayed those authorizations. *See Sierra Club v. U.S. Army Corps of Eng’rs*, 981 F.3d 251 (4th Cir. 2020); Amendment Application at 2 (noting that Mountain Valley is seeking coverage under an individual Section 404 permit for the balance of its waterbody crossings). Thus, under the status quo that would be altered by granting Mountain Valley’s amendment application, Mountain Valley is not permitted to discharge dredged and/or fill material into any of the waterbodies along the pipeline route.

trenchless methods. The environmental review must also take a hard look at the environmental impacts of open-cut, dry-ditch crossings, given the changed circumstances discussed below. The Commission must also fully consider the cumulative effects of the hundreds of stream crossings proposed by Mountain Valley, including the combined effects of multiple crossings of the same stream or watershed, as well as the combination of effects from crossings with upland construction and effects from trenchless crossings combined with open-cut, dry-ditch crossings. Additionally, the Commission must revisit its analysis of the climate impacts of the MVP given new executive orders and the Corps' involvement as a cooperating agency, and must seek certification under Section 401 of the Clean Water Act from West Virginia and Virginia of any certificate amendment. This NEPA process must also take a hard look at the nature of all of the wetlands affected by construction of the MVP, and particularly those in the vicinity of Bent Mountain, Virginia, to determine whether the Corps' presumption against permit issuance in its public interest regulations applies.⁵ Finally, even if FERC were to unlawfully determine not to prepare a Supplemental Environmental Impact Statement ("SEIS"), it must allow the public the opportunity to comment on any draft Environmental Assessment ("EA") before such a document is finalized.

⁵ 33 C.F.R. § 320.4(b)(4).

INTRODUCTION

Having twice failed to obtain lawful verifications under Nationwide Permit 12,⁶ Mountain Valley has undertaken yet another attempt to complete its ill-conceived pipeline. Mountain Valley proposes to bore under some streams and trench through others. The company needs the Commission's approval for its tunneling plans, and the Corps' for its trenching plans. But both agencies must comply with NEPA before they can grant the authorizations Mountain Valley seeks. These supplemental comments, combined with the Commenters' April 15, 2021 comments, address the scope of the NEPA review that the Commission and the Corps must conduct.

I. FERC MUST PREPARE AN SEIS; AN EA WILL NOT SUFFICE.

In contrast to its March 16, 2021 scoping notice—which stated that the Commission would not determine whether to prepare an EA or an Environmental Impact Statement (“EIS”) until after the scoping period⁷—the Commission's July 1, 2021 supplemental scoping notice suggests that the Commission has decided to prepare an EA rather than an EIS for Mountain

⁶ *Sierra Club v. U.S. Army Corps of Eng'rs*, 981 F.3d 251 (4th Cir. 2020); *Sierra Club v. U.S. Army Corps of Eng'rs*, 909 F.3d 635 (4th Cir. 2018).

⁷ Notice of Scoping Period for the Proposed Amendment to the Certificate of Public Convenience and Necessity for the Mountain Valley Pipeline Project and Request for Comments on Environmental Issues (Accession No. 20210316-3075).

Valley’s proposed certificate amendment.⁸ That decision constitutes legal error. In these circumstances, an EIS is required for at least two reasons.

First, because the MVP was subjected to an EIS when certificated in 2017, supplemental NEPA documentation for the project must take the form of an SEIS. Under the pre-2020 NEPA regulations—which, as Commenters explained in their April 15, 2021 scoping comments, are the regulations the Commission should apply—a supplement to a prior EIS for an action must be “prepare[d], circulate[d], and file[d] . . . in the same fashion as a draft and final statement”⁹ Even if the 2020 regulations were lawful and applicable to the MVP, the provision in those regulations that purports to allow a Supplemental EA¹⁰ cannot validate the Commission’s apparent choice to prepare an EA rather than an EIS because of the Corps’ NEPA regulations. Those regulations are relevant because the Corps is a cooperating agency in this NEPA process and an agency that will likely have to adopt and rely on the product of this process to satisfy its own NEPA obligations if it were to grant Mountain Valley’s pending application for an individual Section 404 permit.

⁸ Notice of Supplemental Scoping Period for the Proposed Amendment to the Certificate of Public Convenience and Necessity for the Mountain Valley Pipeline Project and Request for Comments on Environmental Issues (Accession No. 20210701-3036).

⁹ 40 C.F.R. § 1502.9(c)(4) (2019).

¹⁰ 40 C.F.R. § 1502.9(d)(4) (purporting to authorize agencies to make a finding of no significant impact, supported by an environmental assessment, when examining changes to a proposed action).

The Corps' regulations provide that “[a] supplement to a final EIS should be prepared and filed first as a draft supplement and then as a final supplement. Supplements will be filed and circulated in the same manner as a draft and final EIS”¹¹ The Corps' regulations have not been modified to conform to the 2020 Council on Environmental Quality regulations, and do not contemplate, let alone authorize, the use of an EA to supplement an EIS. Accordingly, the decision to proceed with an EA, rather than an SEIS, is unlawful and would result in a procedurally defective agency action.

Second, the use of an EA in these circumstances—as opposed to an EIS—will not allow for sufficient examination of alternatives to the proposed action. Because the Corps will likely have to rely on and adopt the product of this NEPA process if it were to decide to issue the individual Section 404 permit that Mountain Valley seeks, whatever NEPA document results from this process will have to take a hard look at and include a robust review of alternative stream crossing methods. The Corps' Section 404(b)(1) Guidelines prohibit the Corps from issuing a permit for the discharge of dredged and/or fill material unless it makes a factual determination that the proposed discharge is the least environmentally damaging practicable alternative.¹² The

¹¹ 33 C.F.R. § 230.13(b).

¹² 40 C.F.R. § 230.10(a); *see also generally Utahns for Better Transp. v. U.S. Dep't of Transp.*, 305 F.3d 1152 (10th Cir. 2002), *modified on reh'g*, 319 F.3d 1207 (10th Cir. 2003).

Corps has acknowledged that the NEPA document produced through this process must be adequate to fulfill the Corps' regulatory obligations.¹³

Corps regulations explain that “the analysis of alternatives required for NEPA environmental documents, including supplemental Corps NEPA documents, will in most cases provide the information for the evaluation of alternatives under these Guidelines.”¹⁴ However, “[o]n occasion, these NEPA documents . . . may not have considered the alternatives in sufficient detail to respond to the requirements of these Guidelines,” such that it is “necessary to supplement these NEPA documents with this additional information.”¹⁵

Mountain Valley's pending application presents just such a situation, such that supplemental NEPA analysis is required. Consideration of alternatives “is the heart of the environmental impact statement.”¹⁶ The “discussion of alternatives must rigorously explore and objectively evaluate all

¹³ See, e.g., Letter from Jon T. Coleman, Pittsburgh District, U.S. Army Corps of Eng'rs, to Kimberly D. Bose, Secretary, Fed. Energy Regul. Comm'n Re: Acceptance of Cooperating Agency Responsibility (Mar. 10, 2021) (Accession No. 20210310-5059) (acknowledging that the FERC certificate amendment will require authorization under Section 404 and requesting that “to ensure the information presented in any National Environmental Policy Act (NEPA) document is adequate to fulfill the Corps' statutory requirements, including the requirements of Section 404(b)(1) of the Clean Water Act (40 CFR 230) and the Corps' public interest review (33 CFR 320.4), the Corps requests the topics listed in Enclosure 1 be included in the scoping and evaluation of any submitted NEPA document.”).

¹⁴ 40 C.F.R. § 230.10(a)(4).

¹⁵ *Id.*

¹⁶ *Id.* § 1502.14.

reasonable alternatives.”¹⁷ The obligation to consider alternatives flows from the NEPA statute itself and exists for any proposal, such as the MVP, “which involves unresolved conflicts concerning alternative uses of available resources.”¹⁸

In its letters to FERC accepting cooperating agency responsibility on Mountain Valley’s application to modify its FERC certificate to allow conventional boring at numerous waterbody crossings, the Corps itself acknowledged that additional information must be included in supplemental NEPA documentation.¹⁹ In order to support the Corps’ application of the 404(b)(1) Guidelines, including selection of the least environmentally damaging practicable alternative, the Corps explained that this new NEPA document must “evaluate how the Project was designed to avoid and minimize the discharge of dredged and/or fill material into waters of the United States” including analysis of “on-site avoidance and minimization alternatives and

¹⁷ *Union Neighbors United, Inc. v. Jewell*, 831 F.3d 564, 568 (D.C. Cir. 2016).

¹⁸ 42 U.S.C. § 4332(2)(E).

¹⁹ Letter from Jon T. Coleman, Pittsburgh District, U.S. Army Corps of Eng’rs, to Kimberly D. Bose, Secretary, Fed. Energy Regul. Comm’n, Re: Acceptance of Cooperating Agency Responsibility (Mar. 10, 2021) at 1–2 (explaining that the information in the NEPA document must be “adequate to fulfill the Corps’ statutory requirements, including the requirements of Section 404(b)(1) of the Clean Water Act (40 CFR 230) and the Corps’ public interest review (33 CFR § 320.4”).

avoidance and minimization alternatives for any off-site borrow, spoil, or mitigation areas.”²⁰

An EA is not the appropriate vehicle for the robust alternatives analysis that the Corps’ regulations require. EAs have only ever had to include brief discussions of alternatives.²¹ In contrast, EISs must “[r]igorously explore and objectively evaluate all reasonable alternatives” and “[d]evote substantial treatment to each alternative considered in detail.”²² The Commission and the cooperating agencies cannot short-circuit the need for a hard look at stream crossing alternatives by electing to perform an EA over an EIS. Accordingly, an EIS—and its attendant rigorous and detailed alternatives analysis—is required.

II. FERC MUST EXAMINE BROADER USE OF TRENCHLESS CROSSINGS IN ITS NEPA REVIEW.

As Commenters explained in their April 15, 2021 Scoping Comments, in the EA for the now-withdrawn application in FERC Docket No. CP21-12, the

²⁰ *Id.* at 3; *see also id.* at 4 (“The NEPA document should provide a sufficient analysis to determine compliance with the Guidelines.”).

²¹ 40 C.F.R. § 1501.5(c)(2) (“An environmental assessment shall . . . [b]riefly discuss the . . . alternatives as required by section 102(2)(E) of NEPA”); 40 C.F.R. § 1508.9(b) (2019) (“Environmental assessment . . . [s]hall include brief discussions . . . of alternatives as required by section 102(2)(E)”).

²² 40 C.F.R. § 1502.14(a)–(b) (2019); *see also, e.g., Union Neighbors United, Inc. v. Jewell*, 831 F.3d 564, 569 (D.C. Cir. 2016); *Dubois v. U.S. Dep’t of Agric.*, 102 F.3d 1273, 1286–90 (1st Cir. 1996); 40 C.F.R. § 1502.14(b) (2020) (requiring that the alternatives section of an EIS “[d]iscuss each alternative considered *in detail*” (emphasis added)).

Commission expressed its view that the conventional bore crossing method has environmental advantages over the open-cut trenching method:

In contrast to open-cut trenching, the use of a conventional bore to cross an environmental resource such as a waterbody or wetland, avoids direct impacts associated with working directly within the resource. Conventional bores allow for uninterrupted existing streamflow and undisturbed wetland soils and scrub-shrub and herbaceous vegetation, thereby minimizing impacts on aquatic resources and preserving wetland and wildlife habitat. Additionally, the proposed conventional bore crossings would result in reduced in-stream sedimentation as compared to the in-water construction approved for the Mountain Valley Pipeline Project. This reduction results from less disturbance of the riparian areas adjacent to the waterbodies, and avoidance of impacts to the streambed. Lastly, conventional bore crossings would avoid the ground disturbance associated with trenching and backfilling in the subject wetlands and reduce longer-term impacts by accelerating the post-construction revegetation period.²³

Notably, in the amendment application in Docket No. CP21-12, Mountain Valley proposed to use the convention bore method at *every single waterbody* within the first 77 miles of the MVP route.²⁴ In its current application, and as discussed in more detail below, Mountain Valley now omits 38 crossings that it previously claimed were feasible to accomplish with the conventional boring method. In order to fulfill its obligations under NEPA—and to allow the Corps

²³ EA at 11 (Accession No. 20210107). Mountain Valley made similar representations in its Section 404 application to the Corps: “[T]he selection of trenchless crossings typically results in the minimization of aquatic impacts at the crossing site, as well as the minimization of impacts to riparian vegetations.” Mountain Valley Pipeline Project, Individual Permit Application at 62 (Feb. 2021) (Accession No. 20210304-5122) [hereinafter Application].

²⁴ Accession No. 20201118-5179.

to fulfill its obligations under both NEPA and the Clean Water Act—FERC must consider alternatives to Mountain Valley’s proposal that require the use of trenchless crossing methods at all crossing locations. At a minimum, such a review is required for all locations where Mountain Valley previously claimed such crossings are feasible.

Consideration of alternatives “is the heart of the environmental impact statement.”²⁵ The “discussion of alternatives must rigorously explore and objectively evaluate all reasonable alternatives.”²⁶ Because Mountain Valley has previously stated that it can cross all waterbodies in the first 77 miles of the MVP route with a conventional bore, an alternative that requires the use of a conventional bore at all of those locations is necessarily a reasonable alternative. Further, FERC must investigate the degree to which requiring Mountain Valley to employ trenchless crossing methods at additional locations along the pipeline route presents a reasonable alternative.

Consideration of such alternatives is necessary not only for FERC to satisfy its NEPA duty, but also for the Corps to carry out its responsibilities under the Clean Water Act. As the Corps explained to FERC, its permitting process also requires an analysis of alternatives. Specifically, the Corps may not authorize the discharge of dredged or fill material such as would be required for an open-cut crossing if there “is a practicable alternative to the

²⁵ 40 C.F.R. § 1502.14.

²⁶ *Union Neighbors United, Inc. v. Jewell*, 831 F.3d 564, 568 (D.C. Cir. 2016).

proposed discharge which would have less adverse impact on the aquatic ecosystem.”²⁷ Moreover, a “fundamental precept of the Corps’ Regulatory Program under Section 404 of the Clean Water Act is that the discharge of dredged and/or fill material into waters of the United States will be avoided and minimized, where it is practicable to do so,” such that a “Section 404 of the Clean Water Act permit may only authorize the least environmentally damaging practicable alternative.”²⁸ Thus, for a NEPA document to support the Corps’ permitting process, it must “evaluate how the Project was designed to avoid and minimize the discharge of dredged and/or fill material into waters of the United States” including analysis of “avoidance and minimization alternatives.”²⁹

Trenchless crossings represent one potential avoidance and minimization alternative for the crossings that Mountain Valley proposes to accomplish using the dry-ditch, open-cut method. In order for the Corps to be able to rely on FERC’s NEPA analysis for the project in determining the least environmentally damaging practicable alternative, FERC must further evaluate the practicability of requiring Mountain Valley to employ trenchless

²⁷ Acceptance of Cooperating Agency Responsibility at 3 (Accession No. 20210310-5059).

²⁸ *Id.*

²⁹ *Id.*; see also 40 C.F.R. § 230.10(a)(4) (requiring supplementation of NEPA documents that do not consider alternatives in sufficient detail to address the “least environmentally damaging practicable alternatives” requirements of the Section 404(b)(1) guidelines).

crossing methods at all crossing locations. But, as explained below, Mountain Valley has not provided sufficient data to inform a site-specific analysis of the environmental impacts at each of its crossing locations, regardless of whether the company intends to trench or bore the particular location.³⁰

A. THE U.S. ENVIRONMENTAL PROTECTION AGENCY RECOMMENDS THAT TRENCHLESS CROSSINGS BE CONSIDERED FOR USE AT ALL STREAMS WHERE NOT CURRENTLY PROPOSED, AND HAS EXPRESSED CONCERNS ABOUT MOUNTAIN VALLEY'S ALTERNATIVES ANALYSIS.

On May 27, 2021, Region 3 of the United States Environmental Protection Agency (“EPA”) submitted comments to the Corps on Mountain Valley’s pending application for an individual Section 404 permit for the MVP’s waterbody crossings.³¹ In those comments, EPA Region 3 stated that the MVP

³⁰ Among other things, the Commission must demand additional feasibility studies for Mountain Valley’s proposed trenchless crossings and must require that these studies comprise more than preliminary desktop analysis. The Commission cannot take a hard look at the probable environmental impacts of tunneling without a serious inquiry into the feasibility of tunneling on a site-by-site basis, including what site-specific design changes and mitigation measures may be necessary. As just one example, a 2021 report by the Virginia Scientist-Community Interface notes “considerable heterogeneity in soil and hydrological properties across stream and wetland crossings in the Bent Mountain area” and that these issues “present unique challenges that warrant individual field-bases site assessments,” concluding that “[i]t is not possible to know the extent of these challenges without extensive field-based feasibility studies and site characterization.” Virginia Scientist-Community Interface, *Geology, Hydrology, Ecology, and Soils May Present Challenges for Construction of the Mountain Valley Pipeline near Bent Mountain, Virginia* at 5 (July 2021) (Virginia Scientist-Community Interface submitted its report to FERC Docket No. CP21-57 on August 1, 2021, but the report did not appear on the docket at the time of filing and is attached hereto as Ex. 34).

³¹ Letter from Jeffrey Lapp, Chief, Wetlands Branch, U.S. Environmental Protection Agency Region 3, to Michael Hatten, Chief, Regulatory Branch, Huntington District, U.S. Army Corps of Eng’rs, Re: LRH-2015-00592-GBR,

“may not comply with the [Section 404(b)(1)] Guidelines,” and recommended “that the permit not be issued until modifications described in the attachment . . . have been addressed and incorporated into the project.”³² Among the reasons underlying EPA’s recommendations were its concerns about Mountain Valley’s presentation of crossing alternatives.³³

EPA recognized that alternatives to the proposed action should include “not only geographical siting but also operational options, such as design modifications.”³⁴ To accomplish a robust alternatives analysis, EPA recommended that “a full range of practicable alternatives” be considered for each crossing.³⁵ Indeed, EPA specifically recommended further consideration of trenchless crossings “at streams where [such methods are] not currently proposed, particularly streams that will be crossed multiple times, streams that are of good quality, and/or streams that may contain threatened or endangered aquatic species”³⁶

LRP-2015-798, NAO-2015-0898, Mountain Valley Pipeline, LLC; Mountain Valley Pipeline, Wetzel County, West Virginia to Pittsylvania County, Virginia (May 27, 2021) (attached as Ex. 4).

³² *Id.* at 2.

³³ *Id.* at 4–6.

³⁴ *Id.* at 4.

³⁵ *Id.*

³⁶ *Id.* at 5.

EPA's recommendations mirror the Commenters' conclusions in their April 15, 2021 scoping comments: FERC's NEPA review must include a site-specific, crossing-by-crossing, alternatives analysis to take a hard look at the environmental impacts of the available alternative stream-crossing methods at each proposed crossing. FERC need not take Commenters' word for what should occur here; it can take EPA's.

B. MOUNTAIN VALLEY'S ASSERTIONS REGARDING THE PRACTICABILITY OF VARIOUS CROSSING METHODS ARE NOT CREDIBLE BECAUSE OF THE COMPANY'S DEMONSTRATED HISTORY OF MISREPRESENTING THE PRACTICABILITY OF ALTERNATIVE CROSSING CONSTRUCTION METHODS.

Although in some instances, a federal agency analyzing alternatives “may accord substantial weight to the preferences of the applicant in the siting and design of the project,”³⁷ the Commission cannot do so here. Mountain Valley simply has no credibility on whether trenchless technologies are practicable at any particular location. Over the years, Mountain Valley rejected many trenchless crossings that it now proposes to construct; and, just months ago, it proposed many trenchless crossings that it today rejects as neither technologically nor financially feasible. Those prior inconsistent statements completely undermine Mountain Valley's present statements

³⁷ *City of Grapevine, Texas v. Dep't of Transp.*, 17 F.3d 1502, 1506 (D.C. Cir. 2002) (quoting *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 197 (D.C. Cir. 1991)).

about whether a trenchless crossing is practicable at any particular location.³⁸ In light of Mountain Valley’s lack of credibility on the issue, the Commission cannot credit Mountain Valley’s statements or give weight to its preferences. An agency acts arbitrarily and capriciously when it bases an action on information that is untrustworthy and not credible.³⁹ Stated otherwise, because of Mountain Valley’s lack of credibility established below, the Commission cannot accept at face value any statements by Mountain Valley on the alternatives question.

1. Mountain Valley’s Initial FERC Permitting Efforts and 2016 Waterbody Crossing Review

Mountain Valley has a demonstrated history of saying whatever it needs to say about alternative crossing methods in order to gain approval of its preferred methods. That is the clear lesson of a review of Mountain Valley’s

³⁸ *United States v. Hale*, 422 U.S. 171, 176 (1975) (noting “basic” legal principle that prior inconsistent statements impeach an individual’s credibility); *Mosely v. City of Chicago*, 252 F.R.D. 421, 431 (N.D. Ill. 2008) (“[P]rior inconsistent statements of a witness undermine credibility.”).

³⁹ *See, e.g., Colo. Fire Sprinkler, Inc. v. Nat’l Lab. Rels. Bd.*, 891 F.3d 1031, 1041 (D.C. Cir. 2018) (holding agency decision to be arbitrary and capricious because of its reliance on “demonstrably untrustworthy” information); *Friends of Boundary Waters Wilderness v. Bosworth*, 437 F.3d 815, 825 (8th Cir. 2006) (holding an agency cannot rely on questionable data without independently validating it); *Menorah Med. Ctr. v. Heckler*, 768 F.2d 292, 295–96 (8th Cir. 1985) (reliance on untrustworthy survey rendered decision arbitrary and capricious); *St. James Hosp. v. Heckler*, 760 F.2d 1460, 1467 n.5 (7th Cir. 1985) (“[I]t is an agency’s duty to establish the statistical validity of the evidence before it prior to reaching conclusions based upon that evidence.”).

initial efforts to obtain FERC approval and its 2016 Waterbody Crossing Review.⁴⁰

Mountain Valley initially asserted that it would cross the Elk, Gauley, and Greenbrier Rivers in West Virginia using a *wet*, open-cut method.⁴¹ A wet, open-cut method is typically faster and cheaper than a dry-ditch, open-cut crossing.⁴² FERC pushed back against Mountain Valley’s plan, asking the company to “provide quantitative modeling results of the turbidity and sedimentation associated with construction.”⁴³ Mountain Valley initially resisted, insisting that its proposed technique was incorporated in the FERC Procedures and was “an accepted and well-established pipeline construction technique that inherently accounts for the temporary stream impacts of the water crossing.”⁴⁴ FERC persisted, however, and required Mountain Valley to quantify the effects of wet crossings of the Elk, Gauley, and Greenbrier

⁴⁰ Mountain Valley Pipeline, LLC, Waterbody Crossing Review (April 2016) [hereinafter WCR] (attached as Ex. 5).

⁴¹ Fed. Energy Regul. Comm’n, Mountain Valley Project and Equitrans Expansion Project: Final Environmental Impact Statement at 4-119 (June 2017) [hereinafter FEIS].

⁴² See Michael S. Rolband & Frank R. Graziano, Mountain Valley Pipeline Crossings of the Gauley, Greenbrier, Elk, and Meadow Rivers: Assessment of “Wet” vs “Dry” Open-cut Methods of Pipeline Installation 2 (2018).

⁴³ Mountain Valley Pipeline, LLC, Responses to FERC Environmental Information Request Dated March 31, 2016 at 64 (Apr. 21, 2016) (attached as Ex. 6).

⁴⁴ *Id.* at 65.

Rivers.⁴⁵ That modeling predicted substantial sediment load increases in those rivers.⁴⁶ As a result, Mountain Valley acquiesced and changed its proposed crossing method at those rivers to dry-ditch open-cut.⁴⁷

In the initial development of the project, Mountain Valley also strenuously resisted adopting trenchless crossing methods. Only at FERC's insistence did Mountain Valley evaluate trenchless methods, and, even then, only on a subset of streams.⁴⁸ In numerous instances in that review, Mountain Valley took positions about trenchless crossings inconsistent with what it acknowledges to be true today.

First, with regard to the MVP's crossing of the Left Fork of the Holly River, Mountain Valley asserted that "[t]he open cut method of crossing the Left Fork of Holly River involves fewer installation risks than the conventional bore methodology."⁴⁹ Mountain Valley estimated a conventional bore would require 18 and 19 feet deep bore bits, and that such "bore pits would be below the water table, which would cause water to flow constantly into the bore pits

⁴⁵ Fed. Energy Regul. Comm'n, Mountain Valley Project and Equitrans Expansion Project: Draft Environmental Impacts Statement at 4-110 (Sept. 2016) [hereinafter DEIS].

⁴⁶ FEIS at 4-139.

⁴⁷ *Id.*

⁴⁸ *Id.* at 4-118.

⁴⁹ WCR at 7.

during construction. This would pose a *risk of failure that is likely insurmountable.*⁵⁰

Contrast that with Mountain Valley's position on the Left Fork of the Holly River in its pending individual permit application: Mountain Valley now contends that "an *open cut* crossing at this location [would be] extraordinarily challenging."⁵¹ Mountain Valley is now saying exactly the opposite of what it said in 2016. Notwithstanding that it now estimates even deeper bore pits (24 feet) will be required at the Left Fork of the Holly River, Mountain Valley now has confidence that a conventional bore it once characterized as having a "likely insurmountable" "risk of failure" can be accomplished.⁵²

Second, with regard to the Pipeline's crossing of the Elk River, in 2016 Mountain Valley insisted to FERC that the bore pit depths of 40 and 33 feet that would be required for a trenchless crossing of the Elk "pose[d] a risk of failure that is likely insurmountable."⁵³ Today, Mountain Valley acknowledges that a trenchless crossing is practicable, even with bore pit depths of 49 feet.⁵⁴

⁵⁰ *Id.* (emphasis added).

⁵¹ Application, tbl. 15 at 6 (emphasis added). All citations to Table 15 of Mountain Valley's application to the Corps are to the March 1, 2021 version of that Table.

⁵² Compare WCR at 7, with Application, tbl. 15 at 6.

⁵³ WCR at 8.

⁵⁴ Application, tbl. 15 at 6.

Third, with regard to the Pipeline’s crossing of the Gauley River, Mountain Valley once more insisted that bore pit depths associated with a trenchless crossing—in this case 36 and 23 feet deep—“would pose a risk of failure that is likely insurmountable.”⁵⁵ Today, even though it now estimates that bore pits of 57 feet will be required, Mountain Valley concedes that a trenchless crossing of the Gauley River is practicable.⁵⁶

Fourth, Mountain Valley also predicted a “likely insurmountable” “risk of failure” of a trenchless crossing of the Greenbrier River in 2016.⁵⁷ And it rejected any use of the Direct Pipe method because of “the relative newness of the Direct Pipe technology, potential risk associated with geologic formations, and larger impact area on the launch side.”⁵⁸ Today, Mountain Valley admits (1) that the Direct Pipe stream crossing method is practicable and (2) that the risks of a failure of a trenchless crossing at the Greenbrier River are *not* “insurmountable.”⁵⁹

Finally, in 2016—and only in the face of pressure from FERC—Mountain Valley conceded that the crossing of the Pigg River using horizontal

⁵⁵ WCR at 9.

⁵⁶ Application, tbl. 15 at 12.

⁵⁷ WCR at 10.

⁵⁸ *Id.* at 5.

⁵⁹ Application, tbl. 15 at 20.

directional drilling (“HDD”) would be practicable with a route realignment.⁶⁰ Even then, however, Mountain Valley continued to resist using that trenchless method, telling FERC that “a dry[-ditch, open cut] crossing would be preferable.”⁶¹ FERC would not back down, however, and directed Mountain Valley to adopt the realignment near the Pigg River and to implement an HDD crossing.⁶² Today, Mountain Valley boasts that its “pipeline was successfully installed under the Pigg River with a horizontal directional drill.”⁶³

In sum, Mountain Valley’s 2016 *Waterbody Crossing Review* demonstrates Mountain Valley’s commitment to pursuing stream-crossing methods based on convenience rather than practicability. Time and again it characterized trenchless crossings at specific streams as having “likely insurmountable” “risk[s] of failure,” yet today agrees that it can implement trenchless methods at those streams. Accordingly, Mountain Valley’s present assertions of practicability issues with trenchless methods at the majority of its crossings are simply not credible and cannot be taken at face value.

⁶⁰ WCR at 15. The 2016 WCR also examined the feasibility of trenchless crossings of the Blackwater River, but, due to alignment changes, those particular crossings are no longer at issue.

⁶¹ FEIS at 4-119.

⁶² *Id.* at 4-139–4-140.

⁶³ Application at 44.

2. Mountain Valley’s November 2020 Application to Amend its FERC Certificate

Mountain Valley’s credibility with regard to its practicability assessments is further undermined by its recent about-face with regard to 38 specific crossings on the northern-most segment of the MVP. After conceding that trenchless crossings at those 38 locations are practicable in November 2020, Mountain Valley inexplicably now represents that trenchless crossings at those locations are not practicable and that it must be permitted to trench through them.

After the U.S. Court of Appeals for the Fourth Circuit stayed the Corps’ second effort to verify the MVP under Nationwide Permit 12 on November 9, 2020,⁶⁴ Mountain Valley asked FERC to amend its Natural Gas Act certificate to allow it to use trenchless crossings at every waterbody along the first 77 miles of MVP’s route.⁶⁵ Specifically, Mountain Valley proposed “to use 41 conventional bores to cross 69 waterbodies and wetlands” between the Pipeline’s Mileposts 0 and 77.⁶⁶ The specific crossings at issue are identified by Mountain Valley’s chosen crossing numbers in Table A-1 of its November 2020

⁶⁴ Order, *Sierra Club v. U.S. Army Corps of Eng’rs*, No. 20-2039(L), Doc. #50 (4th Cir. Nov. 9, 2020).

⁶⁵ Abbreviated Application of Mountain Valley Pipeline, LLC for Limited Amendment to Certificate of Public Convenience and Necessity and Request for Expedited Action at 1, FERC Docket No. CP21-12-000 (Nov. 18, 2020) (attached as Ex. 7).

⁶⁶ *Id.*

amendment application.⁶⁷ Mountain Valley specifically identified the Fourth Circuit’s stay of its Nationwide Permit 12 verifications and “continuing uncertainty regarding the options that will ultimately be available to Mountain Valley to complete the waterbody and wetland crossings for the Project” as its motivation for seeking that amendment.⁶⁸

Regarding the 41 conventional bores it proposed in November 2020, Mountain Valley represented to FERC that

Conventional bore is Mountain Valley’s preferred methodology due to cost, duration, equipment availability, contractor availability, and the lowest complexity of the available technologies. The crossing lengths, bore geometry, terrain, and bore pit logistics for **the crossings at issue in this [application] are well suited for conventional bores.**⁶⁹

Mountain Valley was so confident in the practicability of conventional boring under all of the waterbodies and wetlands along the first 77 miles of the pipeline’s route that it created Plan and Profile Drawings for each crossing,⁷⁰

⁶⁷ *Id.*, tbl. A-1. Specifically, the 41 crossing numbers were: A-001, A-003, A-005, A-006, A-008, A-009, A-010/A-011, A-012, A-013, A-014, A-015, A-016, A-017, A-18, A-019A, B-001, B-001A, B-002, B-003, B-005, B-006, B-007, B-008, B-009, B-010, B-011, B-012, B-013, B-014A, B-014B, B-015A, B-015B, B-016, B-017, C-001, C-002, C-003, C-004, C-005, C-006, and C-007.

⁶⁸ Mountain Valley Pipeline, LLC, Supplemental Environmental Report for Proposed Conventional Bore Waterbody and Wetland Crossings from Mileposts 0 to 77 at 1-1 (Nov. 2020) (hereinafter SER) (included with Mountain Valley’s November 2020 application attached as Ex. 7).

⁶⁹ Ex. 7, SER at 1-2 (emphasis added).

⁷⁰ *Id.* at app. C.

and asked FERC for permission to start boring operations by December 31, 2020.⁷¹

By February 19, 2020—just three months later—Mountain Valley had changed its tune about the practicability of conventional boring for 38 of the 41 crossings that it had recently told FERC were well suited for conventional boring. On that day—having withdrawn its November 2020 application for permission to bore under all the streams and wetlands along the first 77 miles of its route on January 26, 2021⁷²—Mountain Valley filed its pending Section 404 application with the Corps. In that application, Mountain Valley asks the Corps for permission to use dry-ditch, open-cut crossings at 38 of the 41 crossings at issue in its November 2020 FERC application.⁷³ In so doing, Mountain Valley has the audacity to assert that conventional boring is not practicable at those 38 crossings, without ever acknowledging—let alone

⁷¹ Ex. 7, Abbreviated Application at 2.

⁷² Letter from Matthew Eggerding, Asst. General Counsel, Mountain Valley Pipeline, LLC, to Kimberly D. Bose, Secretary, Fed. Energy Regul. Comm'n, Re: Mountain Valley Pipeline, LLC, Docket No. CP21-12-000, Withdrawal of Application (Jan. 26, 2021) (attached as Ex. 8).

⁷³ Application, tbl. 15 at 1–5. Mountain Valley still intends to use a conventional bore at crossings A-008, B-012, and B-015A. But it requests Corps permission to trench through the streams and wetlands associated with crossing numbers A-001, A-003, A-005, A-006, A-009, A-010/011, A-012, A-013, A-014, A-015, A-016, A-017, A-018, A-019A, B-001, B-001A, B-002, B-003, B-005, B-006, B-007, B-008, B-009, B-010, B-011, B-013, B-014A, B-014B, B-015B, B-016, B-017, C-001, C-002, C-003, C-004, C-005, C-006, and C-007.

explaining—what might have changed between November 2020 and February 2021.

In rejecting conventional boring for 26 of those 38 crossings, Mountain Valley asserts that site conditions make conventional boring “logistically difficult” or “logistically challenging,”⁷⁴ notwithstanding that just three months earlier Mountain Valley told FERC that all aspects of those crossings were “well suited for conventional bores.”⁷⁵ In rejecting conventional boring for 33 of those 38 crossings, Mountain Valley complained about the depth of the requisite bore pit,⁷⁶ despite explicitly telling FERC just three months earlier that the “bore pit logistics for the crossings . . . are well suited for conventional bores,”⁷⁷ and despite the fact that, for four of those 33 crossings, the required bore pits would be no deeper than those required for one of the crossings in the first 77 miles that Mountain Valley has agreed to retain as a conventional bore.⁷⁸

⁷⁴ Application, tbl. 15 at 1–5. Those crossings are A-001, A-003, A-005, A-006, A-009, A-010/011, A-012, A-014, A-015, A-017, A-018, A-019A, B-001A, B-003, B-005, B-006, B-007, B-011, B-013, B-014A, B-014B, B-017, C-001, C-003, C-004, and C-006.

⁷⁵ Ex. 7, SER at 1-2.

⁷⁶ Application, tbl. 15 at 1–5. Those crossings are A-005, A-006, A-009, A-010/011, A-012, A-013, A-014, A-015, A-016, A-017, A-018, A-019A, B-001, B-001A, B-003, B-005, B-006, B-007, B-008, B-009, B-010, B-011, B-013, B-014A, B-014B, B-015B, B-016, C-002, C-003, C-004, C-005, C-006, and C-007.

⁷⁷ Ex. 7, SER at 1-2.

⁷⁸ Mountain Valley proposes to implement a conventional bore at crossing number A-008, which will require a bore pit depth of 29 feet. Application, tbl.

Because Mountain Valley so recently vouched for the *technical* feasibility, the only plausible reason for Mountain Valley to now reject the practicability of trenchless crossings at those 38 locations is *cost*. But Mountain Valley only complains about the cost of 33 of the 38 crossings that it previously proposed to bore.⁷⁹ And in any event, Mountain Valley’s cost figures for the 38 crossings it previously committed to bore under are unsubstantiated, not transparent, and cannot be validated as reasonable, according to Catherine Dare, a civil engineer with 30 years of experience who reviewed Table 15 of Mountain Valley’s pending Corps application, as well as its November 2020 FERC application.⁸⁰ Dare concluded in her review that “[t]he current level of detail in Table 15 does not support the truthing of the presented costs.”⁸¹

Mountain Valley’s changing positions regarding the crossings along the first 77 miles of the pipeline’s route call into question the company’s statements about the crossings along the remainder of the route as well. When Mountain Valley describes a crossing it once characterized as “well suited for

15. Nonetheless, Mountain Valley complains at the bore pit depth at crossing numbers A-013, A-017, B-009, and B-016, notwithstanding that the required bore pits at those crossings will be 17, 28, 20, and 23 feet deep, respectively. *Id.*

⁷⁹ Application, tbl. 15. Those crossings are A-003, A-005, A-006, A-009, A-010/011, A-012, A-013, A-015, A-016, A-017, A-018, A-019A, B-001, B-001A, B-003, B-005, B-006, B-007, B-008, B-009, B-010, B-011, B-013, B-014A, B-014B, B-015B, B-017, C-003, C-004, C-005, C-006, and C-007.

⁸⁰ See generally Dare (2021), *supra* n.1.

⁸¹ *Id.* at 4.

conventional boring” as “logistically challenging,” that calls into question every crossing it characterizes as “logistically challenging.”⁸² When Mountain Valley says that a bore depth of 67 feet is “well suited for [a] conventional bore[]”—as it did with regard to crossing number C-007 in its November 2020 certificate amendment application—and then later complains that such a pit is too deep, that calls into question the company’s assertions every time it complains about a bore bit depth shallower than 67 feet.

Given Mountain Valley’s apparent willingness to say anything about any particular crossing to justify its preferred-method-of-the-day, nothing the company says about the practicability of trenchless methods can be trusted. Accordingly, FERC can neither credit Mountain Valley’s statements about alternatives nor give weight to its preferences.

C. MOUNTAIN VALLEY’S PRESENTATION OF LOGISTICAL AND TECHNICAL ISSUES AT EACH CROSSING LOCATION IS SO OPAQUE AND INCONSISTENT THAT IT WOULD BE ARBITRARY AND CAPRICIOUS FOR FERC TO RELY ON IT.

In Table 15 of its application to the Corps, Mountain Valley purports to explain how it determined which crossings it would bore and which crossings it would trench. But the applicant has utterly failed to justify its selections on a case-by-case basis. Mountain Valley’s “logic” in Table 15 is impenetrably opaque. It is riddled with inaccuracies and inconsistencies.⁸³ Indeed, it is so

⁸² Mountain Valley uses that phrase to characterize at least 28 crossings outside the first 77 miles. Application, tbl. 15.

⁸³ Silvis (2021), *supra* n.1, at 17–19; Dare (2021), *supra* n.1 at 1–6.

defective as to be entirely inadequate as an attempt at an alternatives analysis. Two engineers independently reviewed Mountain Valley’s alternatives analysis and both reached the same conclusion: It is conclusory and wholly unsupported to the point that it is all but useless.⁸⁴

Expert engineer Catherine Dare reviewed Table 15 and concluded that, because of its conclusory nature, it utterly fails to provide an understanding of how Mountain Valley selected its crossing methods:

[We] focused on the Crossing Method Decision Logic Column of Table 15, and the metrics discussed focus primarily on technical and logistics issues with respect to the two technologies. Typically, when assessment of preferred methodologies is performed, a ranking system is used which scores each of the factors evaluated to allow for an understanding of the importance of each factor being considered in relationship to the other factors. This also provides transparency in the process, as many of the factors can be competing. **The summary assessment provided in Table 15 in the Crossing Method Decision Logic column does not discuss how the various competing factors were ranked to arrive at the proposed stream crossing methodology.** The “risk management” based assessment that the permit application discusses does not appear to have been used in the crossing selection process. The process should balance the competing interests of cost and protectiveness against the impacts and potential impacts should unanticipated conditions be encountered, and unforeseen circumstances result in environmental degradation. **The Application as presented does not demonstrate that the Affected Environment and Environmental Review Factors discussed in Section 4 of the application, and the Mitigating factors discussed in Section 5, affected the proposed stream crossing selection. *This failure of explanation represents a lack of assessment of environmental impacts and technical issues as***

⁸⁴ Silvis (2021), *supra* n.1, at 1 (“At a minimum, the defects of the IP application make it impossible to fairly assess whether Mountain Valley’s proposal is in fact the least environmentally damaging practicable alternative.”); Dare (2021), *supra* n.1 at 5.

presented and any approval without this level of detail could be interpreted as an arbitrary and capricious technology selection process. The complexities of each of the stream crossings dictates the need for a case-by-case assessment which balances the cost, logistics and the environmental factors discussed in the application. **This assessment step needs to be included in Table 15 in such a way as to present a meaningful summary of all factors considered that supports the selected crossing technology.** The addition of this detail in the assessment provides the necessary transparency to demonstrate how the protectiveness, logistics and physical constraints of each stream crossing, and cost were balanced and considered.⁸⁵

Stated otherwise, it is frankly impossible to understand Mountain Valley’s decision-making from a review of Table 15.

Several inconsistencies illustrate that point. For example, as Silvis (2021) observes, the orangefin madtom (*Noturus gilberti*)—a candidate species for protection under the Endangered Species Act—is treated inconsistently in Table 15.⁸⁶ According to Silvis,

In Table 15, 31 of the 101 streams where orangefin madtom is located are designated for conventional boring with the following statement listed in the Crossing Method Decision Rationale: “Orangefin madtom habitat may be present in this stream and it is a trout water. The direct aquatic impact will be avoided/minimized by use of the conventional bore method”. Mountain Valley recognizes that avoidance and minimization of impacts to these sensitive fish is maximized using trenchless methods, but **no information exists in the IP detailing how**

⁸⁵ Dare (2021), *supra* n.1, at 5 (bold and italics added). Silvis (2021) similarly concluded that “the defects of the IP application make it impossible to fairly assess whether Mountain Valley’s proposal is in fact the least environmentally damaging practicable alternative.” Silvis (2021), *supra* n.1, at 1.

⁸⁶ Silvis, *supra* n.1 at 13–14.

impacts to orangefin madtom at the remaining 70 sites where it was listed will be avoided and minimized.⁸⁷

In other words, Mountain Valley accepts conventional boring as a method to protect orangefin madtom habitat at a small subset of sites where the species may be located, but completely fails to explain why a dry-ditch, open-cut crossing is the least environmentally damaging practicable alternative at scores of other madtom locations. And Silvis notes that the same is true for trout waters.⁸⁸

Silvis also notes that, in Table 15, Mountain Valley frequently cites a lack of space to stockpile spoil as a rationale for rejecting a trenchless crossing.⁸⁹ But Mountain Valley also noted that insufficient spoil storage space was an issue at 44 of the locations where it accepted conventional boring as the least environmentally damaging practicable alternative anyway.⁹⁰ Apparently, Mountain Valley can find ways to work around a lack of space where it wants to, but does not explain the differences between the sites.

Bore pit depth is yet another area where Mountain Valley is all over the map. In November 2020, Mountain Valley asked FERC for permission to use a conventional bore at crossing number C-007, even after its engineer's plan and

⁸⁷ *Id.* (emphasis added).

⁸⁸ *Id.* at 14.

⁸⁹ *Id.* at 19.

⁹⁰ *Id.*

profile drawings revealed that the crossing would require a 67-foot-deep bore pit.⁹¹ Mountain Valley told FERC that “bore pit logistics [for Crossing Number C-007] are well suited for conventional bores.”⁹² Yet Mountain Valley now complains that the bore pit at C-007—and shallower ones at scores of other crossing locations—are too deep to make conventional boring practicable.⁹³ Indeed, Mountain Valley concedes that a trenchless crossing of the Gauley River (Crossing Number D-041) is practicable, even with a 57-foot-deep bore pit.⁹⁴ Yet Mountain Valley rejects scores of trenchless crossings with shallower bore pits on the grounds that the bore pits are too deep.⁹⁵

Mountain Valley’s inconsistencies on bore pit depth even reach the shallowest of bore pits. In its application, Mountain Valley states that “[t]renchless crossing methods are generally considered technically and logistically achievable for any crossing that would require bore pits less than 20 feet in depth”⁹⁶ And, at some crossings with bore pit requirements less than 20 feet, Mountain Valley concedes that there are “no significant

⁹¹ Ex. 7, SER, drawing no. C-BP-WV-BR-046.01.002.

⁹² *Id.*, SER at 1-2.

⁹³ *See generally* Application, tbl. 15.

⁹⁴ *Id.* at 12.

⁹⁵ *See generally id.*

⁹⁶ Application at 57.

constraints” to conventional boring, and selects that crossing method.⁹⁷ But at other crossings that would require bore pits of a similar depth, Mountain Valley rounds the bore bit depth up to “nearly” or “approximately” 20 feet and asserts that a conventional bore would not be practicable.⁹⁸

Mountain Valley’s inconsistencies on protection of orangefin madtom, spoil storage area, and bore pit depth underscore the conclusion that its decision-making logic in its selection of crossing methods is indecipherable. As Dare observes, “[t]ypically, when assessment of preferred methodologies is performed, a ranking system is used which scores each of the factors evaluated to allow for an understanding of the importance of each factor being considered in relationship to the other factors.”⁹⁹ This is particularly important where, as here, “many of the factors can be competing.”¹⁰⁰ Nothing in Table 15

⁹⁷ *Id.*, tbl. 15 at 12 (Crossing No. D-035 (17 feet)), 15 (Crossing No. E-009 (17 feet)), & 24 (Crossing No. G-014 (15 feet)).

⁹⁸ *Id.*, tbl 15 at 7 (Crossing No. C-029 (17 feet)), 9 (Crossing No. D-013 (17 feet)), 13 (Crossing No. D-045 (17 feet)), and 16 (Crossing No. E-010 (17 feet)).

⁹⁹ Dare (2021), *supra* n.1, at 5. The ranking system Dare describes is consistent with the detailed alternatives comparison matrix and accompanying narrative recommended in “Step 3” of the Huntington and Pittsburgh Districts’ Checklist for Preparing an Alternatives Analysis Under Section 404 of the Clean Water Act, Buffalo District – Regulatory Branch, Pittsburgh District – Regulatory Division, Huntington District – Regulatory Division (May 13, 2020) (requiring that “the criteria used to establish [practicability] screens and how an alternative passes or fails the screen . . . be clearly elucidated and supported”).

¹⁰⁰ *Id.*

establishes that Mountain Valley performed that sort of robust assessment.¹⁰¹ Rather, it appears that Mountain Valley made decisions of convenience, instead of taking the requisite hard look on a crossing-by-crossing basis. Accordingly, reliance on Mountain Valley’s alternatives analysis—and its “failure of explanation”—risks employing “an arbitrary and capricious technology selection process.”¹⁰²

D. MOUNTAIN VALLEY CANNOT ESTABLISH THAT ANY TRENCHLESS CROSSINGS ARE IMPRACTICABLE FROM THE STANDPOINT OF COST.

The flaws in Mountain Valley’s alternatives analysis in Table 15 are compounded by a lack of transparency in its cost assessments and thresholds. Here, as on the technical and logistical issues, Mountain Valley has failed to provide the sufficient level of detail.

As EPA has emphasized, “[g]enerally, as the scope/cost of the project increases, the level of analysis should also increase.”¹⁰³ Mountain Valley’s capital budget for the MVP is **\$6.2 billion**.¹⁰⁴ Accordingly, the level of analysis

¹⁰¹ *Id.*

¹⁰² *Id.*; see also Silvis (2021), *supra* n.1, at 8 (“Mountain Valley has not substantiated why its crossing choice at any given site is the least environmentally damaging practicable alternative.”).

¹⁰³ Memorandum to the Field, Subject: Appropriate Level of Analysis Required for Evaluating Compliance with the Section 404(b)(1) Guidelines Alternatives Requirements (Aug. 23, 1993), *available at* 62 Fed. Reg. 31,492, 31,497–99 (June 9, 1997).

¹⁰⁴ Press Release, Equitrans Midstream, *Equitrans Midstream Announces First Quarter 2021 Results* (May 4, 2021), *available at*

required to determine whether the costs of trenchless crossings are practicable is substantial.

Moreover, the project's proponents have time and again absorbed large cost increases. At the time Mountain Valley received its FERC certificate, the estimated capital costs for the Pipeline were, at \$3.7 billion, \$2.5 billion less than the current estimate.¹⁰⁵ Indeed, when Mountain Valley successfully persuaded the United States Supreme Court not to review the question of whether the federal courts could allow it immediate possession of easements for which it had not yet paid just compensation, it told the Court that “[i]t is inconceivable that Mountain Valley would abandon a nearly-completed project of this magnitude in which it already has invested several billion dollars.”¹⁰⁶

In the context of Mountain Valley's capital budget, the costs of the trenchless crossings Mountain Valley has rejected are insignificant. Dare calculated the “increased cost for changing the currently proposed open cut crossings to conventional auger would be just over \$270M USD. As a point of

https://s22.q4cdn.com/743133753/files/doc_news/Equitrans-Midstream-Announces-First-Quarter-2021-Results-2021.pdf.

¹⁰⁵ Transcript of Preliminary Injunction Hearing at 49:13-15, *Mountain Valley Pipeline, LLC v. An Easement to Construct Operate and Maintain a 42-Inch Gas Transmission Line*, Civ. No. 2:17-cv-04214 (S.D. W. Va. Feb. 7, 2018) (attached as Ex. 9).

¹⁰⁶ Brief in Opposition to Petition for Writ of Certiorari at 28, *Givens v. Mountain Valley Pipeline*, No. 19-54 (Aug. 22, 2019), available at https://www.supremecourt.gov/DocketPDF/19/19-54/113255/20190822145651082_BIO%20Givens%20v.%20Mountain%20Valley%20Pipeline.pdf.

reference, \$270M represents approximately 4.5% of the total overall cost.”¹⁰⁷ Robert C. Cooper—the engineer in charge of constructing the MVP—testified in federal court that an increase in construction cost of 5% is not unusual in his experience as a pipeline project manager.¹⁰⁸ Or, as Dare puts it, “[a]n increase of \$270M [in a \$6.2B project] is not outside the possible margin of error” of the project cost estimates.¹⁰⁹ Indeed, on an industry-wide basis, it is acknowledged that the “direct costs of various [stream] crossing techniques are difficult to predict,” because of, among other things, necessary contingency factors.¹¹⁰

Oil and gas pipelines are frequently multi-billion-dollar affairs, and their capital costs have been increasing in recent years.¹¹¹ Stream crossings “strongly affect pipeline construction costs.”¹¹² Because the cost practicability component must be evaluated in the context of natural gas pipelines generally,

¹⁰⁷ Dare (2021), *supra* n.1, at 5.

¹⁰⁸ Ex. 9 at 128:15-17.

¹⁰⁹ Dare (2021), *supra* n.1, at 5.

¹¹⁰ Canadian Ass’n of Petroleum Producers et al., Pipeline Associated Watercourse Crossings 3rd Ed., §4.4.1 (2005), *available at* Pipelines-Associated-Watercourse-Crossings.pdf.

¹¹¹ *Oil and Gas Pipeline Construction Costs*, Global Energy Monitor Wiki, https://www.gem.wiki/Oil_and_Gas_Pipeline_Construction_Costs#cite_note-source1-1.

¹¹² *Id.* (citing *Natural Gas Pipeline Profits, Construction Both Up*, OIL & GAS JOURNAL (Sept. 5, 2016)).

and because such pipelines frequently cost billions of dollars to build—with significant construction costs turning on the frequency of stream crossings—the 4.5% cost increase that would result from implementing only trenchless crossings does not render that method impracticable from a cost standpoint. In other words, Mountain Valley cannot be permitted to dismiss *any* of the trenchless crossings on the basis that they may be impracticable based on cost.

But even where Mountain Valley attempts to establish that certain trenchless crossings are impracticable due to cost, its efforts fall short. In Tables 13 and 14 of its Corps application, Mountain Valley purports to provide the unit costs that underlie its cost estimates in Table 15.¹¹³ But, as Silvis (2021) observes, “[t]he cost estimates provided in Tables 13 and 14 are inconsistent with prices provided in Table 15 that are used as Decision Rationale.”¹¹⁴ For example, at Crossing H-025, Mountain Valley’s cost estimate for using a dry-ditch, open-cut method for that 200-foot crossing is dramatically lower than the estimate calculated by Silvis based on the price per foot for dry-ditch, open-cut crossings set out in Table 13, leading Silvis to conclude “that the cost discrepancy between dry-ditch and trenchless methods [at this crossing] is not as great as the company states.”¹¹⁵

¹¹³ Application, tbls. 13–15.

¹¹⁴ Silvis, *supra* n.1, at 18.

¹¹⁵ *Id.*

Moreover, Dare concludes that, “[w]ith the information provided [in the application,] it is impossible to assess the validity of the presented costs.”¹¹⁶ Specifically, by presenting the costs as a lump sum, Mountain Valley has “prevent[ed a] critical assessment of the overall costs to allow for independent verification of the costs presented.”¹¹⁷

To try to comprehend Mountain Valley’s cost estimates, Dare (2021) examined a subset of the crossings that Mountain Valley had asked for FERC authorization to bore in November 2020, only to turn around and claim such boring to be impracticable in February 2021.¹¹⁸ Dare found the fifteen “switched-method” crossings with cost estimates over \$1M exceeded the average cost per linear foot by five times, and the average bore-depth cost by two times.¹¹⁹ That conclusion “demonstrates the need to provide transparency in the cost assessment process by providing breakout costs that can be rolled up into each crossing estimate. Currently, there is no transparency in the assembly of costs.”¹²⁰ Based on her review, Dare concluded that the escalation of cost seen in the estimates for those 15 crossings was not substantiated by

¹¹⁶ Dare (2021), *supra* n.1, at 1.

¹¹⁷ *Id.*

¹¹⁸ *See* Section II.B.2, *supra*.

¹¹⁹ Dare (2021), *supra* n.1, at 3–4.

¹²⁰ *Id.* at 4.

the information in the application.¹²¹ Overall, Dare concludes that “the proposed costs are not transparently developed to readily allow for independent verification and limits the ability of a reviewer to validate the costs presented are reasonable.”¹²²

The thresholds that Mountain Valley uses to distinguish between conventional borings that are practicable from a cost perspective from those that are not is also opaque.¹²³ Mountain Valley frequently states in Table 15 that the costs of boring are “excessively expensive” or “unreasonably high relative to” dry-ditch, open-cut construction.¹²⁴ But, as Silvis observes in her report, Mountain Valley never specifies what “unreasonably high” means.¹²⁵

Neither Silvis nor Dare could discern a pattern in Mountain Valley’s preferred cost thresholds. It might be assumed that Mountain Valley used a ratio to delineate when particular crossings were too expensive for its tastes. But it frequently expressed a preference for conventional boring at locations

¹²¹ *Id.*

¹²² *Id.*

¹²³ In a January 22, 2021, call between representatives of Mountain Valley and the Corps, someone suggested (without support) that any bore ten times more expensive than the open-cut method would be impracticable. If Mountain Valley applied such a threshold, it must explicitly state that it has done so and provide a thorough and supported explanation for why it selected that threshold.

¹²⁴ *See generally* Application, tbl. 15.

¹²⁵ Silvis, *supra* n.1, at 18.

where the cost ratio of boring to trenching was high, and rejected boring at locations where that ratio was low.¹²⁶ Alternatively, it might be assumed that Mountain Valley was applying a maximum-cost threshold. But the company has agreed to use trenchless technologies at a very high cost at some locations, while rejecting the technology as a lesser cost at other locations.¹²⁷ In other words, the Mountain Valley's preferred cost thresholds are not apparent on either a ratio or maximum-cost basis. It is within the realm of possibilities that

¹²⁶ For example, the cost of conventional boring at Crossing Number I-062 is 14.87 greater than the cost of an open-cut dry-ditch at that location. Application, tbl. 15 at 42. Nonetheless, Mountain Valley proposes to implement a trenchless method at that crossing. *Id.* In contrast, however, by our count there are 149 crossing where the cost of conventional boring is less than 14.87 times the cost of trenching. *See generally id.* Yet, Mountain Valley chose the dry-ditch, open-cut method at those locations. *Id.*

Taking another example, at Crossing H-044, Mountain Valley agrees to use a conventional bore at a site requiring 21-foot-deep bore pits, notwithstanding that the cost of boring is 6.51 times greater than the cost of trenching. *Id.* at 32. By our count, there are 120 crossings where the cost of conventional boring is less than 6.51 times the cost of trenching, yet Mountain Valley proposes to trench those locations. *See generally id.* On average, at the crossings where Mountain Valley proposes to use trenchless technologies, the cost of that technology is 4.11 greater than the cost of a dry-ditch, open-cut crossing. *Id.* Yet Mountain Valley rejected the conventional bore method at 40 crossings where the ratio between the cost of boring and the cost of trenching was less than 4.11. *Id.*

¹²⁷ Mountain Valley has agreed to use trenchless methods at a cost of \$10.1M at one of its crossings (F-021). *Id.* at 20. Yet only one of the crossings where it proposes to trench through the waterbody or wetland would cost more than \$10.1M to complete using a trenchless method. *See generally id.* Stated otherwise, Mountain Valley rejected trenchless methods at approximately 300 locations that would cost less than the most expensive bore to which it has agreed. *Id.* The average cost of the trenchless crossings to which Mountain Valley has agreed is \$467,481, yet Mountain Valley rejected trenchless methods at 134 crossings with boring estimates less than that average. *Id.*

Mountain Valley’s method selection at some crossings in Table 15 was based on technical feasibility or environmental effects. But, because Mountain Valley casually stated on so many occasions that costs were “unreasonably high” or “excessively expensive” in the same breath that it complained of engineering or environmental factors, there is no clear explanation that shows how, or if, the relative factors have been ranked. And, as Dare observes, a transparent ranking is critical to a complete application.¹²⁸

As Dare further observes, “based on the available information, it is difficult to understand the metrics used to select the stream crossing methodology.”¹²⁹ That is particular true here, where there are competing factors (cost and technical considerations).¹³⁰ Table 15 is simply too opaque to provide useful insight into how cost factored into Mountain Valley’s acceptance of some trenchless crossings and its rejection of others.

E. MOUNTAIN VALLEY CANNOT ESTABLISH THAT THERE ARE NOT LESS ENVIRONMENTALLY DAMAGING ROUTE ALTERNATIVES.

Mountain Valley’s very high-level discussion of routing alternatives does not provide the requisite level of detail for an alternatives analysis. Mountain Valley must examine whether there are routing alternatives that will allow it to avoid certain resources, including by crossing waterbodies at

¹²⁸ Dare (2021), *supra* n.1, at 5.

¹²⁹ *Id.* at 4.

¹³⁰ *Id.* at 5.

locations that would have fewer impacts. The company's failure here should result in permit denial. At a minimum, the agencies must ensure the current NEPA process addresses these issues fully.

Subpart H of the Section 404(b)(1) Guidelines imposes an obligation on the applicant to consider actions to minimize adverse effects.¹³¹ For example, the applicant must reduce the effects of the discharge through its choice of disposal site.¹³² Applicants must also select discharge sites to minimize adverse effects on plant and animal populations.¹³³ Accordingly, Mountain Valley is obligated to evaluate routing alternatives that would avoid stream reaches with sensitive plant and animal species, special aquatic sites, and other sensitive resources. And it must do so on a crossing-by-crossing basis. That is, it must look at each crossing and determine whether modest alignment changes would allow it to select a crossing location with fewer environmental impacts. It has not done so. Instead, Mountain Valley avoids grappling with the necessary details by focusing instead on alignment decisions it made years ago. The question today, however, is whether there are practicable alternative *crossing locations* with fewer environmental impacts. Because Mountain Valley does not grapple with those questions, its application fails to provide sufficient detail to determine whether there are available routing alternatives.

¹³¹ 40 C.F.R. §§ 230.70–230.77.

¹³² *Id.* § 230.70.

¹³³ *Id.* § 230.75.

F. MOUNTAIN VALLEY FAILS TO PRESENT OR CONSIDER ALTERNATIVES FOR ROAD CROSSINGS.

The preceding discussion focuses on alternative pipeline crossing methods and locations, because that is where Mountain Valley focused its analysis. But that myopic focus created another fatal deficiency in the application: Mountain Valley’s application presents no crossing-by-crossing examination of alternatives for the proposed temporary and permanent road crossings. Silvis (2021) concludes that “[t]he preferred temporary access road method for avoidance of environmental impacts is spanning from dry ground beyond the existing top-of-bank on both sides of stream.”¹³⁴ Mountain Valley provides no alternatives analysis of the practicability of spanning each of its proposed road crossings. As Silvis observes, “there are no details provided on how each temporary road crossing will be accomplished or how the non-bridging options will be designed to reduce the likelihood of permanent impacts.”¹³⁵ Silvis further identifies the advantages and disadvantages of a series of road crossing alternatives.¹³⁶ Without identifying what technique Mountain Valley will use at each road crossing, and without considering alternatives to those techniques, the alternatives analysis applicable to Mountain Valley’s road crossings cannot comply with NEPA.

¹³⁴ Silvis (2021), *supra* n.1, at 10–11.

¹³⁵ *Id.* at 16.

¹³⁶ *Id.* at 11 n.4.

G. FERC MUST EVALUATE SYSTEM ALTERNATIVES IN ITS NEPA PROCESS THROUGH THE LENS OF THE SUBSTANTIVE REQUIREMENT THAT MOUNTAIN VALLEY IMPLEMENT ONLY THE LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE.

When FERC initially evaluated alternatives to the proposed route and termini for the MVP, Mountain Valley intended to seek authorization to construct its waterbody crossings under Nationwide Permit 12, rather than an individual Section 404 permit. As a result, at that time there was not a substantive requirement that Mountain Valley use the least environmentally damaging practicable alternative to cross the waterbodies in its path.

That is no longer the case. Because Mountain Valley seeks to permit open-cut, dry-ditch crossings for more than 1,000 waterbodies through an individual Section 404 permit, it must now demonstrate that its proposal constitutes the least environmental damaging practicable alternative.¹³⁷ And, as discussed above, the Corps' regulations require that its least environmentally damaging practicable alternatives analysis be embodied in the NEPA documents on which it relies.¹³⁸ Accordingly, FERC's present NEPA review must examine routing/system alternatives—including alternative termini for the MVP—based on up-to-date information and through the lens of which routing/system alternative would have the least environmental impact on the aquatic ecosystems that the MVP would cross.

¹³⁷ 40 C.F.R. § 230.10(a).

¹³⁸ *Id.* § 230.10(a)(4).

H. FERC MUST NOT ALLOW MOUNTAIN VALLEY'S GAMBLING TO PREJUDICE THE ALTERNATIVES ANALYSIS.

FERC cannot allow Mountain Valley's sunk costs to prejudice the Commission's alternatives analysis. One persistent theme in Mountain Valley's various submissions is the company's desire for the various agencies involved to ratify Mountain Valley's preferred alternative in light of how much pipe Mountain Valley says is already in the ground. For example, Mountain Valley asserts in its application to the Corps that "[a]ny decision to substantially modify the proposed alternative route would result in impacts to previously undisturbed areas in addition to the impacts that have already occurred constructing the proposed Project as it was previously authorized."¹³⁹ Mountain Valley concludes that the project, "as proposed by Mountain Valley and certified by FERC, should be considered the LEDPA."¹⁴⁰ In other words, Mountain Valley paints with a broad brush, suggesting that it has come this far and the only way is forward.

FERC must not allow project proponents like Mountain Valley to manipulate the agency's decision-making. Independent judgment must remain a fundamental principle of FERC's regulatory program. Project proponents must not be allowed to reap the benefit of a bureaucratic steamroller,¹⁴¹ and

¹³⁹ Application at 11.

¹⁴⁰ *Id.* at 13.

¹⁴¹ Then-Judge Breyer used the term "bureaucratic steamroller" to describe the phenomenon of overwhelming bureaucratic momentum and pressure that a

they proceed with partial approval at their own peril. A contrary rule would allow a pipeline developer like Mountain Valley to build its pipeline prior to obtaining its stream crossing authorizations up to the border of the Corps' jurisdiction, such that "the construction and the concomitant expenditure of funds would create so much pressure that the completed portions of the pipeline would 'stand like [a] gun barrel[]' aimed at" the waters of the United States in its path.¹⁴²

Notwithstanding those principles, Mountain Valley repeatedly invokes work it has already done—at its own peril with the full knowledge that it may one day need an individual Section 404 permit—to influence the agencies' analysis. Make no mistake: Mountain Valley has been on notice since at least 2018 that "an individual permit will likely be necessary."¹⁴³ The company has forged ahead with abandon anyway, with the pipeline's operator at one point telling shareholders that the company planned to trench through "critical" streams "as quickly as possible before anything is challenged."¹⁴⁴

regulatory agency may face to approve a project for which construction of some portions has already begun. *Sierra Club v. Marsh*, 872 F.2d 497, 504 (1st Cir. 1989).

¹⁴² *State of North Carolina v. City of Va. Beach*, 951 F.2d 596, 602 (4th Cir. 1991) (quoting *Md. Conservation Council v. Gilchrist*, 808 F.2d 1039, 1042 (4th Cir.1986)).

¹⁴³ *Sierra Club v. U.S. Army Corps of Eng'rs*, 909 F.3d 635, 655 (4th Cir. 2018).

¹⁴⁴ Equitrans Midstream Corp. (ETRN) Q2 2020 Earnings Call Transcript (Aug. 4, 2020) (statement of Diana Charletta, President and C.O.O., Equitrans

Mountain Valley cites its work thus far to try tilting the alternatives analysis towards its preferences in two primary ways—neither of which should be credited. **First**, Mountain Valley asserts that route changes “would result in impacts to previously undisturbed areas in addition to the impacts that have already occurred constructing the proposed Project as it was previously authorized.”¹⁴⁵ As an initial matter, the total amount of disturbed acreage is a non-sequitur in the context of the alternatives analysis because that is not the legal standard the Corps must apply, even if it colored FERC’s prior analysis.¹⁴⁶ It may be generally true that less disturbance is environmentally preferable, but it does not go without saying that this generality will hold true with respect to aquatic impacts and on a crossing-by-crossing basis, which is the level of detail at which FERC and the Corps must analyze Mountain Valley’s application.

Additionally, Mountain Valley takes issue with substantial modifications to the proposed route, but to provide a lawful basis for Corps action, the present NEPA process must analyze whether smaller deviations at

Midstream Corp.), *available at* <https://www.fool.com/earnings/calltranscripts/2020/08/04/equitrans-midstream-corp-etn-q2-2020-earningscal.aspx>.

¹⁴⁵ Application §3.0.

¹⁴⁶ *See Cowpasture River Pres. Ass’n v. U.S. Forest Serv.*, 911 F.3d 150, 168 (4th Cir. 2018), *rev’d in part on other grounds sub nom.*, 140 S. Ct. 1837 (“In the EIS, FERC considered only whether a route alternative ‘confers a significant environmental advantage over the proposed route.’ This is a significantly different standard than [the governing standard for the Forest Service].”).

each crossing would be practicable and less environmentally damaging. For instance, where Mountain Valley proposes to cross a stream within a riffle and pool complex, the NEPA analysis must examine the effects of crossing at alternative downstream locations.¹⁴⁷ To the extent such minor variations in crossing locations would require additional expense, FERC cannot let Mountain Valley's sunk costs influence its analysis of whether those minor variations in location would be practicable. In all events, the pipeline route is not as set-in-stone as Mountain Valley makes it out to be, and, among other uncertainties, the United States Forest Service's approval of the pipeline's route through the Jefferson National Forest is in doubt as a result of the petition for review in *Wild Virginia v. U.S. Forest Service*, No. 21-1039(L) (4th Cir.).

Second, Mountain Valley asserts in Table 15 of its Corps application that pipe already in the ground makes trenchless crossings impracticable at some sites.¹⁴⁸ This is a prime example of the proverbial “gun barrels” that FERC should not allow to sway its analysis. Moreover, Mountain Valley's determinations of each crossing in Table 15 are not credible for reasons explained above, and that infirmity in its application extends to how it treats pipe in the ground. For example, Mountain Valley's February 2021 application

¹⁴⁷ 40 C.F.R. § 230.10(a)(1)(ii).

¹⁴⁸ See Application, tbl. 15 (Crossings C-001, F-019, H-048B, I-022, i-032, and I-111).

says that a trenchless method at Crossing C-001 would not be practicable because of pipe that has already been laid,¹⁴⁹ but Mountain Valley proposed a trenchless method for this same crossing just three months earlier¹⁵⁰ and construction in Spread C advanced very little between the time Mountain Valley initially proposed a trenchless crossing here and the time Mountain Valley submitted its permit application to the Corps¹⁵¹—strongly indicating that nothing has changed.

It is understandable that Mountain Valley wishes to forge ahead with the work it has already done, but FERC is not in the same position as the company and has an obligation to examine alternatives without undue deference to Mountain Valley's convenience. Insofar as Mountain Valley claims trenchless crossings or minor route variations would be too expensive or logistically difficult in light of construction that has already occurred, FERC cannot dismiss any alternatives as impracticable based on such claims. A contrary approach would incentive developers to pursue upland construction before obtaining dredge-and-fill permits, creating the gun barrels the Fourth Circuit warned of in *Gilchrist*. Mountain Valley repeatedly rolled the dice even

¹⁴⁹ *See id.* at 4.

¹⁵⁰ *See* Ex. 7, app. A.

¹⁵¹ *Compare* Weekly Report No. 159 app. A at 3, FERC Accession No. 20201203-5160 (Spread C Backfilling and Tying-In in progress and 91.6% complete), *with* Weekly Report No. 176 app. A at 3, FERC Accession No. 20210322-5223 (Spread C Backfilling and Tying-In in progress and 91.75% complete).

when it was on a losing streak with Nationwide Permit 12. The streams and wetlands along the pipeline route, and the citizens who cherish them, are not responsible for settling Mountain Valley’s gambling debt.

I. FERC’S FINAL EIS (“FEIS”) DOES NOT CONTAIN ADEQUATE INFORMATION TO ALLOW THE CORPS TO DETERMINE THE LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE.

As discussed above and in comments submitted on the Corps’ public notice of Mountain Valley’s permit application, the Corps cannot determine the least environmentally damaging practicable alternative without analyzing significant outstanding information regarding the potential for Mountain Valley to avoid and minimize aquatic impacts through the use of alternative construction methods—including the practicability of using trenchless crossing methods at all waterbody crossings—and minor route variations. In assessing the practicability and impacts of employing such construction methods and route variations, in both this proceeding (in which the Corps is a cooperating agency)¹⁵² and the parallel Section 404 process, the Corps may not rely on

¹⁵² See, e.g., Letter from Jon T. Coleman, Pittsburgh District, U.S. Army Corps of Eng’rs, to Kimberly D. Bose, Secretary, Fed. Energy Regul. Comm’n Re: Acceptance of Cooperating Agency Responsibility (Mar. 10, 2021) (acknowledging that the FERC certificate amendment will require authorization under Section 404 and requesting that “to ensure the information presented in any National Environmental Policy Act (NEPA) document is adequate to fulfill the Corps’ statutory requirements, including the requirements of Section 404(b)(1) of the Clean Water Act (40 CFR 230) and the Corps’ public interest review (33 CFR 320.4), the Corps requests the topics listed in Enclosure 1 be included in the scoping and evaluation of any submitted NEPA document.”).

FERC's 2017 FEIS, which, like Mountain Valley's Section 404 application, lacks the essential information. Rather, the Corps must prepare an SEIS, either on its own or in conjunction with FERC.¹⁵³

¹⁵³ While these comments focus primarily on the deficiencies of FERC's FEIS in regards to the alternatives analysis and the Corps' selection of the LEDPA, the Corps' reliance on the nearly four-year-old FEIS would be arbitrary and capricious in other respects as well. New information available since the issuance of the FEIS in 2017 undermines and precludes reliance on many of FERC's earlier conclusions.

For instance, any assessment of baseline stream or wetland conditions in the EIS is undoubtedly stale given the passage of time and, significantly, the widespread adverse impacts associated with Mountain Valley's failure to control erosion and sedimentation when constructing the pipeline, which also undermine FERC's conclusions regarding the efficacy of Mountain Valley's control measures. *Compare* FEIS at 5-4 (concluding that Mountain Valley's implementation of erosion and sedimentation control measures would "adequately minimize impacts on surface water resources"), *with, e.g., infra* notes 225 & 227 and accompanying text (discussing enforcement action by the Commonwealth of Virginia related to more than 300 violations of erosion and sedimentation control requirements, many of which resulted in significant adverse impacts to surface waters and similar violations in West Virginia).

Likewise, both the overwhelming scientific literature currently before the Corps and on-the-ground experience with Mountain Valley's construction activities undermine and preclude reliance on FERC's conclusion that "[n]o long-term or significant impacts on surface waters are anticipated" as a result of MVP construction of dry, open-cut waterbody crossings. *Compare* Section III, *infra* (discussing scientific literature showing significant, long-term impacts associated with dry, open-cut crossings and identifying adverse impacts associated with certain of Mountain Valley's completed dry, open-cut crossings), *with* FEIS at 4-149. Given the significant differences in information available to the Corps today and to FERC in 2017, it would be unlawful for FERC or the Corps to rely on FERC's stale analysis on these topics. *See Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 443 (4th Cir. 1996) (explaining that "[a]n agency must prepare a supplemental EIS when '[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts,'" particularly where the agency is faced with "a seriously different picture of the environmental impact of the proposed project from what was previously

Corps regulations explain that “the analysis of alternatives required for NEPA environmental documents, including supplemental Corps NEPA documents, will in most cases provide the information for the evaluation of alternatives under these Guidelines.”¹⁵⁴ However, “[o]n occasion, these NEPA documents . . . may not have considered the alternatives in sufficient detail to respond to the requirements of these Guidelines,” such that it is “necessary to supplement these NEPA documents with this additional information.”¹⁵⁵

Mountain Valley’s pending applications present just such a situation, such that a supplemental EIS is required. Consideration of alternatives “is the heart of the environmental impact statement.”¹⁵⁶ The “discussion of alternatives must rigorously explore and objectively evaluate all reasonable alternatives.”¹⁵⁷ The obligation to consider alternatives flows from the NEPA statute itself and exists for any proposal, such as the MVP, “which involves unresolved conflicts concerning alternative uses of available resources.”¹⁵⁸

envisioned”) (first citing 40 C.F.R. § 1502.9(c)(1)(ii) and then citing *Hickory Neighborhood Def. League v. Skinner*, 893 F.2d 58, 63 (4th Cir.1990)).

¹⁵⁴ 40 C.F.R. § 230.10(a)(4).

¹⁵⁵ *Id.*

¹⁵⁶ *Id.* § 1502.14.

¹⁵⁷ *Union Neighbors United, Inc. v. Jewell*, 831 F.3d 564, 568 (D.C. Cir. 2016).

¹⁵⁸ 42 U.S.C. § 4332(2)(E).

In its letters to FERC accepting cooperating agency responsibility on Mountain Valley’s application to modify its FERC certificate to allow conventional boring at numerous waterbody crossings, the Corps itself acknowledged that additional information must be included in supplemental NEPA documentation.¹⁵⁹ In order to support the Corps’ application of the 404(b)(1) Guidelines, including selection of the least environmentally damaging practicable alternative, the Corps explained that this new NEPA document must “evaluate how the Project was designed to avoid and minimize the discharge of dredged and/or fill material into waters of the United States” including analysis of “on-site avoidance and minimization alternatives and avoidance and minimization alternatives for any off-site borrow, spoil, or mitigation areas.”¹⁶⁰

Because the alternatives analysis in FERC’s FEIS does not analyze the feasibility or impacts of crossing waterbodies using the conventional bore technique; the potential for minor, crossing-specific route variations to avoid aquatic impacts (including impacts to special aquatic sites); or consider

¹⁵⁹ Letter from Jon T. Coleman, Pittsburgh District, U.S. Army Corps of Eng’rs, to Kimberly D. Bose, Secretary, Fed. Energy Regul. Comm’n, Re: Acceptance of Cooperating Agency Responsibility (Mar. 10, 2021) at 1–2 (explaining that the information in the NEPA document must be “adequate to fulfill the Corps’ statutory requirements, including the requirements of Section 404(b)(1) of the Clean Water Act (40 CFR 230) and the Corps’ public interest review (33 CFR § 320.4)”).

¹⁶⁰ *Id.* at 3; *see also id.* at 4 (“The NEPA document should provide a sufficient analysis to determine compliance with the Guidelines.”).

routing/system alternatives—including alternative termini, the present NEPA process must include those elements.

Critically, when FERC issued its FEIS in 2017, Mountain Valley planned to have all of its waterbody crossings permitted under Nationwide Permit 12.¹⁶¹ As such, no independent LEDPA analysis was required and FERC’s EIS did not analyze alternatives in sufficient detail to permit the Corps to determine the least environmentally damaging practicable alternative. Under these circumstances, it would be arbitrary and capricious for the Corps to rely on FERC’s FEIS to satisfy its NEPA and Clean Water Act obligations.¹⁶²

1. FERC’s Alternatives Analysis Methodology in the FEIS Is Not Consistent with the Analysis of Alternatives Necessary for the Corps to Determine the Least Environmentally Damaging Practicable Alternative.

The criteria that FERC previously used to evaluate alternatives are not co-extensive with the criteria the Corps must consider when determining whether a proposed project is the least environmentally damaging practicable alternative. FERC considered only whether a particular alternative (1) “meets the stated purpose of the project,” (2) “is technically and economically feasible

¹⁶¹ FEIS at 4-138.

¹⁶² *See Cowpasture*, 911 F.3d at 168 (holding that the U.S. Forest Service wrongfully relied on the alternatives analysis in FERC’s EIS for the Atlantic Coast Pipeline, which evaluated only whether a listed alternative “confers a significant environmental advantage over the proposed route,” where the Forest Service had an independent legal obligation to analyze alternatives to determine whether “the proposed use *cannot reasonably be accommodated* off of National Forest System lands” (emphasis in original)).

and practical,” and (3) “offers a significant environmental advantage over a proposed action.”¹⁶³ FERC’s analysis of whether an alternative offers a significant environmental advantage “requires a comparison of the impacts on each resource” and then “balance[s] the overall impacts and all other relevant considerations.”¹⁶⁴ The Corps’ LEDPA analysis, in contrast, focuses on whether an alternative would have “less adverse impact on the aquatic ecosystem.”¹⁶⁵ Moreover, in order not to “shift the impacts from the current set of landowners to a new set of landowners,” FERC’s analysis would reject a less environmentally damaging alternative if FERC perceived the difference in impact to be “minor” on the scale of the project as a whole.¹⁶⁶ The Corps’ LEDPA analysis permits no such consideration.

Additionally, while the Corps noted that identification of aquatic resources affected by the project should “should be based on field observations and field data,”¹⁶⁷ FERC’s EIS “generally used desktop sources of information (e.g., publicly available data, aerial imagery).”¹⁶⁸ The Corps thus may not rely

¹⁶³ FEIS at 3-2.

¹⁶⁴ *Id.*

¹⁶⁵ 40 C.F.R. § 230.10(a).

¹⁶⁶ FEIS at 3-2.

¹⁶⁷ Letter from Jon T. Coleman, Pittsburgh District, U.S. Army Corps of Eng’rs, to Kimberly D. Bose, Secretary, Fed. Energy Regul. Comm’n, Re: Acceptance of Cooperating Agency Responsibility (Mar. 10, 2021) at 3.

¹⁶⁸ FEIS at 3-3.

on the 2017 FEIS, and the new NEPA document must address those informational shortfalls.

2. FERC's FEIS Did Not Analyze the Feasibility or Impacts of Crossing Waterbodies Using Trenchless Methods Such as the Conventional Bore.

In the FEIS, FERC determined that Mountain Valley would employ only two waterbody crossing methods: the dry-ditch, open-cut method and the HDD method.¹⁶⁹ These were the only methods evaluated in FERC's discussion of the MVP's potential impacts on water quality.¹⁷⁰ FERC briefly mentions boring, but only in the context of road, railroad, and trail crossings and without evaluating impacts to hydrology or aquatic resources.¹⁷¹ FERC's alternatives analysis in the FEIS focused exclusively on transportation method alternatives (*e.g.*, transporting gas by rail), system alternatives (*e.g.*, making use of existing pipeline infrastructure to accomplish the project purpose), and route alternatives.¹⁷² It did not consider construction method alternatives that would avoid or greatly reduce impacts to aquatic resources, as the Corps must in its LEDPA analysis.¹⁷³

¹⁶⁹ *Id.* at 2-43.

¹⁷⁰ *See id.* at 4-118–4-120; 4-136–4-144; 4-216–4-217; 4-153–4-154; 4-160–4-162; 5-4.

¹⁷¹ *See id.* at 2-46, 3-51, 4-333.

¹⁷² *Id.* §3.

¹⁷³ *See* 40 C.F.R. § 230.10(a)(i).

The only discussion of the feasibility of using trenchless crossing methods occurs in FERC's assessment of environmental impacts on surface waters, but this discussion is severely limited and not sufficient for the Corps to satisfy its obligations. There, FERC stated that:

Because open-cut crossings of waterbodies may have a greater impact on aquatic species, as well as interrupt potential recreational or boating activities, FERC requested that Mountain Valley investigate the feasibility of using a trenchless crossing method for proposed major waterbody crossings. In response to our request, Mountain Valley used geotechnical evaluations to assess the feasibility of *using the HDD crossing method* beneath six waterbodies[.]¹⁷⁴

That is, FERC's FEIS addresses only the feasibility of using the HDD method, not conventional bore or other trenchless methods, and only at the crossings of six major rivers.¹⁷⁵ The Corps, on the other hand, must assess the feasibility of avoiding impacts to aquatic resources through the use of trenchless techniques beyond just HDD at *each crossing*.

The inadequacy of FERC's analysis is further highlighted by the fact that Mountain Valley now plans to cross four of those major rivers—the Left

¹⁷⁴ FEIS at 4-118.

¹⁷⁵ Those crossings are the Left Fork of the Holly River at MP 81.7; Elk River at MP 87.4; Gauley River at MP 170.6; Greenbrier River at MP 170.6; Blackwater River at MPs 200.0 and 269.8; and Pigg River at MP 286.3. *Id.* Other than for the Pigg River crossing, FERC accepted Mountain Valley's conclusion that the HDD crossings were not feasible. *Id.* at 4-119–4-120. It does not appear that FERC assessed the feasibility of the HDD crossings in terms of cost, but even if it had done so, such an analysis would now be outdated because the total project cost at the time of FERC's EIS was about \$3.5 billion (*id.* at 4-394), whereas Mountain Valley now estimates project costs at \$6.2 billion.

Fork of the Holly, Elk, Gauley, and Greenbrier Rivers—using trenchless methods, contrary to FERC’s earlier determination.¹⁷⁶ The alternatives analysis in FERC’s FEIS is thus clearly inadequate for the present purposes.

3. FERC’s EIS Failed to Analyze Minor Route Variations That Could Avoid Impacts to Aquatic Resources, Including Special Aquatic Sites.

FERC’s FEIS fails to establish that there are not practicable route alternatives that would cause less damage to aquatic resources, such that additional NEPA analysis of minor alternative route variations that would avoid or lessen impacts to waterbodies is required.

The FEIS’s alternatives analysis does not assess the feasibility of avoiding or minimizing impacts to aquatic resources at each crossing location. Rather, FERC’s assessment of “pipeline route alternatives” focused primarily on four major route alternatives that would affect the overall alignment of the pipeline route and ten smaller route variations¹⁷⁷ that nonetheless were on a scale much larger than individual crossings and, with one exception, were not designed to avoid aquatic impacts.¹⁷⁸ In the few instances in which FERC evaluated smaller, site-specific route variations, it did not do so with an eye

¹⁷⁶ See Section II.B.1, *supra*.

¹⁷⁷ FERC explains that “[r]oute variations are shorter than major route alternatives, but are generally longer and more substantial than minor route deviations.” FEIS at 3-32.

¹⁷⁸ *Id.* at 3-20, 3-32. The Blackwater River variation was analyzed primarily in terms of avoiding two crossings of the river and associated impacts. *Id.* at 3-87.

toward avoiding aquatic impacts. Rather, each minor variation analyzed was evaluated in response to specific concerns about impacts to property raised by landowners.¹⁷⁹

Even if it had considered such alternatives, the Corps could not rely on FERC's evaluation thereof because FERC's analysis focused on factors that are not relevant to the Corps' permitting process. FERC stated that:

In conducting a reasonable analysis, we considered environmental advantages and disadvantages, and focused the assessment on those alternatives that may minimize impacts on specific resources. In general, an alternative that is shorter in length has less impacts. . . . Other elements that may influence the selection of an alternative route could include the avoidance of historic properties or habitat for federally listed threatened or endangered species, avoidance of geological hazards, distances from residences, and lessening of forest clearing, or impacts on agricultural land and specialty crops. Some evaluation factors can be relatively more important on a project-specific basis in helping to serve as key decision criteria. Some of these factors for the MVP include forest and interior forest (see also sections 4.4 and 4.6), karst terrain (see section 4.1), and side slopes (see sections 2 and 4.1).¹⁸⁰

Glaringly absent from this list is any discussion of the alternatives' relative impacts on aquatic resources, which is the polestar of the Corps' review.

In sum, FERC's FEIS is wholly inadequate to support the Corps' independent obligations under NEPA and the Clean Water Act. Reliance on that EIS would thus be arbitrary and capricious.¹⁸¹ Accordingly, FERC's

¹⁷⁹ *Id.* at tbl. 3.5.3-1.

¹⁸⁰ *See id.* at 3-3.

¹⁸¹ *See Cowpasture*, 911 F.3d at 168.

present NEPA process must include sufficient information to allow the Corps to rationally apply the 404(b)(1) Guidelines, including selection of the least environmentally damaging practicable alternative.

III. FERC MUST TAKE A HARD LOOK AT THE ENVIRONMENTAL IMPACTS OF OPEN-CUT, DRY-DITCH CROSSING METHODS.

Although the Commission stated in its 2017 FEIS that “[n]o long-term or significant impacts on surface waters are anticipated” as a result of Mountain Valley's construction of dry-ditch, open-cut waterbody crossings,¹⁸² developments since 2017—including recent determinations by environmental resource agencies, on-the-ground experience with Mountain Valley's construction activities, and the overwhelming scientific literature currently before the Corps—undermine and preclude reliance on FERC's 2017 conclusions. Given the significant differences in information available to FERC and the Corps today from that before FERC in 2017, it would be unlawful for the Commission or the Corps to rely on FERC's stale 2017 analysis on these topics.¹⁸³

¹⁸² FEIS at 4-149.

¹⁸³ See *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 443 (4th Cir. 1996) (explaining that “[a]n agency must prepare a supplemental EIS when ‘[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts,’” particularly where the agency is faced with “a seriously different picture of the environmental impact of the proposed project from what was previously envisioned”) (first citing 40 C.F.R. §1502.9(c)(1)(ii), and then citing *Hickory Neighborhood Def. League v. Skinner*, 893 F.2d 58, 63 (4th Cir. 1990)).

Among the developments since 2017 that present a different picture of the environmental effects of the MVP from that considered by FERC in the FEIS is the September 2020 determination by the U.S. Fish and Wildlife Service (“FWS”), based on its review of the scientific literature, that it must assume that “effects to benthic invertebrates in aquatic areas that receive significant increased sedimentation as a result of the MVP will persist for up to four years.”¹⁸⁴ In the FEIS, FERC defined impacts that persist for more than three years as “long-term.”¹⁸⁵ Accordingly, by FERC’s own definition, its previous conclusion that there will be no long-term impacts to surface waters is erroneous.

And FWS is not alone among the federal agencies with concerns about significant, long-term aquatic impacts from the MVP. In May 2021, EPA Region 3 warned the Corps that “the direct, secondary, and cumulative impacts from the discharges associated with this project to those watersheds may result in significant degradation of the waters of the United States and reduce the ability for remaining aquatic resources to maintain hydrologic, geochemical, and biologic functions.”¹⁸⁶ Regarding Mountain Valley’s proposed dry-ditch, open-cut crossings, EPA concluded that, “[w]hile many of the discharges of fill

¹⁸⁴ U.S. Fish and Wildlife Serv., Mountain Valley Pipeline, LLC; Revised Biological Opinion 96 (Sept. 4, 2020) (Accession No. 20200904-3027) [hereinafter BiOp].

¹⁸⁵ FEIS at 4-1.

¹⁸⁶ Lapp Letter at 2.

associated with the proposed construction may be considered temporary, **the impacts from those discharges may have lasting effects, particularly due to the sensitivity of the aquatic resources and the repetitive nature of impacts to some of the tributaries.**¹⁸⁷

Moreover, since 2017 Mountain Valley has completed a number of crossings using open-cut, dry-ditch methods, and available documents establish excessive sedimentation and other problems at a minimum of four completed crossings.

In Virginia, Mountain Valley constructed its dry-ditch, open-cut crossing of S-G36—the North Fork of the Roanoke River—on July 19, 2018.¹⁸⁸ Mountain Valley’s inspectors reported problems with sedimentation and turbidity from the pump-around outlet.¹⁸⁹ Citizen inspectors, trained by Trout Unlimited in turbidity monitoring, documented sediment deposits and consistent turbidity increases downstream from the crossing location throughout their sampling period from July 19, 2018, through September 9, 2018.¹⁹⁰ Because sediment deposits and turbidity are harmful to aquatic life

¹⁸⁷ *Id.* at 4.

¹⁸⁸ Mountain Valley Pipeline, Visual Site Inspection Report #4841 (July 19, 2018) (attached as Ex. 10). Mountain Valley failed to include its crossing of S-G36 in its table of completed crossings. Application, tbl. 10.

¹⁸⁹ *Id.*

¹⁹⁰ Elizabeth Struthers Malbon, Changes in Turbidity of the North Fork of the Roanoke River in Catawba Valley After the Start of Construction of the Mountain Valley Pipeline (2018) (attached as Ex. 11).

and interfere with the aquatic life use by smothering benthic macroinvertebrates, the downstream impacts documented by the citizen inspectors constitute violations of Virginia narrative water quality criteria.

In West Virginia, Mountain Valley constructed a pipeline right-of-way crossing through stream S-IJ64 (an unnamed tributary of Little Stony Creek in Monroe County), and its attendant right-of-way bridge, in May 2018.¹⁹¹ In an inspection on May 9, 2018, a WVDEP inspector documented “conditions not allowable” (that is, a narrative water quality standards violation) that resulted from MVP’s neglect of “[b]ridge matting [that] failed contributing sediment laden water at the right-of-way crossing at S-IJ64.”¹⁹² The inspector concluded that the resulting sediment deposits caused the “conditions not allowable.”¹⁹³

Also in West Virginia, a September 30, 2018 FERC inspection of the completed crossing of S-N8A in Nicholas County—a crossing that required blasting—revealed that the dam for the dam-and-pump was installed outside the permitted area and contributed silt-laden water to the stream.¹⁹⁴ On October 5, 2018, an inspection of the completed trench crossing through W-B51

¹⁹¹ W. Va. Dep’t of Env’tl. Prot., Inspection Report (May 9, 2018) (attached as Ex. 12).

¹⁹² *Id.*

¹⁹³ *Id.*

¹⁹⁴ Fed. Energy Regul. Comm’n, Environmental Compliance Monitoring Program Weekly Summary Report for the Period September 30 through October 6, 2018, at 4 (attached as Ex. 13).

in Lewis County, West Virginia, revealed that Mountain Valley’s initial topsoil restoration efforts had failed.¹⁹⁵ Preconstruction contours were not successfully restored—as required by FERC’s wetland procedures—resulting in an alteration to the hydraulic flow in W-B51 and its hydraulic connections to stream S-B70.¹⁹⁶

Based on the recognition by the federal environmental resource agencies that the impacts of Mountain Valley’s dry-ditch, open-cut waterbody crossings will be measured in years, rather than days, and based on the evidence that Mountain Valley’s completed crossings are causing violations of water quality standards, FERC and the Corps must take a hard look at the environmental impacts of all of Mountain Valley’s crossings. As discussed below, those impacts will include long-term and significant impacts, water quality standards violations,¹⁹⁷ and significant degradation to waters of the United States.

¹⁹⁵ *Id.* at 14.

¹⁹⁶ *Id.*; *see also id.* at 19 (compiling photos of the hydraulic problems at W-B51).

¹⁹⁷ Specifically, and as discussed further below, those water quality standards include:

- West Virginia narrative water quality criteria that prohibit discharges that cause or materially contribute to
 - “Distinctly visible floating or settleable solids, suspended solids, scum, foam or oily slicks;” (W. Va. C.S.R. § 47-2-3.2.a);
 - “Deposits or sludge banks on the bottom;” (*Id.* § 47-2-3.2.b);
 - “Materials in concentrations which are harmful, hazardous or toxic to man, animal or aquatic life;” (*Id.* § 47-2-3.2.e);

A. MOUNTAIN VALLEY UNDERSTATES THE IMPACTS ON WATER QUALITY, AQUATIC LIFE, AND AQUATIC ECOSYSTEMS FROM DRY-DITCH, OPEN-CUT CROSSINGS.

In its application to the Corps, Mountain Valley cherry-picks conclusions by industry consultants in the available literature to downplay the effects that its proposed dry-ditch, open-cut crossings will have on the streams and wetlands in the MVP's path. Relying on a 2008 article by S.M. Reid—who was with the consulting firm of Golder Associates Ltd. when he conducted the research on which that article is based¹⁹⁸—Mountain Valley contends that

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- “Any other condition . . . which adversely alters the integrity of the waters of the States, including wetlands; no significant adverse impact to the chemical, physical, hydrologic, or biologic components of aquatic ecosystems shall be allowed.” (*Id.* § 47-2-3.2.i);
 - West Virginia’s antidegradation policy (*id.* § 47-2-4.1) and its attendant implementation policy (*id.* § 60-5-1 *et seq.*);
 - Virginia’s narrative water quality criteria prohibiting “waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of [state] water or which are inimical or harmful to human, animal, plant, or aquatic life.” 9 Va. Admin. Code § 25-260-20(A); and
 - Virginia’s antidegradation policy (9 Va. Admin. Code § 25-260-30) and its attendant implementation policy (Va. Dep’t of Env’tl. Quality, Guidance Memo No. 00-2011, Guidance on Preparing VPDES Permit Limits (Aug. 24, 2000), at 6–14) (attached as Ex. 14)).

¹⁹⁸ S. M. Reid, S. Metikosh and J. M. Evans, *Overview of the River and Stream Crossings Study*, in Proceedings of the Symposium at the 8th International Symposium of Environmental Concerns in Rights-of-Way Management 721 (Elsevier 2008). Reid’s coauthors were also industry consultants. *Id.* Indeed, one published article observes that the published studies of pipeline crossings “exist primarily in the form of conference proceedings and agency or consultant reports.” J. M. Castro et al., *Risk-Based Approach to Designing and Reviewing Pipeline Stream Crossings to Minimize Impacts to Aquatic Habitats and Species*, RIVER RSCH. & APPLICATIONS 31, at 768 (2015) (attached as Ex. 15).

“[s]tream impacts within the pipeline [limits of disturbance] using the dry-ditch, open-cut method would be temporary and occur during pipeline construction activities only.”¹⁹⁹ But, that categorical conclusion is not supported by either Mountain Valley’s own application²⁰⁰ or the rest of the literature on the ecological effects of dry-ditch, open-cut stream crossings.²⁰¹

Importantly, however, even Reid has found no significant difference in peak total suspended solids concentrations between flumed dry-ditch, open-cut crossings (which Mountain Valley proposes in its pending application) and open-cut wet crossings (which both FERC and the Corps have prohibited Mountain Valley from using because of the significant sedimentation they cause). S. M. Reid et al., *Sediment Entrainment During Pipeline Water Crossing Construction: Predictive Models and Crossing Method Comparison*, 3 J. ENVIRON. ENG. & SCI. 81, 86 (2004) (attached as Ex. 16); *Sierra Club v. U.S. Army Corps of Eng’rs*, 909 F.3d 635, 642 (4th Cir. 2018) (describing FERC and Corps prohibitions on wet crossings for the MVP).

Moreover, although Mountain Valley omits one of Reid’s key concessions from its summary of potential effects, Reid has recognized that “some residual increases [in sedimentation] due to scour of the trench, erosion of exposed surfaces at the crossing site and the resuspension of settled material may occur.” Scott M. Reid & Paul G. Anderson, *Effects of Sediment Released During Open-Cut Pipeline Water Crossings*, 24 CANADIAN WATER RES. J. 235, 240 (1999) (attached as Ex. 17).

¹⁹⁹ Application at 51 (citing S. M. Reid, S. Metikosh and J. M. Evans, *Overview of the River and Stream Crossings Study*, in Proceedings of the Symposium at the 8th International Symposium of Environmental Concerns in Rights-of-Way Management 711–721 (Elsevier 2008)).

²⁰⁰ Hansen & Betcher (2021), *supra* n.1, at 5 (“The assertion that impacts will be minimal is not supported in the application.”); *see also id.* (“[Mountain Valley’s] assertion that impacts will be short-term is also not supported in the application. Nowhere in the application is data provided or summarized that supports this assertion.”).

²⁰¹ As one journal article that examined pipeline crossing effects concluded, “before authoritative statements concerning environmental impact can be made it is essential to have knowledge of the natural variation associated to

Contrary to Mountain Valley’s repetition of the common industry refrain,²⁰² the adverse environmental effects of dry-ditch, open-cut crossings are measured in years, not in days.²⁰³

As discussed, above, on this very project, the United States Fish and Wildlife Service reviewed the literature and concluded, in its September 2020 Biological Opinion (“BiOp”) for the MVP, that it should assume that “effects to benthic invertebrates in aquatic areas that receive significant increased sedimentation as a result of the MVP will persist for up to four years.”²⁰⁴ That explicit conclusion in the BiOp stands in stark contrast to Mountain Valley’s statement on page 38 of its Section 404 permit application, where it mischaracterizes what FWS determined and represents that the agency concluded that benthic effects would be “temporary.”²⁰⁵

be expected in streams of differing characteristics.” P. D. Armitage & R. J. M. Gunn, *Differential Response of Benthos to Natural and Anthropogenic Disturbances in 3 Lowland Streams*, 81 INT’L REV. HYDROBIOLOGY 161 (1996) (attached as Ex. 18).

²⁰² Application at 62.

²⁰³ See, e.g., BiOp at 96 (assuming sedimentation effects on benthics to persist for up to four years). Even Reid has found adverse effects that persist “2-4 years after the construction of water crossings in areas with open forest canopies.” Reid & Anderson (1999) at 243. And Silvis concludes that the impacts associated with sediment deposits from dry-ditch, open-cut crossings can be permanent. Silvis (2021), *supra* n.1, at 2.

²⁰⁴ BiOp at 96.

²⁰⁵ Application at 38. For FERC projects like the MVP, “[t]emporary impacts generally occur during construction with the resource returning to pre-construction condition almost immediately afterward.” FEIS at 4-1. Impacts

Barbara Douglas, a West Virginia-based FWS biologist examining the MVP, grew so frustrated by the inaccuracy of the industry refrain that “crossings have only temporary impacts to the stream” that she developed her own literature review of pipeline crossings’ impacts on streams to correct it.²⁰⁶ She shared that literature review with the signatory of the MVP BiOp, among others.²⁰⁷ The following is her summary of the literature:

Pipeline stream crossings can affect fish habitat; food availability; and fish behavior, health, reproduction and survival. The most immediate effect of instream construction is the creation of short term pulses of highly turbid water and total suspended sediments (TSS) downstream of construction (Levesque & Dube 2007, pp. 399-400). Although these pulses are usually of relatively short duration and there is typically a rapid return to background conditions after activities cease, **instream construction has been shown to have considerable effects on stream substrates and benthic invertebrate communities that persist after construction has been completed** (Levesque & Dube 2007, p. 396-397). Commonly documented effects include substrate compaction and silt deposition within the direct impact area and downstream that fills interstitial spaces in gravel substrates and reduces water flow through the substrate, this increases substrate embeddedness and reduces habitat quality (Levesque & Dube 2007, pp. 396-397; Penkal & Phillips 2011, pp. 6-7; Reid & Anderson 1999, p. 243). Construction also directly alters stream channels, beds, and banks resulting in changes in

from FERC projects that “require more than 3 years to recover” are considered “long-term.” *Id.* Accordingly, a four-year impact from Mountain Valley’s proposed crossings would be long-term.

²⁰⁶ Email from Barbara Douglas, Sr. Endangered Species Biologist, W. Va. Field Office, U.S. Fish & Wildlife Serv., to Cindy Shulz, U.S. Fish & Wildlife Serv. (Dec. 11, 2019, 11:44 AM) (attached as Ex. 19).

²⁰⁷ *Id.*

cover, channel morphology, and sediment transport dynamics. Streambank alterations can lead to increased water velocities, stream degradation, and migrations in stream channel. Removal of vegetation from the banks can change temperature regimes, and increase sediment and nutrient loads (Penkal & Phillips 2011, pp. 6-7).

These instream changes not only directly affect the suitability of fish habitat, they also affect the availability and quality of fish forage altering the composition and reducing the density of benthic invertebrate communities within and downstream of the construction area (Levesque & Dube 2007, pp. 396-399; Penkal & Phillips 2011, pp. 6-7; Reid & Anderson 1999, pp. 235, 244). **Various studies have documented adverse effects to the benthic community that have been apparent for between six months and four years post-construction** (Levesque & Dube 2007, pp. 399-400; Reid & Anderson 1999, pp. 235, 244). Stream crossings have also been shown to affect fish physiology, survival, growth, and reproductive success (Levesque & Dube 2007, p. 399). Studies have found decreased abundance of fish downstream of crossings, as well as signs of physiological stress such as increased oxygen consumption and loss of equilibrium in remaining fish downstream of crossings (Levesque & Dube 2007, pp. 399-401; Reid & Anderson 1999, pp. 244-245). Increased sediment deposition and substrate compaction from pipeline crossings can degrade spawning habitat, result in the production of fewer and smaller fish eggs, impair egg and larvae development, limit food availability for young-of-year fish, and increase stress and reduce disease resistance of fish, (Levesque & Dube 2007, pp. 401-402; Reid & Anderson 1999, pp. 244- 245).

The duration and severity of these effects depends on factors such as the duration of disturbance, the length of stream segment directly impacted by construction, and whether there were repeated disturbances (Yount & Niemi 1999, p. 557). Most studies documented recovery of the affected stream reach within one to three years after construction (Reid & Anderson 1999, p. 247; Yount & Niemi 1999, pp. 557-558, 562). **However caution should be used when interpreting results of short-term**

studies. Yount & Niemi (1999, p. 558) cite an example of one study that made a preliminary determination of stream recovery within one year, but when the site was re-examined six years later, fish biomass, fish populations, macroinvertebrate densities, and species composition were still changing. It was suspected that shifts in sediment and nutrient inputs to the site as a result of construction in and around the stream contributed to the long-term lack of recovery. In another study, alterations in channel morphology, such as increased channel width and reduced water depth, were evident two to four years post-construction at sites that lacked an intact forest canopy (Reid & Anderson 1999, p. 243). There is also the potential for cumulative effects. **While a single crossing may have only short-term or minor effects, multiple crossings or multiple sources of disturbance and sedimentation in a watershed can have cumulative effects on fish survival and reproduction that exceed the recovery capacity of the river, resulting in permanent detrimental effects** (Levesque & Dube 2007, pp. 406-407). Whether or how quickly a stream population recovers depends on factors such as the life history characteristics of the species, and the availability of unaffected populations upstream and downstream as a source of organisms for recolonization (Yount & Niemi 1999, p. 547). Species such as the diamond darter that are particularly susceptible to the effects of sedimentation and substrate embeddedness, and that have limited distribution and population numbers are likely to be more severely affected by instream disturbances than other more common and resilient species.²⁰⁸

And yet another FWS scientist, J.M. Castro, similarly concluded that there are significant and long-term effects from dry-ditch, open-cut pipeline crossings in 2015, stating, “Based on past experience at pipeline crossings, the

²⁰⁸ *Id.* (emphasis added).

potential for both short and long-term negative impacts on aquatic habitat and species is substantial.”²⁰⁹ Such impacts

include both short-term, construction related impacts, such as increased turbidity, direct modification of aquatic habitat, and the potential for hydrocarbons to enter the stream through equipment failures and spills (Reid and Anderson, 1999; Reid *et al.*, 2002a, 2002b), and long-term impacts that are more directly associated with the stream’s response potential, such as channel incision and lateral migration (Thorne *et al.*, 2014).²¹⁰

Among other things, Castro concludes that “the effects of proposed and existing pipeline crossings on aquatic systems are significant because each pipeline may have hundreds or even thousands of stream crossings (Levy, 2009)”²¹¹

These FWS scientists’ conclusions are well-supported by the scientific literature. Open-cut, trenched crossings have long-term and substantial effects on water quality, stream structure, and aquatic life. As early as 1984, scientists recognized the substantial effects on water quality and aquatic life that open-cut trenches through streams can have. Penkal and Phillips (1984) state, “Because of the magnitude of pipeline projects, the number of waterways involved, the high quality of fishery resources in many of these waterways, and the potential for impacts to fisheries from spills or construction activities,

²⁰⁹ Castro et al. (2015) at 767.

²¹⁰ *Id.*

²¹¹ *Id.*

safeguards must be adopted to protect these important resources.”²¹² They further state:

Fishery habitat may be adversely affected by sedimentation from pipeline construction. Sedimentation can occur from (1) trenching to lay pipeline beneath the stream channel, (2) runoff at construction sites, (3) erosion resulting from construction of culverts, roads, bridges, or fords, and (4) hydrostatic testing. Additionally, silt or sand deposition can fill interstices in gravel and reduce water flow through substrate. Equipment operating in the stream can compact substrate, create sediment, and eliminate spawning habitat.²¹³

Accordingly, they ultimately conclude that “[c]onstruction and operation of pipelines can cause significant damage to aquatic habitats and fishery resources.”²¹⁴

The seminal, peer-reviewed article on the effects of dry-ditch, open-cut crossings reaches similar conclusions. Lévesque and Dubé, in their 2007 *Review of the Effects of In-Stream Pipeline Crossing Construction on Aquatic Ecosystems and Examination of Canadian Methodologies for Impact Assessment*, found the following:

- “Pipeline crossing construction is shown to not only compromise the integrity of the physical and chemical nature of fish habitat, but also to affect biological habitat (e.g., benthic invertebrates and invertebrate drift), and fish behavior and physiology. Indicators of effect include: water quality (total suspended solids TSS), physical habitat (substrate particle size, channel morphology), benthic invertebrate community structure and drift

²¹² Russ F. Penkal & Glenn R. Phillips, *Construction and Operation of Oil and Gas Pipelines*, 9 FISHERIES 6 (1984) (attached as Ex. 20).

²¹³ *Id.*

²¹⁴ *Id.* at 8.

- (abundance, species composition, diversity, standing crop), and fish behavior and physiology (hierarchy, feeding, respiration rate, loss of equilibrium, blood hematocrit and leukocrit levels, heart rate and stroke volume).”²¹⁵
- “Construction activities alter river and stream channel beds and banks, directly and indirectly affecting fish and fish habitat.”²¹⁶
 - “[Dry-ditch, open-cut methods] may impact watercourse ecosystems both during, and for potentially some time after, construction. All in-stream construction activities, particularly trench excavation and pipeline installation and backfill, result in disturbance of channel bed and banks, and have the potential to alter suspended sediment concentration and sedimentation.”²¹⁷
 - “[A]ny in-stream construction activity has the potential to impact aquatic ecosystems through alteration of stream and river bed and banks and, therefore, may result in direct effects such as physical alteration of channel morphology and habitat, and indirect effects such as alteration of water quality and sediment dynamics, on aquatic ecosystems (e.g., Alberta Environment 2001; Alberta Transportation and Utilities 2000).”²¹⁸
 - Even with dry-ditch, open-cut methods, “[m]ean TSS concentrations increased by between 4 and 100 mg l⁻¹ above background. Installation of dams and flumes for water diversion generated TSS concentrations on average less than 76 mg l⁻¹ greater than background over periods of 2 to 16.5 h (with one crossing experiencing an increase of 520 mg l⁻¹ for 3 h). Removal of dams and flumes resulted in TSS increases of between 1 and 703 mg l⁻¹ downstream of construction over periods of 20 min to 6.5 hrs. Other stages of construction were associated with average TSS increases of less than 8 mg l⁻¹, with the exception of

²¹⁵ Lévesque and Dubé, *Review of the Effects of In-stream Pipeline Crossing Construction on Aquatic Ecosystems and Examination of Canadian Methodologies for Impact Assessment*, 132 ENVTL. MONITORING & ASSESSMENT 395 (2007) (attached as Ex. 21).

²¹⁶ *Id.*

²¹⁷ *Id.* at 396.

²¹⁸ *Id.*

accidental leaks from construction infrastructure (e.g., 820 mg l⁻¹ over 5.5 h). Plumes of highly turbid water were observed downstream of construction. . . .”²¹⁹

- “Armitage and Gunn (1996) noted that pipeline crossing construction in a stream in England resulted in a shift in invertebrate species due to an increased proportion of silt in stream substrates. This effect persisted for 4 years until a high magnitude flow event scoured the stream channel bed, promoting re-establishment of pre-construction invertebrate species. Tsui and McCart (1981) found that crossing construction of Archibald Creek, British Columbia, caused short-term increases in silt and sand accumulations and decreases in invertebrate standing crop and diversity, which lasted 1 to 2 years.”²²⁰ and
- “The potential for cumulative effects associated with pipeline crossing construction should be taken into consideration in assessing the impacts of these activities on rivers and streams. Construction of a single crossing on a stream or river, or within a watershed, may not have significant effects on fish and fish habitat in that system. **Construction of multiple crossings on a stream or river, or within a watershed, however, has the potential for cumulative effects on that system. In such cases, the capacity of the system to recover from impact may be exceeded, and the detrimental effects of crossing construction permanent. The same may be said for the frequency of crossing construction within a given system; rivers and streams will have limited capacities to recover from multiple impacts. As well, recurrent stresses on fish, such as those that originate from elevated suspended sediment concentrations, may have cumulative effects on fish health, survival and reproduction. The long-term effects of such impacts are not well known at this time (Reid et al. 2003).**²²¹

²¹⁹ *Id.* at 398.

²²⁰ *Id.* at 399.

²²¹ *Id.* at 406–07.

Following their reviews of the literature, Hansen and Betcher (2021) and Silvis (2021) concur that the effects of dry-ditch, open-cut crossings are substantial and long-term. Hansen and Betcher (2021) recognize that data on those effects are “sparse” in the literature, but that the available data in the literature does substantiate long-term effects.²²² And Silvis (2021) describes those effects this way:

Immediate environmental impacts associated with dry-ditch open-cut methods include death of all fish and benthic macroinvertebrates within the work area and increased turbidity and suspended sediment loads when the diversion is installed, for the duration of the disturbance, as well as when flow is returned to the disturbed channel bed. . . . There are long-term increases in sedimentation due to stream bank and upland disturbances until vegetation can be re-established. . . . Increased turbidity and high suspended sediment loads can cause long-term impacts to invertebrate communities downstream of the disturbance, including by reducing invertebrate biomass, growth rates and species diversity and increasing invertebrate mortality. Increased suspended and deposited sediment causes negative impacts in fish populations as well. These impacts can include smothering of fish eggs, changes in stream bed characteristics which can reduce reproductive success, reduction of juvenile survival rates, reduction of food sources, as well as reduction in in-stream dissolved oxygen which causes respiratory distress.²²³

Based on her “experience in stream restoration, hydrology, stream geomorphology, and erosion and sediment control,” Silvis concludes “that

²²² Hansen & Betcher (2021), *supra* n.1, at 6. That “paucity of current, data-driven documentation of the long-term impacts” requires that, for permitting purposes, an evaluation “at each individual stream [is required] due to stream-specific factors that influence the duration of stream channel and aquatic life impacts.” *Id.* at 2.

²²³ Silvis (2021), *supra* n.1, at 3.

there are significant permanent impacts associated with trenched methods of stream and wetland crossings.”²²⁴

Given Mountain Valley’s demonstrated history of improper implementation of erosion and sediment control measures,²²⁵ it is important to note that the inherent adverse effects of dry-ditch, open-cut crossings are exacerbated by improper application of protective measures. As Mountain Valley’s “go-to” authority acknowledges:

The effectiveness of isolated crossing methods is dependent on proper design and application. Reported construction related difficulties include (1) pump failure or insufficient capacity, (2) dam or flume failure, (3) poor dam seal, (4) poor containment of pumped ditch water, and (5) inadequate maintenance of sediment control measures (Macks et al. 1997; CPWCC 1999; this study). During dam and pump crossings, construction related difficulties that resulted in large increases to downstream TSS concentrations were rare (1 of 23 crossings). Alternatively, such difficulties resulted in large increases in downstream TSS concentrations (60-1848 mg L⁻¹) during 5 of the 12 flumed crossings. Poor containment of pumped ditch water and poor dam seals were the causes. Flumed crossings are often applied to larger watercourses than dam and pump crossings. Larger water

²²⁴ *Id.* at 2.

²²⁵ In 2018, the Commonwealth of Virginia brought a judicial enforcement action against Mountain Valley alleging more than 300 violations related to improper erosion control and stormwater management, including failures to maintain and repair erosion and sediment control structures. *Paylor v. Mountain Valley Pipeline, LLC*, Case No. CL18006874-00 (Henrico County Cir. Ct. Dec. 7, 2018) (attached as Ex. 22). Mountain Valley agreed to pay a \$2.15 million penalty to resolve that enforcement action. Press Release, Va. Off. of the Att’y Gen., *MVP, LLC to Pay More than \$2 Million, Submit to Court-Ordered Compliance and Enhanced, Independent, Third-Party Environmental Monitoring* (Oct. 11, 2019), available at <https://www.oag.state.va.us/media-center/news-releases/1548-october-11-2019-mvp-llc-to-pay-more-than-2-million-submit-to-court-ordered-compliance-and-enhanced-independent-third-party-environmental-monitoring>.

crossings require longer periods of instream activity and the control of larger volumes of both streamflow and trench water. Both characteristics increase the risk of sediment being released into the watercourse (Reid et al. 2002*b*, 2002*c*).²²⁶

Those opportunities for failure are particularly concerning here. As Hansen and Betcher (2021) conclude:

[Mountain Valley's] sweeping assurance about minimal, short-term water quality impacts must also be judged by taking into account its documented record of sediment-related violations. A review of agency inspection reports and violations received by [Mountain Valley] during its first 2.5 years of construction demonstrates that the company has a proven track record of carelessness in constructing erosion and sediment control devices. During an eight-month period in 2018, [Mountain Valley] was issued 25 notices of violation by the West Virginia Department of Environmental Protection. Each of these violations resulted in releases of sediment to the environment. Many of these releases occurred due to improper installation of commonly utilized sediment control measures such as water bars and perimeter fences. Other releases resulted from failures to adequately maintain and properly operate sediment control devices and incorrect calculations resulting in incorrectly sized controls.²²⁷

Per Reid, there are a multitude of ways that dry-ditch, open-cut crossings can go wrong, and given Mountain Valley's track record, FERC and the Corps cannot rationally assume that Mountain Valley will flawlessly construct hundreds of such crossings.²²⁸ Rather, the agencies should expect

²²⁶ Reid et al. (2004) at 87.

²²⁷ Hansen & Betcher (2021), *supra* n.1, at 5.

²²⁸ See, e.g., *Animal Legal Def. Fund v. Perdue*, 872 F.3d 602, 620 (D.C. Cir. 2017) (holding it to be arbitrary and capricious for an agency to accept company's certification of compliance and ignore its history of violations).

multiple incidents with impermissible adverse effects, individually and cumulatively, on water quality and aquatic life.²²⁹

Mountain Valley’s mischaracterization of the science requires FERC to independently review the literature on pipeline waterbody crossings. A complete review of the literature reveals that dry-ditch, open-cut crossings have substantial and long-term adverse impacts on waterbodies and aquatic life.

B. THE MVP WILL CAUSE OR CONTRIBUTE TO VIOLATIONS OF WATER QUALITY STANDARDS.

The relevant water quality standards here include the narrative standards in West Virginia and Virginia that protect the biological integrity of waters of the United States. The scientific literature discussed above establishes that Mountain Valley will cause or contribute to violations of those standards.

1. The Corps Must Evaluate Water Quality Standards Impacts.

As a threshold matter, the Corps must address these issues in its permitting decision. Although a Corps regulation purports to allow it to avoid an independent analysis of water quality issues where a state has certified an activity under Section 401 of the Clean Water Act, there are key exceptions at

²²⁹ See Hansen & Betcher (2021), *supra* n.1, at 6 (“Due to the importance of proper installation and maintenance of isolation structures while constructing dry-ditch crossings and MVP’s record of sediment-related violations, sediment impacts due to dry-ditch stream crossings are likely.”).

play with regard to this permit application.²³⁰ First, that regulation, found at 33 C.F.R. § 320.4(d), appears in the Corps’ public interest review regulations, not the Section 404(b)(1) Guidelines.²³¹ The Section 404(b)(1) guidelines independently require factual findings regarding water quality standards and significant degradation.²³² And, as a product of a joint effort by EPA and the Corps, the 404(b)(1) Guidelines cannot be altered by unilateral Corps action.²³³ The regulation purporting to allow the Corps to avoid water quality analyses was promulgated solely by the Corps.²³⁴ Accordingly, it only applies to the Corps’ public interest review of DA permits.

Second, the regulation excusing the Corps from considering water quality considerations only applies where there is a Section 401 certification. Here, there are no such certifications, and there may never be. Accordingly, the Corps should not assume that it will be able to rely on the conclusive presumption in 33 C.F.R. § 320.4(d). Finally, the conclusiveness of a Section

²³⁰ See 33 C.F.R. § 320.4(d).

²³¹ *Id.*

²³² See 40 C.F.R. § 230.11 (requiring the Corps to determine in writing the potential short-term or long-term effects of proposed discharges to be used in finding compliance or noncompliance with the prohibitions on water quality standards violations or significant degradation in §230.10).

²³³ *Id.* §230.1(c) (“No modifications to the basic application, meaning, or intent of these Guidelines will be made without rulemaking by the Administrator [of the Environmental Protection Agency] under the Administrative Procedure Act[.]”).

²³⁴ 33 C.F.R. § 320.4(d).

401 certification is pierced where the appropriate EPA Regional Administrator directs the Corps to take certain water quality aspects into consideration.²³⁵ **EPA has done so.** EPA Region 3 directed the Corps to take water quality considerations—including sedimentation and effects on hydrogeomorphology—into account.²³⁶ Consequently, the Corps must analyze the water quality effects of the project, and the current NEPA process must address this issue.

2. Mountain Valley’s Stream Crossings Will Cause or Contribute to Violations of West Virginia’s and Virginia’s Narrative Standards.

West Virginia’s narrative water quality criteria prohibit discharges that cause or materially contribute to, among other things, (1) “[d]istinctly visible floating or settleable solids, suspended solids, scum, foam or oily slicks;”²³⁷ (2) “[d]eposits or sludge banks on the bottom;”²³⁸ (3) “[m]aterials in concentrations

²³⁵ 33 C.F.R. § 320.4(d); *see also Ohio Valley Envtl. Coal., Inc. v. U.S. Army Corps of Eng’rs*, 883 F. Supp. 2d 627, 638–41 (S.D. W. Va. 2012) (holding that a series of letters from EPA regarding water quality concerns with a Section 404 permit “removed the conclusive effective of the State § 401 certification” with regard to certain water quality issues).

²³⁶ *See, e.g.*, Lapp Letter at 8 (“EPA recommends analyzing the potential for effects to downstream reaches, such as, but not limited to, changes to the hydrogeomorphology and impacts of sedimentation and compaction from construction activities . . .”).

²³⁷ W. Va. C.S.R. § 47-2-3.2.a.

²³⁸ *Id.* § 47-2.3.2.b.

which are harmful, hazardous or toxic to man, animal or aquatic life,”²³⁹ or (4) “[a]ny other condition . . . which adversely affects the integrity of the waters of the State, including wetlands; no significant adverse impact to the chemical, physical, hydrologic, or biologic components of aquatic ecosystems shall be allowed.”²⁴⁰ West Virginia describes those as “conditions not allowable” or “CNA.”²⁴¹

Virginia’s narrative water quality criteria prohibit “waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of [state] water or which are inimical or harmful to human, animal, plant, or aquatic life.”²⁴²

Violations of those narrative standards can be measured through, among other things, biological assessments of particular waters, including benthic monitoring.²⁴³ Once a violation of the biological component of the

²³⁹ *Id.* § 47-2-3.2.e.

²⁴⁰ *Id.* § 47-2-3.2.i.

²⁴¹ *See id.* § 47-2-3 (entitled “Conditions Not Allowable In State Waters”).

²⁴² 9 Va. Admin. Code § 25-260-20(A).

²⁴³ *See Ohio Valley Envtl. Coal., Inc. v. Pruitt*, 893 F.3d 225, 228 (4th Cir. 2018) (describing the West Virginia Stream Condition Index as a measure of compliance with narrative criteria); *Ohio Valley Envtl. Coal. v. Fola Coal Co.*, 845 F.3d 133, 138, 144 (4th Cir. 2027) (same); *Ohio Valley Envtl. Coal., Inc. v. U.S. Army Corps of Eng’rs*, 716 F.3d 119, 124 (4th Cir. 2013) (explaining the use of benthic community metrics to determine that streams are biologically impaired); *S. Appalachian Mountain Stewards v. Red River Coal Co., Inc.*, 420

narrative standards is found, its cause must be identified; sedimentation is frequently the stressor causing the impairment.²⁴⁴

Here, it is more probable than not that sedimentation from Mountain Valley's dry-ditch, open-cut crossings will contribute to violations of West Virginia's and Virginia's narrative water quality criteria. West Virginia's criteria prohibit "[d]istinctly visible floating or settleable solids [and] suspended solids" and "deposits or sludge banks on the bottom."²⁴⁵ The literature establishes that dry-ditch, open-cut crossings cause sediment deposits and visible turbidity plumes downstream from the crossing location.²⁴⁶ For example, Reid and Anderson (1999) find that "large depositions in slow velocity areas such as shallow side pools, behind boulders and instream debris have been observed to require longer periods or higher flows for removal," and note that 30 cm deep deposits have been observed within 100 m

F. Supp. 3d 481, 489 (W.D. Va. 2019) (explaining that Virginia's "narrative standards include a biological component that is assessed by, among other things, monitoring benthic invertebrates").

²⁴⁴ *See, e.g.*, 2010 Release of CADDIS (Causal Analysis/Diagnosis Decision Information System), 75 Fed. Reg. 58,374 (Sept. 24, 2010).

²⁴⁵ W. Va. C.S.R. §§ 47-2-.3.2.a & 47-2-3.2.b.

²⁴⁶ Penkal & Phillips (1984) at 6; Reid & Anderson (1999) at 242.

of crossings.²⁴⁷ And Lévesque, L.M., Dubé (2007) found that “[p]lumes of highly turbid water [have been] observed downstream of construction.”²⁴⁸

Moreover, West Virginia’s and Virginia’s narrative criteria prohibit harm to aquatic life.²⁴⁹ The literature establishes that dry-ditch, open-cut crossings cause such harm to fish and benthos.²⁵⁰ As Hansen and Betcher (2021) conclude, sedimentation from pipeline construction

affects benthic macroinvertebrates in several ways: Sediment accumulation fills interstitial spaces used for refuge, decreases oxygen availability, and inhibits food sources (Harrison et al. 2007, Leitner et al. 2015). Some species are more susceptible to sediment impacts, which leads to a decrease in benthic biodiversity. Macroinvertebrates of the *Ephemeroptera*, *Plecoptera*, and *Trichoptera* orders are most impacted by sedimentation and are also important food sources for stream fish (Harrison et al. 2007).²⁵¹

²⁴⁷ Reid & Anderson (1999) at 243.

²⁴⁸ Lévesque & Dubé (2007) at 398.

²⁴⁹ W. Va. C.S.R. § 47-2-3.2.e; 9 Va. Admin. Code § 25-260-20(A).

²⁵⁰ Lévesque & Dubé (2007) at 395–96; X. Yu et al., *Effects of Pipeline Construction on Wetland Ecosystems: Russia-China Oil Pipeline Project (Mohe-Daqing Section)*, 39 *AMBIO* 449 (2010) (attached as Ex. 23) (“[P]ipeline crossing construction is shown to not only compromise with the integrity of the physical and chemical nature of fish habitat, but also to affect biological habitat and fish behavior and physiology (Lévesque, L.M., Dubé 2007), which will result in the avoidance movement of fish, altered distribution of populations (Newcombe and Jensen 1996) and reduce population size.”); Penkal & Phillips (1984) at 7 (noting that blasting attendant to crossing construction kills fish); *id.* at 8 (“Construction and operation of pipelines can cause significant damage to aquatic habitats and fishery resources.”); Reid & Anderson (1999) at 244 (finding extirpation of benthic insects and reduced benthic diversity downstream of pipeline crossings).

²⁵¹ Hansen & Betcher (2021), *supra* n.1, at 4.

That is particularly true where, as here, there would be “multiple crossings on a stream or river, or within a watershed.”²⁵² In those cases, “the detrimental effects of crossing construction [may be] permanent.”²⁵³

West Virginia’s narrative criteria prohibit significant adverse impacts on the physical and biologic components of aquatic ecosystems.²⁵⁴ The literature establishes that dry-ditch, open-cut crossings cause such impacts both to the physical structure of streams and to biological communities.²⁵⁵

Finally, Virginia’s narrative criteria expressly prohibit interference with designated uses.²⁵⁶ All Virginia waters, including wetlands, are designated for use for “the propagation and growth of a balanced, indigenous population of aquatic life, including game fish, which might reasonably be expected to inhabit them[.]”²⁵⁷ The literature review set forth above establishes

²⁵² Lévesque & Dubé (2007) at 406–07. As discussed in Section IV, *infra*, Mountain Valley proposes to cut several streams multiple times, and there are scores of crossings in the same watershed in multiple important systems.

²⁵³ Lévesque & Dubé (2007) at 406–07.

²⁵⁴ W. Va. C.S.R. § 47-2-3.2.i.

²⁵⁵ *See, e.g.*, Lévesque & Dubé (2007) at 395–96; Yu et al. (2010) at 449.

²⁵⁶ 9 Va. Admin. Code § 25-260-20(A).

²⁵⁷ *Id.* § 25-260-10.

that dry-ditch, open-cut crossings will contribute to interference with the aquatic life use of Virginia’s waters.²⁵⁸

The effects described above are more than theoretical. Such violations of state water quality standards caused by open-cut, dry-ditch pipeline crossings have been observed in recent years in West Virginia and Virginia. For example, in 2019, the West Virginia Department of Environmental Protection entered a consent order to Columbia Gas Transmission, LLC, regarding water quality standards violations that occurred when that pipeline company allowed an upstream dam to fail on a dry-ditch, open-cut crossing of a trout stream in Pendleton County, West Virginia.²⁵⁹ That particular crossing was using the dam-and-pump crossing method,²⁶⁰ which has been characterized as less likely to fail than the flume crossing method.²⁶¹ WVDEP expressly found that the pipeline company had “cause[d] conditions not allowable [*i.e.*, a violation of West Virginia’s narrative water quality criteria] by creating distinctly visible settleable solids in the North Fork of the South

²⁵⁸ See Section III.A, *supra*; see also, e.g., Penkal & Phillips (1984) at 8 (“Construction and operation of pipelines can cause significant damage to aquatic habitats and fisheries); Castro et al. (2015) at 767 (“Based on past experience at pipeline crossings, the potential for both short and long-term negative impacts on aquatic habitat and species is substantial.”).

²⁵⁹ Consent Order Issued Under the West Virginia Water Pollution Control Act to Columbia Gas Transmission, LLC (Jan. 28, 2019) (attached as Ex. 24).

²⁶⁰ *Id.*

²⁶¹ Reid & Anderson (2004) at 87.

Branch of the Potomac River . . . , which is a trout stream.”²⁶² The violation persisted through a **19-mile-long** reach of the trout stream.²⁶³

Two MVP crossings completed before the 2018 vacatur of Mountain Valley’s Nationwide Permit 12 authorization also contributed to water quality standards violations, one in Virginia and one in West Virginia.²⁶⁴ In Virginia, Mountain Valley constructed its dry-ditch, open-cut crossing of S-G36—the North Fork of the Roanoke River—on July 19, 2018.²⁶⁵ Mountain Valley’s inspectors reported problems with sedimentation and turbidity from the pump around outlet.²⁶⁶ Citizen inspectors, trained by Trout Unlimited in turbidity monitoring, documented sediment deposits and consistent turbidity increases downstream from the crossing location throughout their sampling period from July 19, 2018 through September 9, 2018.²⁶⁷ Because sediment deposits and

²⁶² Ex. 24 at 2.

²⁶³ *Id.*; see also Hansen & Betcher (2021), *supra* n.1 at 5 (concluding that “The 19-mile sediment impact from a failed dry ditch open-cut crossing during construction of the WB Express Pipeline . . . provides a vivid illustration of the scale of problems that can be caused.”).

²⁶⁴ Mountain Valley’s compliance history generally, and particularly at completed crossings, is especially germane to the Corps’ review of this pending application because it is arbitrary and capricious for an agency to ignore a party’s past history of noncompliance. *E.g.*, *Animal Legal Def. Fund*, 872 F.3d at 620.

²⁶⁵ Ex. 10.

²⁶⁶ *Id.*

²⁶⁷ Malbon (2018) (attached as Ex. 11).

turbidity are harmful to aquatic life and interfere with the aquatic life use by smothering benthic macroinvertebrates, what the citizen inspectors observed constitute violations of Virginia narrative water quality criteria.

In West Virginia, Mountain Valley constructed a pipeline right-of-way crossing through stream S-IJ64 (an unnamed tributary of Little Stony Creek in Monroe County), and its attendant right-of-way bridge, in May 2018.²⁶⁸ In an inspection on May 9, 2018, a WVDEP inspector documented “conditions not allowable” (that is, a narrative water quality standards violation) that resulted from Mountain Valley’s neglect of “[b]ridge matting [that] failed contributing sediment laden water at the right-of-way crossing at S-IJ64²⁶⁹ The inspector concluded that the resulting sediment deposits caused the “conditions not allowable.”²⁷⁰

In sum, there is overwhelming evidence that Mountain Valley’s proposed dry-ditch, open-cut crossings will contribute to violations of West Virginia’s and Virginia’s narrative water criteria, and that those violations will be both substantial and long-term, if not permanent.

²⁶⁸ Ex. 12.

²⁶⁹ *Id.*

²⁷⁰ *Id.*

C. THE MVP WILL CAUSE OR CONTRIBUTE TO SIGNIFICANT DEGRADATION OF THE WATERS OF THE UNITED STATES.

The 404(b)(1) Guidelines prohibit the issuance of a permit where the proposed discharges “will cause or contribute to significant degradation of the waters of the United States.”²⁷¹ “Significant degradation” includes significant adverse effects on municipal water supplies; fish; shellfish; special aquatic sites; life stages of aquatic life and other wildlife; and aquatic ecosystem diversity, productivity, and stability.²⁷² As explained below, the discharges proposed by Mountain Valley will cause or contribute to such degradation. Indeed, EPA Region 3 is very concerned about the potential for significant degradation to waters of the United States from this project.²⁷³ Because the degradation predicted by EPA would be *significant*, it necessarily triggers the need for FERC to prepare an SEIS to take a hard look at the impacts from dry-ditch, open-cut crossings.

²⁷¹ 40 C.F.R. § 230.10(c).

²⁷² *Id.* § 230.10(c)(1)–(4).

²⁷³ *See, e.g.*, Lapp Letter at 4 (“EPA is concerned that [Mountain Valley] has not yet demonstrated that the discharges from the project, as proposed, will not cause or contribute to water quality standards exceedances or significant degradation of receiving waters.”); *see also generally id.*

1. Mountain Valley’s Stream Crossings Threaten Significant Adverse Effects on Municipal Water Supplies.

Significant adverse effects on municipal water supplies constitute prohibited significant degradation of waters of the United States.²⁷⁴ Although Mountain Valley does not acknowledge it in its application to the Corps, Hansen et al. (2018) concluded that Mountain Valley has proposed multiple crossings within the Source Water Assessment Area for the Town of Rocky Mount, Virginia.²⁷⁵ Admittedly, FERC concluded in the FEIS that there would be no effect from the MVP on Rocky Mount’s water intake, but that was solely because Mountain Valley modified its route to avoid crossing the Blackwater River upstream of that intake. After the FEIS was issued, a 2018 review of Mountain Valley’s proposed stream crossings identified “more than 35 total crossings” upstream of the intake and within the town’s source water assessment area that do threaten the Town of Rocky Mount’s municipal drinking water, notwithstanding the alignment change that avoids the Blackwater River.²⁷⁶ Hansen et al. (2018) explain that

[t]he Virginia Department of Health (VDOH) designates an assessment area for each drinking water source in order to promote source water protection. Although they are not regulatory boundaries, source water assessment areas include the area from which pollution can reach intakes quickly. Thus,

²⁷⁴ *Id.* § 230.10(c)(1).

²⁷⁵ Evan Hansen, Jason Clingerman, & Meghan Betcher, Threats to Water Quality from Mountain Valley Pipeline and Atlantic Coast Pipeline Water Crossings in Virginia 26 (2018) (attached as Ex. 25).

²⁷⁶ *Id.*

additional scrutiny of potential contaminant sources should be undertaken in these areas to protect drinking water.²⁷⁷

Because of the number of crossings within the assessment area, Hansen et al. (2018) concluded that,

[g]iven the existing sediment-cause impairment [in the Blackwater River’s tributaries], these streams and the Town of Rocky Mount’s Source Water Assessment Area are highly vulnerable to additional sedimentation produced by construction of the MVP. The upland construction corridor, access road construction, streambank disturbance, and instream crossings **would contribute additional sediment to the receiving streams.** Because these crossings are so close together and all flow to the same point, the cumulative impacts of these crossings would directly impact Little Creek and potentially the Blackwater River.²⁷⁸

The 404(b)(1) Guidelines recognize that “[d]ischarges can affect the quality of water supplies with respect to . . . suspended particulate concentration, in such a way as to reduce the fitness of the water for consumption. Water can be rendered unpalatable or unhealthy by the addition of suspended particulates”²⁷⁹ Because of the potential contribution of sediment to the Town of Rocky Mount’s drinking water—and the attendant significant adverse effects—Mountain Valley’s omission of information about its crossings in the assessment area requires FERC and the Corps as a cooperating agency to take

²⁷⁷ *Id.* at 11.

²⁷⁸ *Id.* at 9.

²⁷⁹ 40 C.F.R. § 230.50(b).

a hard look at the environmental impacts of construction of the MVP on the Town of Rocky Mount's drinking water.

2. Mountain Valley's Stream Crossings Threaten Significant Adverse Effects to Fish and Shellfish.

The 404(b)(1) Guidelines also define significant degradation to include significant adverse effects on fish and shellfish.²⁸⁰ The pipeline crossing literature discussed in Section III.A, *supra*, establishes that dry-ditch, open-cut crossings like those proposed by Mountain Valley, contribute to significant adverse effects on fish. Those impacts include, *inter alia*, adverse effects on fishery habitat from sedimentation;²⁸¹ lethal effects from blasting;²⁸² and effects on "fish behavior and physiology (hierarchy, feeding, respiration rate, loss of equilibrium, blood hematocrit and leukocrit levels, heart rate and stroke volume).²⁸³

FWS concluded that Mountain Valley's proposed stream crossings using the dry-ditch, open-cut methods of "dam and pump" and "cofferdam" are likely to adversely affect endangered Roanoke logperch (*Percina rex*).²⁸⁴ FWS predicted that the open-cut crossings of the North Fork Roanoke River,

²⁸⁰ *Id.* § 230.10(c)(1).

²⁸¹ Penkal & Phillips (1984) at 6; Reid & Anderson (1999) at 242.

²⁸² Penkal & Phillips (1984) at 7.

²⁸³ Lévesque & Dubé (2007) at 395.

²⁸⁴ BiOp at 95.

Bradshaw Creek, and Harpen Creek will harm or kill Roanoke logperch.²⁸⁵ FWS predicted that those effects would result from “[t]emporary loss of occupied habitat, [p]hysical impacts to individuals, [h]abitat degradation and water quality degradation, [and] reduction of prey population” caused by the dam-and-pump and cofferdam crossing methods.²⁸⁶ Those significant adverse effects are sufficient to constitute significant degradation, notwithstanding that FWS concluded (insupportably) that the MVP will not jeopardize listed species or their habitat, a conclusion that is the subject of ongoing litigation in *Appalachian Voices v. Haaland*, No. 20-2159 (4th Cir.). Because the 404(b)(1) Guidelines treat (1) significant degradation in the form of significant adverse effects on fish and (2) jeopardy to endangered and threatened species each as distinct reasons to deny a permit, adverse effects on listed fish do not have to rise to the level that they jeopardize the survival or recovery of the species to constitute significant degradation of waters of the United States.²⁸⁷

With regard to shellfish, Mountain Valley acknowledges that there are non-listed freshwater mussels in streams that it will cross, including a state-listed freshwater mussel in Virginia.²⁸⁸ But Mountain Valley provides insufficient information to support a conclusion that that there will not be

²⁸⁵ *Id.* at 168.

²⁸⁶ *Id.* at tbl. B-2.

²⁸⁷ Compare 40 C.F.R. § 230.10(c)(1), with 40 C.F.R. § 230.10(b)(3).

²⁸⁸ Application at 37.

significant adverse effects on those shellfish and makes hollow commitments that it will time its crossings to protect mussels.

Mountain Valley does not even tell the Corps in its application *what* the state-listed mussel is, or *where* it is located.²⁸⁹ Without such information, FERC cannot take a hard look at the effects of the MVP on that mussel. Moreover, Mountain Valley states that it “will adhere to recommended [time-of-year restrictions] and mussel relocations,” but only “as required.” Mountain Valley expressly reserves the right to seek waivers of time-of-year restrictions (“TOYRs”), and has a demonstrated history of doing so for the convenience of adhering to its preferred construction schedule.²⁹⁰ Adherence to such restrictions is important in order to avoid significant degradation because the physical changes caused by sediment deposits can have protracted effects on benthic habitats.²⁹¹

3. Mountain Valley’s Crossings Threaten Significant Adverse Effects to Special Aquatic Sites.

Special aquatic sites receive special treatment in the Section 404 analysis, and therefore should be carefully scrutinized in FERC’s ongoing

²⁸⁹ Mountain Valley points the reader to Table 2 of its Corps application, but none of the various iterations of Table 2 identify a listed mussel species.

²⁹⁰ *See also* Application at 36, 39, 65, 65 n.69.

²⁹¹ Reid & Anderson (1999) at 242.

NEPA process.²⁹² Mountain Valley’s proposed activities will affect two types of special aquatic sites: wetlands and streams with riffle and pool complexes.

a. Mountain Valley’s Crossings Will Cause or Contribute Significant Degradation to Wetlands and Their Functions.

Mountain Valley’s proposed discharges will cause or contribute to significant adverse impacts to more than 14 acres of wetlands. As a threshold matter, the lack of information in the application about how Mountain Valley intends to construct dry-ditch, open-cut crossings in standing water in wetlands led Silvis to conclude that these will in fact be wet-ditch crossings.²⁹³ Silvis further concludes that that the “application’s lack of information on wetland crossing methods to reduce environmental impacts does not meet minimum industry standards and will lead to substantial negative impacts to wetland resources.”²⁹⁴ In other words, Silvis predicts significant degradation to wetlands.

Moreover, the literature concludes that pipeline crossings have the potential to destroy the integrity and background of wetland ecosystems.²⁹⁵ As a result of the deep trenching required in an open-cut crossing of wetlands, Silvis (2021) states that

²⁹² 40 C.F.R. § 230.10(c)(1).

²⁹³ Silvis (2021), *supra* n.1, at 16.

²⁹⁴ *Id.* at 10.

²⁹⁵ Yu et al. (2010) at 449.

Excavation of material in wetlands alters the hydraulic properties and the soil structure **permanently**. Olson and Doherty (2012) noted that “[i]nstallation of large-scale infrastructure, including pipelines, has the potential to damage soil and vegetation in wetlands within the path of construction by compacting soil, altering hydrology, decreasing plant diversity, and facilitating invasions of unwanted species.” In one study, soils consistently showed evidence of compaction and hydrologic alteration eight years after the wetlands were crossed by natural gas pipelines (Olson and Doherty, 2012). Wetland soils take years to form and to function (Jackson et al., 2014). By excavating, stockpiling, and then replacing soils in wetlands, the hydraulic conductivity of the soil changes, the porosity is decreased, connectivity of pores decreases, compaction increases, soil horizons are altered. All of these characteristics work in conjunction to form a functioning wetland soil (Jackson et al., 2014). Fill associated with trenching changes all of these characteristics. Even with the provision to replace the top layer of wetland soils, the functionality of the wetland is permanently negatively impacted.²⁹⁶

One such wetland function that deep disturbances like pipeline trenching will significantly adversely affect is carbon sequestration, which has a net cooling effect on the global climate.²⁹⁷ Wetland soils store huge amounts of carbon in the form of organic matter that cannot decay in the anaerobic conditions present in wetland soils below the sediment water interface.

The carbon sequestration function of the wetlands in Mountain Valley’s path is significant. One study estimates that wetlands in the coterminous

²⁹⁶ Silvis (2021), *supra* n.1, at 3–4.

²⁹⁷ Neubauer & Verhoeven, *Wetland Effects on Global Climate: Mechanisms, Impacts, and Management Recommendations*, in *Wetlands: Ecosystem Services, Restoration and Wise Use* 55 (2019) (attached as Ex. 26).

United States store nearly 1% of the world's total soil organic carbon.²⁹⁸ Freshwater inland wetlands, such as those impacted by the MVP, hold nearly ten times as much carbon as tidal saltwater wetlands.²⁹⁹ And, the “[w]etlands of the Eastern Mountains and Upper Midwest store the most carbon” of any region surveyed, accounting for almost half of the country's wetland carbon.³⁰⁰

Digging a 10-foot-deep trench into wetland anaerobic soils will oxidize the soil when it is excavated and moved. That oxidation exposes the sequestered carbon in the preserved organic matter to decay, which releases carbon dioxide to the atmosphere.³⁰¹

For those reasons, Neubauer and Verhoeven (2019) recommend that “[a]ctivities that disturb wetlands and lead to the oxidation of sequestered soil C[arbon] should be avoided to the maximum extent possible.”³⁰² Otherwise, “it can take decades to hundreds of years (or longer) for [restored] wetlands to have climatic [cooling] effects that are equivalent to those that the original

²⁹⁸ A. M. Nahlik and M. S. Fennessy, *Carbon Storage in U.S. Wetlands*, NATURE COMMUN (2016), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5159918/>.

²⁹⁹ *Id.*

³⁰⁰ *Id.*

³⁰¹ *See generally* Neubauer & Verhoeven (2019) at 55.

³⁰² *Id.* (emphasis original).

wetland would have had if it had been left undisturbed.”³⁰³ In other words, it could take decades or centuries for the wetlands that would be trenched by Mountain Valley to regain the carbon storage function that will be eliminated under the proposed permit.³⁰⁴ Accordingly, Mountain Valley’s proposed wetland trenching will have impermissible significant adverse effects on those wetlands’ functions.

b. Mountain Valley’s Crossings Will Significantly Degrade Riffle and Pool Complexes.

Mountain Valley concedes that it will cross streams with riffle and pool complexes, but does not specify where or how many.³⁰⁵ The 404(b)(1) Guidelines identify a number of adverse effects on riffle and pool complexes from sedimentation, including the total elimination of such complexes, the

³⁰³ *Id.* at 56; *see also* Nahlik & Fennessy, *supra* note 298 (categorizing pipeline-related disturbances as “[h]igh impact hydrologic disturbances” and reporting that sampling data “show[ed] that carbon stocks are significantly lower at wetland sites with most anthropogenic disturbance compared with sites with intermediate or least disturbance”); Soil Survey Manual, ch. 11 intro. (4th ed. 2017), *available at* <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/ref/?cid=nrcseprd1343023> (“The movement of soil by humans resets the soil-forming factor of time and commonly truncates or buries a more developed soil, thus strongly influencing soil properties.”).

³⁰⁴ Mountain Valley’s restoration efforts will not restore this carbon function.

³⁰⁵ Application at 39.

creation of unsuitable habitat, clogging, habitat destruction, and anaerobic conditions.³⁰⁶

Mountain Valley’s pollyannaish statement that it will restore riffle and pool complexes by “replac[ing] the stream substrate and restor[ing] the streambed as close as practicable to preexisting conditions”³⁰⁷ ignores the downstream effects of crossings in reaches with riffle and pool complexes. Sedimentation released from dry-ditch, open-cut crossings fills downstream interstitial spaces.³⁰⁸ In that way, Mountain Valley’s riffle and pool crossings will lead to the adverse significant impacts on those special aquatic sites described in the 404(b)(1) Guidelines.

In any event, the Corps cannot conclude that Mountain Valley’s proposal complies with the prohibition against significant adverse impacts to special aquatic sites because Mountain Valley has failed to sufficiently quantify or identify the riffle and pool complexes it intends to cross. Without that

³⁰⁶ 40 C.F.R. § 230.45.

³⁰⁷ Application at 39. Mountain Valley’s confidence is contradicted by the literature on stream restoration success. *See generally* Palmer et al., *Ecological Restoration of Streams and Rivers: Shifting Strategies and Shifting Goals*, ANN. REV. ECOLOGY, EVOLUTION, & SYSTEMATICS 45 (2014) (attached as Ex. 27); *see also id.* at 259 (observing that “habitat may be important ecologically, but it is not sufficient for assessing ecological outcomes (Doyle & Shields 2012), and in the vast majority of cases restoration of habitat does not lead to restoration biologically (Jahning et al. 2010)”).

³⁰⁸ Penkal & Phillips (1984) at 6.

information, FERC and the Corps cannot take the requisite hard look at effects on riffle and pool complexes.

4. Mountain Valley’s Crossings Threaten Significant Adverse Effects to Life Stages of Aquatic Life and Other Wildlife.

The 404(b)(1) guidelines define significant degradation to include serious adverse effects on the life stages of aquatic life and other wildlife.³⁰⁹ The literature establishes that “silt or sand deposition can fill interstices in gravel,” and that “[e]quipment operating in the stream . . . can eliminate spawning habitat.”³¹⁰ As a result, stream crossings have been shown to affect fish reproductive success.³¹¹ Specifically,

[i]ncreased sediment deposition and substrate compaction from pipeline crossings can degrade spawning habitat, result in the production of fewer and smaller fish eggs, impair egg and larvae development, [and] limit food availability for young-of-year fish[.]”³¹²

FWS’s September 2020 BiOp reaches the same conclusion, stating that sedimentation from pipeline construction, including dry-ditch, open-cut crossings, can be expected to

cause multiple adverse effects on all life stages of benthic fish, including loss of stream habitat essential for sheltering, foraging, and spawning; increased mortality of eggs, YOY, juveniles, and adults; increased predation on eggs by sediment-dwelling invertebrates; avoidance of previously occupied habitat; increased

³⁰⁹ 40 C.F.R. § 230.10(c)(2).

³¹⁰ Penkal & Phillips (1984) at 6.

³¹¹ Lévesque & Dubé (2007) at 399.

³¹² Ex. 19 at 3.

vulnerability of adults to predation; [and] reduced reproductive success.³¹³

Such effects are particularly problematic for fish species—such as the candy darter (*Etheostoma osburni*)—that have short life cycles.³¹⁴ As discussed above, sedimentation deposits attendant to pipeline stream crossings have been documented to persist for up to four years.³¹⁵ Consequently, the sedimentation effects from Mountain Valley’s dry-ditch, open-cut crossings cannot be dismissed as temporary because they will last longer than the lifespan of some of the fish species in its path, interfering with each stage of those fishes lifecycles. FERC and the Corps, therefore, must take a hard look at those significant adverse impacts on the life stages of the aquatic life in the MVP’s path.³¹⁶

Mountain Valley’s routine use of waivers of time-of-year restrictions rears its head here as well. The literature concludes that adherence to such restrictions is essential given the protracted effect of sediment deposits on

³¹³ BiOp at 95.

³¹⁴ The candy darter “reach[es] sexual maturity by age 2 and often [dies] during [its] third year.” BiOp at 49.

³¹⁵ Lévesque & Dubé (2007) at 299.

³¹⁶ Cf *Miccosukee Tribe of Indians of Fla. v. United States*, 566 F.3d 1257, 1271 (11th Cir. 2009) (when an agency must consider effects on a species lifecycle, it must “carefully consider” the relationship between the duration of the habitat degradation and species “with short life cycles”).

habitat.³¹⁷ But, Mountain Valley expressly reserves the right to seek waivers of time-of-year restrictions, and has a demonstrated history of doing so for the convenience of adhering to its preferred construction schedule.³¹⁸ Mountain Valley’s disregard for the life cycles of the aquatic life in its path underscores the need to protect that aquatic life from significant adverse impacts to its life stages.

5. Mountain Valley’s Crossings Threaten Significant Adverse Effects to Aquatic Ecosystem Diversity, Productivity, and Stability.

Significant degradation also includes significant adverse effects on “aquatic ecosystem diversity, productivity, and stability.”³¹⁹ The available stream-crossing literature establishes that such effects should be expected from Mountain Valley’s proposed dry-ditch, open-cut crossings. For example, Reid and Anderson (1999) found:

Downstream changes to the diversity and structure of benthic invertebrate communities have also occurred after pipeline construction (Anderson *et al.* 1998). One week after construction, the downstream benthic invertebrate community in Findlay Creek, Ontario was generally limited to sediment tolerant species of oligochaetes (aquatic earthworms) (Anderson *et al.*, 1998). At upstream control sites, the benthic invertebrate fauna was characterized as very diverse with over 26 species comprised of chironomids, caddisflies, stoneflies, mayflies, and dragonflies. Observed changes in community structure likely resulted from

³¹⁷ Reid & Anderson (1999) at 242.

³¹⁸ Application at 36, 39, 65, 65 n.69.

³¹⁹ 40 C.F.R. § 203.10(c)(3).

reductions in habitat availability for species dependent on interstitial spaces between coarse substrates.³²⁰

And Lévesque and Dubé (2007) observed that

Armitage and Gunn (1996) noted that pipeline crossing construction in a stream in England **resulted in a shift in invertebrate species** due to an increased proportion of silt in stream substrates. **This effected persisted for 4 years** until a high magnitude flow event scoured the stream channel bed, promoting re-establishment of pre-construction invertebrate species. Tsui and McCart (1981) found that crossing construction of Archibald Creek, British Columbia, caused short-term increases in silt and sand accumulation **and decreases in invertebrate standing crop and diversity, which lasted 1 to 2 years.**³²¹

Moreover, Yu et al. (2010) noted that

[p]ipeline crossing construction is shown to not only compromise with the integrity of the physical and chemical nature of fish habitat, but also to affect biological habitat and fish behavior and physiology (Lévesque and Dube 2007), which will result in avoidance movement of fish, altered distribution of populations (Newcombe and Jensen 1996) and reduce population size and species.³²²

They concluded that “[t]he integrity and background of wetland ecosystems may be destroyed” by pipeline construction.³²³ Those significant adverse effects on the aquatic ecosystems, diversity, productive, and stability must be examined by FERC in its ongoing NEPA process.

³²⁰ Reid & Anderson (1999) at 244.

³²¹ Lévesque & Dubé (2007) at 399 (emphasis added).

³²² Yu et al. (2010) at 449.

³²³ *Id.*

IV. FERC MUST EXAMINE THE CUMULATIVE EFFECTS OF THE HUNDREDS OF CROSSINGS PROPOSED BY MOUNTAIN VALLEY.

Among the factual findings that the Corps must make under the 404(b)(1) Guidelines is a “[d]etermination of cumulative effects on the aquatic ecosystem.”³²⁴ Cumulative effects must also be evaluated as part of the factual determinations of the effects of the proposed discharge on the physical substrate, the effects of suspended particulates and turbidity, and the effects on the structure and function of the aquatic ecosystem and organisms.³²⁵

Here, FERC must prepare a detailed statement of the cumulative environmental effects of all of the proposed crossings in its pending NEPA review, regardless of any purported effect of the 2020 NEPA regulations on a federal agency’s obligation to consider cumulative effects, because

- (1) the Corps, as a cooperating agency, has to ensure that the information in the NEPA document produced in this process is “adequate to fulfill the Corps’ statutory requirements, including the requirements of Section 404(b)(1) of the Clean Water Act,”³²⁶

³²⁴ 40 C.F.R. § 230.11(g).

³²⁵ *Id.* § 230.11(a), (c), & (e).

³²⁶ Letter from Jon T. Coleman, Pittsburgh District, U.S. Army Corps of Eng’rs, to Kimberly D. Bose, Secretary, Fed. Energy Regul. Comm’n, Re: Acceptance of Cooperating Agency Responsibility (Mar. 10, 2021) at 1–2.

(2) the pre-2020 NEPA regulations require an examination of cumulative effects,³²⁷ and

(3) Mountain Valley’s proposed crossings are “connected actions” whose impacts require review even under the 2020 NEPA regulations.³²⁸

The 404(b)(1) Guidelines recognize that, “[a]lthough the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems.”³²⁹ That description of cumulative effects remarkably tracks the conclusions of the scientific literature on the significant cumulative effects of dry-ditch, open-cut crossings:

The potential for cumulative effects associated with pipeline crossing construction should be taken into consideration in assessing the impacts of these activities on rivers and streams. Construction of a single crossing on a stream or river, or within a watershed, may not have significant effects on fish and fish habitat in that system. **Construction of multiple crossings on a stream or river, or within a watershed, however, has the potential for cumulative effects on that system. In such cases, the capacity of the system to recover from impact**

³²⁷ See, e.g., 40 C.F.R. § 1508.25(c)(3) (2019).

³²⁸ 40 C.F.R. § 1501.9(e). Because all of Mountain Valley’s proposed crossings are indisputably connected actions under that regulation, FERC and the Corps must consider the additive or cumulative effects of each crossing, along with the additive or cumulative effects of the crossings and upland construction, which are also connected actions. This section of the comments should be construed to use the term “cumulative effects” to include the additive/combined effects of the various connected actions necessary to complete the MVP as proposed by Mountain Valley.

³²⁹ *Id.* § 230.11(g).

may be exceeded, and the detrimental effects of crossing construction permanent. The same may be said for the frequency of crossing construction within a given system; rivers and streams will have limited capacities to recover from multiple impacts.³³⁰

Despite the 404(b)(1) Guidelines' requirements for factual findings regarding cumulative effects, and despite the scientific literature's clear predictions of significant effects, Mountain Valley's application to the Corps is devoid of any useful analysis of the cumulative effects of its proposed crossings. The absence of such information raised concerns for EPA, as described in that agency's May 27, 2021 comments on Mountain Valley's application to the Corps.³³¹ For example, EPA recommended "a conclusive evaluation at watershed scale (i.e. HUC 12) be provided to ensure that measures are undertaken to avoid and minimize the potential of cumulative impacts,"³³² and asked the Corps to require special provisions applicable to streams and wetlands impacted multiple times by construction of the MVP.³³³

Indeed, Mountain Valley's application does not even call the Corps' attention to, or otherwise quantify, the streams and watersheds that it would cut multiple times with its proposed open-cut trenches. There are many.

³³⁰ Lévesque & Dubé (2007) at 406–07.

³³¹ Lapp Letter at 1 (noting an "insufficient assessment of secondary and cumulative impacts").

³³² *Id.* at 8.

³³³ *Id.* at 7.

Teels Creek presents an example of a stream poised to suffer permanent adverse effects from multiple crossings by the MVP. Mountain Valley proposes to cross Teels Creek in Franklin County, Virginia, with at least *six* open-cuts for the MVP's right-of-way, and a seventh time for a timber-mat crossing.³³⁴ Teels Creek already suffers from biological impairment caused by sedimentation.³³⁵ Mountain Valley presents no analysis of Teels Creek's capacity to recover from multiple impacts of the scale threatened by the multiple proposed crossings. Although Teels Creek holds the unfortunate distinction of being the stream the MVP will cross the most, there is a three-way tie for second place between an unnamed tributary of the Elk River in Webster County, West Virginia (S-H113), Riley Branch in Nicholas County, West Virginia (S-L35), and an unnamed tributary to Patterson Creek in Summers County, West Virginia (S-J13), with three trenched right-of-way crossings each.³³⁶ As with Teels Creek, Mountain Valley does not provide any

³³⁴ Application, tbl. 2 (3/1/2021 revisions) at 10. For unknown reasons, Mountain Valley assigns five different stream identifiers to Teels Creek of the Blackwater River (S-E28, S-EF12, S-D23, S-C14, and S-C17), but mapping reviews of the MVP's alignment reveal that all of those stream identifiers are assigned to the same, blue-lined Teels Creek of Little Creek of the Blackwater River.

³³⁵ Hansen et al. (2018) at 9.

³³⁶ Application, tbl. 2 (3/1/2021 Revision) at 3, 5, and 6. If one were looking for a tie-breaker, the temporary access road crossing planned for Riley Branch might suffice. *Id.* at 5.

information about those three streams' capacity to recover from multiple open cuts.

Substantial and permanent adverse effects are not limited to multiple open-cuts on the same stream, however; they are also implicated by multiple crossings in the same watershed.³³⁷ At this level of analysis, numerous river and stream systems face a high-risk of substantial and permanent cumulative effects from open-cut trenches, yet Mountain Valley does not discuss those risks. For example, a review of Mountain Valley's individual permit application by the Indian Creek Watershed Association revealed that Mountain Valley has asked to cross by open-cut methods:

- 15 streams in the relatively-small watershed of Indian Creek of the New River (in addition to two already completed stream-crossings);³³⁸
- 66 streams in the New River watershed (in addition to 13 already completed stream-crossings);³³⁹ and
- 66 streams in the Gauley River watershed (in addition to 9 already completed stream-crossings).³⁴⁰

³³⁷ Lévesque & Dubé (2007) at 406–07; *see also* Lapp Letter at 2 (noting the 200 crossings in the Roanoke River watershed and the 100 proposed crossings within the New River watershed).

³³⁸ Impacts to Indian Creek Watershed (attached as Ex. 28).

³³⁹ Impacts to the New River Watershed (attached as Ex. 29).

³⁴⁰ Impacts to the Gauley River Watershed (attached as Ex. 30).

And Hansen et al. (2018) determined that Mountain Valley would open-cut 34 streams in the HUC-12 watershed within the Upper Roanoke HUC-8 watershed in which Little Creek of the Blackwater River is located.³⁴¹ Mountain Valley's application does not present any information about the capacity of those watersheds (or any others) to recover from the multiple open-cuts that Mountain Valley's proposed route would trench through those watersheds.

Furthermore, to be complete, the environmental review FERC and the Corps conduct must account for the combined effects of *trenchless* crossings with *open-cut*, *dry-ditch* crossings. There may be cumulative impacts from those two methods that FERC and the Corps must analyze in the NEPA process. For example, trenchless crossings in a watershed may affect water *quantity* in such a way as to reduce the flow available in downstream reaches to clear sedimentation from open-cut, dry-ditch crossings in downstream reaches.

One key issue for a cumulative impacts analysis is the extent to which bore pit dewatering will affect nearby surface waters and wetlands, especially those that are proposed for both trenched and trenchless crossings in close proximity.³⁴² A 2021 report by the Virginia Scientist-Community Interface

³⁴¹ Hansen et al. (2018) at 9.

³⁴² One example occurs in Virginia, near Bent Mountain, where Mountain Valley proposes seven crossings—a combination of trenched and trenchless—within .4 miles of one another, all affecting wetlands along Mill Creek and

notes that “[h]eadwater streams, wetlands, and groundwater form a complex hydrologic network, and hillslopes, headwater streams, and downstream waters are best described as individual elements of integrated hydrological systems.”³⁴³ It would be arbitrary to ignore the risk—and at some sites, the likelihood—that bore pit dewatering operations will also dewater nearby surface waters and wetlands. For example, licensed professional geologist Pamela C. Dodds, Ph.D., notes, in the vicinity of Bent Mountain, Virginia, the hydraulic connectivity between the area’s perched aquifers and its surface waters and wetlands.³⁴⁴ It is incumbent upon FERC and the Corps to account for the cumulative impacts of trenching and tunneling, including bore pit dewatering, in areas like this along the pipeline route. Notably, however, this cumulative impacts analysis will require site-specific information because, as the Virginia Scientist-Community Interface notes with respect to construction challenges near Bent Mountain, “[p]ublicly available data and best available

tributaries to Mill Creek, which flows parallel to and very near the right-of-way. *See* Mountain Valley Pipeline, LLC, Roanoke County Detail Map Fig. 4-653 (Feb. 2021) This map ostensibly is available with Mountain Valley’s individual permit application materials at Accession No. 2021-0304-5122, but the FERC eLibrary returns an unexpected error message when access is attempted; the map is also available via Virginia DEQ at <https://www.deq.virginia.gov/home/showpublisheddocument/5400/637502240076230000>.

³⁴³ Virginia Scientist-Community Interface (2021) at 3 (internal quotation marks omitted).

³⁴⁴ Pamela C. Dodds, Hydrogeological Assessment of Proposed Mountain Valley Pipeline Construction Impacts to Mill Creek, Bent Mountain Area, Roanoke County, Virginia at 24 (June 2017) (attached as Ex. 31).

science demonstrate the ecological important, environmental heterogeneity, and sensitivity of Blue Ridge headwater streams and underlying aquifers.”³⁴⁵ Indeed, the Virginia Scientist-Community Interface report explains: “Because of the considerable hydrological connection between groundwater and surface water . . . dewatering of [the] bore pits may impact groundwater sources and lead to alterations of the wetlands they sustain. Because geological, terrain, and soil characteristics on Bent Mountain are highly heterogenous, field-based site-specific planning and geotechnical analysis must take place before construction begins.”³⁴⁶

Also missing from Mountain Valley’s application is any discussion of the cumulative impacts that would result from the combination of Mountain Valley’s upland activities and proposed stream crossings. Mountain Valley’s upland activities have already led to substantial sediment deposits along streams in its path.³⁴⁷ Silvis predicts these impacts from upland disturbances:

The conversion of forested land to maintained right-of-way increases runoff volumes, which will change stream morphology. Lack of intact forest cover has been found to change stream morphology for two to four years post-disturbance (Reid & Anderson 1999). Methods to maintain the right-of-way include the use of pesticides and herbicides which can be mobilized in stormwater runoff and cause degradation of aquatic ecosystems. The construction of temporary and permanent access roads also increases runoff volumes and increases turbidity and sediment migration from upland areas to water bodies. The increases in

³⁴⁵ Virginia Scientist-Community Interface (2021) at 5.

³⁴⁶ *Id.* at 2 (emphasis omitted).

³⁴⁷ *See generally, e.g.,* Ex. 22; Hansen & Betcher (2021), *supra* n.1, at 5.

stormwater runoff volumes can alter stream morphology and stream bed composition. There are also long-term increases in temperature associated with the reduction of forested canopy for both streams and wetlands.³⁴⁸

And, as Hansen & Betcher (2021) conclude, given that Mountain Valley “has been contributing sediment to streams along the pipeline’s route during upland construction[, c]onstruction of stream crossings would only compound the sediment inputs to streams along the pipeline’s route.”³⁴⁹ As a result, FERC and the Corps must consider whether the locations that would be affected by sedimentation from Mountain Valley’s proposed open-cut stream crossings have also been affected by sedimentation and runoff from Mountain Valley’s upland activities and determine the cumulative effects of those discharges on the aquatic ecosystems.

In sum, because of the requirements of the 404(b)(1) Guidelines, the scientific literature establishing potentially permanent impacts to watersheds from multiple trenched crosses in the same watershed, the silence of Mountain Valley’s application on those issues, and the connected nature of the actions that would occur under the proposed certificate amendment and Corps permit, FERC must take a hard look at the combined effects of Mountain Valley’s proposed crossings.

³⁴⁸ Silvis (2021), *supra* n.1, at 4.

³⁴⁹ Hansen & Betcher (2021), *supra* n.1, at 5.

V. FERC MUST CONSIDER THE MVP'S CLIMATE CHANGE IMPACTS AS PART OF ITS NEPA ANALYSIS.

As Commenters explained in their April 15, 2021 scoping comments, FERC's current environmental review must fully consider the climate change impacts of the MVP and may not rely on the deficient and outdated discussion in its 2017 FEIS. The Corps' involvement as a cooperating agency only makes that truer.

The Corps' regulations require it to conduct a public interest review of every permitting decision—not just permits issued pursuant to Section 404 of the Clean Water Act.³⁵⁰ If a permit would be contrary to the public interest, the application must be denied.³⁵¹ Among the factors the Corps is to consider is “[e]nergy conservation and development,” which must be construed to include climate change issues.³⁵²

When it became a cooperating agency in FERC's new environmental review of the MVP, the Corps rightly noted that the resulting NEPA document must be “adequate to fulfill the Corps' statutory requirements, including . . .

³⁵⁰ *See generally* 33 C.F.R. § 320.4.

³⁵¹ *Id.* § 320.4(a)(1).

³⁵² *Id.* § 320.4(n). Of course, climate impacts are also relevant to the Corps' consideration of many other factors, individually and cumulatively, including, to name a few: “conservation”; “economics”; “general environmental concerns”; “fish and wildlife values”; “flood hazards”; “shore erosion and accretion”; “water supply and conservation”; “food and fiber production”; and “the needs and welfare of the people.” *Id.* § 320.4.

the Corps’ public interest review (33 CFR § 320.4).”³⁵³ Consequently, because climate change is the most important aspect of the Corps’ public interest review of this project, FERC must address climate impacts in its forthcoming NEPA document.

Building the MVP would severely hamper our urgent national effort to combat climate change by shifting the economy from a harmful dependency on fossil fuels to a thriving renewable energy future. The Biden administration has announced major national objectives for energy policy that prioritize decreasing greenhouse gas emissions and increasing renewable energy generation to combat climate change. President Biden has pledged to cut national emissions in half by 2030 and achieve a net-zero emission economy by 2050. The policy of all federal agencies—including FERC and the Corps—is now to deploy their full capacity to assess, disclose, mitigate, and reduce climate pollution in every sector of the economy.

The MVP proposal—the largest capacity and longest new gas pipeline project in the Eastern United States³⁵⁴—directly conflicts with our national

³⁵³ Letter from Jon T. Coleman, Pittsburgh District, U.S. Army Corps of Eng’rs, to Kimberly D. Bose, Secretary, Fed. Energy Regul. Comm’n, Re: Acceptance of Cooperating Agency Responsibility (Mar. 10, 2021) at 1–2.

³⁵⁴ *Natural Gas*, U.S. Energy Info. Admin., <https://www.eia.gov/naturalgas/pipelines/EIA-NaturalGasPipelineProjects.xlsx> (providing detailed weekly data of natural gas pipeline projects that have been announced or are under construction, rankable by region, cost, capacity, length, and other characteristics). The MVP proposal is an outlier not only regionally, but nationally as well. The only new projects in the country with larger capacity are in Alaska, Texas, and Louisiana. *Id.*

energy policy. Building this pipeline would lock in unnecessary natural gas infrastructure, hampering President Biden’s announced government- and economy-wide transition to renewable energy sources. If completed, the MVP would be an obstacle to these objectives for half a century.³⁵⁵ Each year of its operational life, the MVP would lead to end-use combustion resulting in approximately 40 million metric tons of carbon-dioxide-equivalent greenhouse gas emissions.³⁵⁶ For context, this volume amounts to an approximately 7% increase in our total national electricity-generation emissions from natural gas as of 2019³⁵⁷ and over \$2 billion of climate damage each year.³⁵⁸ These figures leave no doubt that the MVP would significantly anchor our national energy development objectives to the fossil-fuel era.

And, of course, those figures only cover some of the climate impacts that would result from the project. While emissions from end-use combustion may

³⁵⁵ FEIS at 2-58 (stating the pipeline would be expected to operate for about fifty years).

³⁵⁶ *Id.* at 4-620, tbl.4.13.2-2. Although the FEIS indicates that the MVP’s emissions would potentially offset some coal-generated emissions, *id.* at 4-619, Mountain Valley has offered no information to support this possibility; another possibility is that gas transported by the MVP could displace, or disincentivize the development of, renewable energy sources.

³⁵⁷ *Frequently Asked Questions (FAQs): How Much Carbon Dioxide is Produced Per Kilowatthour of U.S. Electricity Generation?*, U.S. Energy Info. Admin., <https://www.eia.gov/tools/faqs/faq.php?id=74&t=11> (listing total U.S. carbon emissions from electricity generation fueled by natural gas as 560 million metric tons in 2019).

³⁵⁸ *See infra* note 414 and accompanying text.

be easier to quantify than other resulting emissions, such as methane leaks during transport, these additional emissions contribute heavily to the total carbon footprint of the project.³⁵⁹ Indeed, some have estimated that the operation of the Mountain Valley Pipeline would result in nearly 90 million metric tons of carbon-dioxide-equivalent greenhouse gas emissions per year—the equivalent of 26 coal-fired power plants.³⁶⁰ On top of that, pipeline construction and maintenance have significant climate impacts which have not been fully quantified.³⁶¹ For example, permanent land-use changes and soil

³⁵⁹ See FEIS at 4-488; Hiroko Tabuchi, *Halting the Vast Release of Methane Is Critical for Climate, U.N. Says*, N.Y. TIMES (Apr. 24, 2021), <https://www.nytimes.com/2021/04/24/climate/methane-leaks-united-nations.html>.

³⁶⁰ Oil Change Int'l, *The Mountain Valley Pipeline: Greenhouse Gas Emissions Briefing 3* (2017) (attached as Ex. 32). This figure includes end-use combustion, methane leaks across the gas supply chain, emissions from pipeline compression, and emissions from gas extraction and processing. While there is considerable debate in the scientific community about exactly how much methane is leaked from gas supply chains on average and how much variation there is among pipelines, there is no doubt that methane leaks contribute substantially to the total emissions that result from a gas pipeline project. Ramon A. Alvarez et al., *Assessment of Methane Emissions from the U.S. Oil and Gas Supply Chain*, SCIENCE (Jul. 13, 2018), available at <https://science.sciencemag.org/content/361/6398/186> (concluding that gas supply chain methane emissions were equivalent to 2.3% of gross gas production, a value approximately 60% higher than the EPA's Greenhouse Gas Inventory estimate of 1.4%); see also Yuzhong Zhang et al., *Quantifying Methane Emissions from the Largest Oil-Producing Basin in the United States from Space*, SCIENCE ADVANCES (Apr. 22, 2020), available at <https://advances.sciencemag.org/content/6/17/eaaz5120> (reporting methane leakage rate in Permian Basin as 3.7% of total gross extracted there).

³⁶¹ Those other impacts include construction emissions, loss of carbon stock due to tree felling and vegetation changes in the corridor, and loss of carbon storage potential due to soil disturbances. See Ex. 32 at 3; Spencer Phillips et al.,

disturbances in the pipeline right-of-way, particularly in wetlands, will not only result in an immediate release of carbon but will decrease the carbon sequestration potential of the ecosystems through which the pipeline passes.³⁶² The aforementioned expected climate impacts will not be meaningfully curbed by Mountain Valley’s recently announced, and woefully inadequate, carbon offset plan.³⁶³

A. OUR NATIONAL OBJECTIVE—AND THE POLICY OF ALL FEDERAL AGENCIES—IS NOW TO QUICKLY SHIFT THE NATIONAL ECONOMY AWAY FROM FOSSIL FUELS.

Immediately after taking office, President Biden issued two executive orders communicating new national goals related to combating climate change.³⁶⁴ Executive Order 14008 (the “Climate Order”) establishes the goal of “net-zero emissions, economy-wide, by no later than 2050.”³⁶⁵ The Order

Economic Costs of the Mountain Valley Pipeline: Effects on Property Value, Ecosystem Services, and Economic Development in Virginia and West Virginia i-iii (2016) (attached as Ex. 33) (noting losses to ecosystem services that have not been quantified).

³⁶² See Section III.C.3.a, *supra* (detailing permanent decreases in carbon sequestration potential when wetland soils disturbed).

³⁶³ Laurence Hammack, *Mountain Valley Pipeline to Purchase \$150 Million in Carbon Offsets*, ROANOKE TIMES (July 12, 2021), https://roanoke.com/business/local/mountain-valley-pipeline-to-purchase-150-million-in-carbon-offsets/article_9126aac6-e34c-11eb-89da-7bc791f77d9d.html.

³⁶⁴ See Exec. Order No. 14008, Tackling the Climate Crisis at Home and Abroad, 86 Fed. Reg. 7619, 7619 (Jan. 27, 2021) [hereinafter Climate Order]; Exec. Order 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, 86 Fed. Reg. 7037, 7037 (Jan. 25, 2021) [hereinafter Restoring Science Order].

³⁶⁵ Climate Order, 86 Fed. Reg. at 7619.

establishes renewable energy development goals as well, including “increas[ing] renewable energy production” on public lands and “doubling offshore wind by 2030.”³⁶⁶

The Climate Order announces that all federal agencies must do their part to achieve the goal of net-zero emissions by 2050:

The Federal Government must drive assessment, disclosure, and mitigation of climate pollution and climate-related risks in every sector of our economy, marshaling the creativity, courage, and capital necessary to make our Nation resilient in the face of this threat. Together, we must combat the climate crisis with bold, progressive action that combines the full capacity of the Federal Government with efforts from every corner of our Nation, every level of government, and every sector of our economy.

It is the policy of my Administration to organize and deploy *the full capacity of its agencies to combat the climate crisis to implement a Government-wide approach* that reduces climate pollution in every sector of the economy; increases resilience to the impacts of climate change; protects public health; conserves our lands, waters, and biodiversity; delivers environmental justice; and spurs well-paying union jobs and economic growth, especially through innovation, commercialization, and deployment of *clean energy technologies and infrastructure*.³⁶⁷

That “Government-wide approach” requires that agencies tasked with permitting decisions fully account for a project’s climate impacts and afford due weight to the public’s interest in combatting climate change. For example, Section 208 of the Climate Order announces a moratorium on all “new oil and natural gas leases on public lands or in offshore waters[.]” pending a

³⁶⁶ *Id.* at 7624.

³⁶⁷ *Id.* at 7622 (emphasis added).

“comprehensive review and reconsideration of Federal oil and gas permitting and leasing practices[.]”³⁶⁸ The order states that the review should analyze the “potential climate and other impacts associated with oil and gas activities on public lands or in offshore waters.”³⁶⁹

Executive Order 13990 (the “Restoring Science Order”) is a complementary order in which President Biden directed all executive departments and agencies to “immediately review” and “take action” to address any Federal “actions during the last 4 years that conflict with . . . important national objectives [including the reduction of greenhouse gas emissions], and to immediately commence work to confront the climate crisis.”³⁷⁰ President Biden left no doubt that these words were not meant as empty aspirations: in the same order, he revoked the presidential permit previously granted by former-President Donald Trump to construct the Keystone XL pipeline that would have transported crude oil from Canada to the United States.³⁷¹

President Biden explained his reasons for revoking the permit. First, “an exhaustive review” in 2015 had determined that the proposed pipeline “would not serve the U.S. national interest.”³⁷² The review found that “the

³⁶⁸ *Id.* at 7624.

³⁶⁹ *Id.* at 7624–25.

³⁷⁰ Restoring Science Order, 86 Fed. Reg. at 7037.

³⁷¹ *Id.* at 7041.

³⁷² *Id.*

significance of the proposed pipeline for our energy security and economy is limited,” while “stress[ing] that the United States must prioritize the development of a clean energy economy” and that approving the proposed pipeline would “undermine U.S. climate leadership by undercutting the credibility and influence of the United States in urging other countries to take ambitious climate action.”³⁷³

Next, the Restoring Science Order notes, since that review, climate change’s detrimental impacts on the national economy and “health, safety, and security of the American people” have increased, along with “the urgency for combatting climate change and accelerating the transition toward a clean energy economy.”³⁷⁴

Finally, President Biden stresses that the climate crisis

must be met with action on a scale and at a speed commensurate with the need to avoid setting the world on a dangerous, potentially catastrophic, climate trajectory. At home, we will combat the crisis with an ambitious plan to build back better, designed to both reduce harmful emissions and create good clean-energy jobs. . . . The United States must be in a position to exercise vigorous climate leadership in order to achieve a significant increase in global climate action and put the world on a sustainable climate pathway. Leaving the Keystone XL pipeline permit in place would not be consistent with my Administration’s economic and climate imperatives.³⁷⁵

³⁷³ *Id.*

³⁷⁴ *Id.*

³⁷⁵ *Id.*

The president thus noted that his climate change policy is also an important aspect of American foreign policy. Indeed, President Biden has taken key steps to solidify American leadership in combatting climate change on the world stage, including by rejoining the Paris Agreement³⁷⁶ and appointing former-Secretary of State John Kerry as his special presidential envoy for climate.³⁷⁷ Most recently, during his Leaders Summit on Climate, President Biden increased our international commitments even further, announcing to “40 world leaders” that the United States would reduce emissions by at least 50% by 2030, as compared with 2005 levels.³⁷⁸

Those national goals are to be applied to decisions about fossil-fuel infrastructure, as President Biden demonstrated by canceling the Keystone XL pipeline. His reasoning in revoking Keystone XL’s presidential permit provides a helpful and timely example of how our national energy objectives should be brought to bear on current energy infrastructure projects. President Biden has

³⁷⁶ See Press Release, The White House, *Paris Climate Agreement* (Jan. 20, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/20/paris-climate-agreement/>; see also Elian Peltier & Somini Sengupta, *U.S. Rejoins Paris Climate Accord*, N.Y. TIMES (Feb. 19, 2021), <https://www.nytimes.com/2021/02/19/world/us-rejoins-paris-climate-accord.html>.

³⁷⁷ See Kate Sullivan, *Biden Prioritizes Climate Crisis by Naming John Kerry Special Envoy*, CNN (Nov. 24, 2020), <https://www.cnn.com/2020/11/23/politics/john-kerry-biden-climate-envoy/index.html>.

³⁷⁸ Press Release, The White House, *FACT SHEET: President Biden’s Leaders Summit on Climate* (Apr. 23, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/23/fact-sheet-president-bidens-leaders-summit-on-climate/>.

directed that every federal agency take “action on a scale and at a speed commensurate with the need” to reset the global “climate trajectory.”³⁷⁹ FERC must heavily weigh our national climate trajectory in its environmental review of the MVP and, in doing so, recognize that allowing the pipeline to be completed would constitute intolerable backsliding on our path to a renewable energy future.

B. THE MVP PROPOSAL CONFLICTS WITH OUR NATION’S ENERGY TRAJECTORY.

The MVP would generate end-use greenhouse gas emissions for its expected lifespan of fifty years,³⁸⁰ in conflict with the national goals and energy trajectory espoused in President Biden’s recent executive orders. All of President Biden’s reasons for revoking Keystone XL’s presidential permit apply equally to the pending review of Mountain Valley’s proposed pipeline.

First, just as President Biden emphasized regarding the Keystone XL, the urgency of shifting away from building unnecessary fossil-fuel industry increases every day. The MVP is one of the largest gas pipelines proposed anywhere in the country,³⁸¹ with a capacity of 2 billion cubic feet per day (Bcf/d), and—by leading to annual emissions of 40 million metric tons of emissions per year—is exactly the kind of gas pipeline project that most

³⁷⁹ Restoring Science Order, 86 Fed. Reg. at 7037; Climate Order, 86 Fed. Reg. at 7622.

³⁸⁰ FEIS at 2-58.

³⁸¹ *See supra* note 354 and accompanying text.

seriously jeopardizes the Biden administration’s goal of cutting emissions in half by 2030 and reaching net-zero by 2050.³⁸²

Second, what was known about the Keystone XL pipeline in 2015 is also true of the MVP: “the significance of the proposed pipeline for our energy security and economy is limited.”³⁸³ Any positive contribution the MVP could offer for energy security and the national economy becomes more limited every day, especially as downstream states like Virginia and North Carolina embrace the nationwide transition to renewable energy and as the cost of those technologies continues to drop.³⁸⁴ Virginia has set a goal of achieving a net-zero carbon energy economy by 2050³⁸⁵ and has joined the Regional

³⁸² FEIS at 4-488, 4-619, 4-620 tbl.4.13.2-2.

³⁸³ Restoring Science Order, 86 Fed. Reg. at 7041.

³⁸⁴ See Int’l Renewable Energy Agency, Renewable Power Generation Costs in 2019, at 3 (2020), https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2020/Jun/IRENA_Power_Generation_Costs_2019.pdf (compiling cost data from 17,000 projects around the world and concluding that “[i]ninstalling new renewables increasingly costs less than the cheapest fossil fuels”); see also Katherine Blunt, *Natural Gas, America’s No. 1 Power Source, Already Has a New Challenger: Batteries*, WALL STREET J. (Mar. 16, 2021), https://www.wsj.com/articles/batteries-challenge-natural-gas-electric-power-generation-11620236583?mod=hp_lista_pos1; Energy Innovation: Pol’y & Tech. & Silvio Marcacci, *Renewable Energy Prices Hit Record Lows: How Can Utilities Benefit from Unstoppable Solar and Wind?*, FORBES (Jan. 21, 2020), <https://www.forbes.com/sites/energyinnovation/2020/01/21/renewable-energy-prices-hit-record-lows-how-can-utilities-benefit-from-unstoppable-solar-and-wind/?sh=64695b282c84>.

³⁸⁵ Virginia Clean Economy Act, S.B. 851, 2020 Sess. (Va. 2020); Virginia Clean Economy Act, H.B. 1526, 2020 Sess. (Va. 2020).

Greenhouse Gas Initiative (“RGGI”) to help reach this target.³⁸⁶ Virginia and the other RGGI members aim to collectively reduce power sector carbon dioxide emissions by 30% by 2030.³⁸⁷ North Carolina, another downstream state,³⁸⁸ has established the North Carolina Clean Energy Plan, which establishes the goal to reduce emissions from the electric sector by 70% below 2005 levels by 2030 and achieve carbon neutrality by 2050.³⁸⁹ The MVP would not be a boon to the energy economy but rather would undermine these states’ efforts to contribute to the Nation’s energy and economic objectives.

Third, just as with the Keystone XL, building this unnecessary pipeline—and potentially locking in the high-capacity transport of gas for several decades—could severely undermine our national credibility and legitimacy as a global climate change leader. Indeed, U.S. Climate Envoy John Kerry told the World Economic Forum in January 2021:

If we build out a huge infrastructure for gas now and continue to use it as the bridge fuel, we haven’t really exhausted the other possibilities, we’re gonna be stuck with stranded assets in 10 or

³⁸⁶ Clean Energy and Community Flood Preparedness Act, Va. Code § 10.1-1330 *et seq.*

³⁸⁷ Va. Dep’t of Env’tl. Quality, *Carbon Trading*, <https://www.deq.virginia.gov/air/greenhouse-gases/carbon-trading>.

³⁸⁸ If the MVP and the MVP Southgate extension project were both constructed, the MVP Southgate would carry a portion of the MVP’s gas from the terminus of the MVP in Pittsylvania County, Virginia to North Carolina markets.

³⁸⁹ N.C. Dep’t of Env’tl. Quality, Clean Energy Plan 11–12 (2019), <https://bit.ly/3evSnMC>.

20 or 30 years. . . . Gas is primarily methane and we have a huge methane problem, folks.³⁹⁰

The MVP, like the Keystone XL, “would not be consistent with the Biden Administration’s economic and climate imperatives[,]”³⁹¹ and, thus, is contrary to the public’s interest regarding energy development.

C. MOUNTAIN VALLEY’S CARBON OFFSET PLAN FALLS FAR SHORT OF MITIGATING THE PIPELINE’S CLIMATE IMPACTS.

Although Mountain Valley recently announced a plan to attempt to mitigate the project’s GHG emissions, that plan addresses only a small portion of the emissions resulting from the pipeline and is woefully inadequate. Mountain Valley plans to mitigate its GHG emissions by purchasing \$150 million in carbon offsets, which would be generated through a methane abatement program at a coal mine in Southwestern Virginia that would convert methane into carbon dioxide and water before release.³⁹² So, although the program would result in less methane being emitted from the mine, carbon

³⁹⁰ Michael Tobin, *Kerry Warns of Stranded Asset Risk From Natural Gas Buildout*, BLOOMBERG LAW (Jan. 27, 2021), <https://news.bloomberglaw.com/environment-and-energy/kerry-warns-of-stranded-asset-risk-from-natural-gas-buildout>.

³⁹¹ Restoring Science Order, 86 Fed. Reg. at 7041.

³⁹² Laurence Hammack, *Mountain Valley Pipeline to Purchase \$150 Million in Carbon Offsets*, ROANOKE TIMES (July 12, 2021), https://roanoke.com/business/local/mountain-valley-pipeline-to-purchase-150-million-in-carbon-offsets/article_9126aac6-e34c-11eb-89da-7bc791f77d9d.html.

dioxide would still be released into the atmosphere.³⁹³ Additionally, Mountain Valley admits that the purchased offsets only cover the pipeline’s first ten years of operational emissions (only one-fifth of its expected lifespan).³⁹⁴ It is likely that Mountain Valley’s purchased offsets will cover an even smaller portion than it claims of its operational methane emissions—which include leakage and intentional releases of methane from the pipeline and compressor stations—as recent research has shown that these methane emissions are routinely underestimated by both industry and government agencies.³⁹⁵ Even if Mountain Valley’s claims are accurate, the program will do nothing to mitigate the pipeline’s methane leaks and releases during the balance (approximately 40 years) of its expected lifespan. Lastly, and most importantly, the plan does nothing to mitigate the GHG emissions resulting from end-use combustion.³⁹⁶

The inadequacy of Mountain Valley’s carbon offset plan is plain. Indeed, even as Mountain Valley touts its carbon offset plan, others have recognized

³⁹³ *Id.*

³⁹⁴ *Id.*

³⁹⁵ *See supra* note 360.

³⁹⁶ Laurence Hammack, *Mountain Valley Pipeline to Purchase \$150 Million in Carbon Offsets*, ROANOKE TIMES (July 12, 2021), https://roanoke.com/business/local/mountain-valley-pipeline-to-purchase-150-million-in-carbon-offsets/article_9126aac6-e34c-11eb-89da-7bc791f77d9d.html (“[T]he methane abatement program] will not cover the burning of natural gas once it leaves the pipeline and is delivered to customers . . .”).

its inadequacies.³⁹⁷ This plan does not curtail the project's grievous climate impacts and does nothing to distract from the obvious conclusion that the pipeline would be extremely harmful for the climate and cannot be squared with the federal government's climate commitments.

D. THE 2017 FEIS IS INSUFFICIENT TO SATISFY THE CORPS' NEPA OBLIGATIONS.

In addition to including climate impacts as part of its public interest review, the Corps has a separate obligation under NEPA to fully consider climate impacts. The Corps may not rely on the climate change discussion in the 2017 FEIS when processing Mountain Valley's Section 404 permit application. If FERC's latest round of environmental review does not sufficiently address the project's climate change impacts, the Corps will be required to engage in its own NEPA review of those impacts. As Mountain Valley has requested a brand-new individual Section 404 permit, the Corps has not yet fulfilled its independent obligation, as part of its public interest

³⁹⁷ Laurence Hammack, *Pipeline's Plan to Offset Greenhouse Gas Emissions Questioned by Environmentalists*, ROANOKE TIMES (July 30, 2021), https://roanoke.com/business/local/pipelines-plan-to-offset-greenhouse-gas-emissions-questioned-by-environmentalists/article_bb46c980-f17a-11eb-84c6-6fcf1344e5e8.html; see also William Limpert, *Pipeline's Carbon Offsets Don't Come Close to Adding Up*, VA. MERCURY (July 28, 2021), <https://www.virginiamercury.com/2021/07/28/pipelines-carbon-offsets-dont-come-close-to-adding-up/>.

review and under NEPA, to consider the climate change impacts of Mountain Valley’s proposal.

Because “[t]he harms associated with climate change are serious and well recognized,”³⁹⁸ carefully considering a project’s climate impacts is critical to any NEPA review—particularly when the project’s very purpose is the transportation of gas that will drive emissions of carbon dioxide and other greenhouse gases that contribute to climate change.³⁹⁹ The Restoring Science Order reestablished the Interagency Working Group on the Social Cost of Greenhouse Gases and instructs agencies to use the Social Cost of Carbon, which has been widely endorsed by economists, scientists, and legal

³⁹⁸ *Massachusetts v. U.S. Evtl. Prot. Agency*, 549 U.S. 497, 521 (2007).

³⁹⁹ See *Sierra Club v. FERC*, 867 F.3d 1357, 1372 (D.C. Cir. 2017) (holding that, under NEPA, a federal agency must analyze the climate change impacts of a project whose purpose is to transport gas that will be combusted); cf. *WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, 870 F.3d 1222, 1234–35 (10th Cir. 2017) (holding that it was arbitrary for agency to assume in its environmental impact statement concerning coal leases that the impact of calculated potential greenhouse gas emissions from combustion of coal would not differ from the no-action alternative because if the coal was not produced pursuant to the leases other coal would be burned instead); *San Juan Citizens All. v. U.S. Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227, 1244 (D.N.M. 2018) (holding that it was arbitrary and capricious “to fail to consider, at the earliest stage feasible, the environmental consequences of the downstream combustion of the coal, oil, and gas resources potentially open to development under the proposed agency action” and remanding to the agency to quantify and analyze “the potential impact of such greenhouse gases on climate change” (cleaned up)).

scholars,⁴⁰⁰ to “capture the full costs of greenhouse gas emissions as accurately as possible, including by taking global damages into account.”⁴⁰¹

The Restoring Science Order also makes clear that agencies should look to the Council on Environmental Quality (“CEQ”)’s 2016 guidance on climate change analysis during NEPA review.⁴⁰² The guidance recommends that agencies quantify greenhouse gas emissions and provide “a qualitative summary discussion of the impacts of GHG emissions.”⁴⁰³ The guidance warns agencies that “a statement that emissions from a proposed Federal action represent only a small fraction of global emissions . . . is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA” because such a statement “does not reveal anything beyond the nature of the climate change challenge itself: the fact that diverse individual

⁴⁰⁰ See Nat’l Acads. Sci., Eng’g & Med., *Valuing Climate Damages: Updating Estimates of the Social Cost of Carbon Dioxide* 3, 10–17 (2017); Nat’l Acads. Sci., Eng’g & Med., *Assessment of Approaches to Updating the Social Cost of Carbon: Phase 1 Report on a Near-Term Update 1* (2016); Richard L. Revesz et al., *Best Cost Estimate of Greenhouse Gases*, 357 *SCI.* 655 (2017).

⁴⁰¹ Restoring Science Order, 86 Fed. Reg. at 7040.

⁴⁰² See *id.* at 7042.

⁴⁰³ Council on Env’tl. Quality, *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews* 10 (2016) [hereinafter CEQ Climate Guidance].

sources of emissions each make a relatively small addition to global atmospheric GHG concentrations that collectively have a large impact.”⁴⁰⁴

The analysis in the 2017 FEIS does not satisfy the Corps’ NEPA obligations. The 2017 FEIS discusses climate change and the harms of greenhouse gas emissions generally and provides an estimate of greenhouse gas emissions due to end-use combustion of the gas that would be transported by the pipeline.⁴⁰⁵ But, it stops there, stating: “Because we cannot determine the project[’s] incremental physical impacts on the environment caused by climate change, we cannot determine whether the project[’s] contribution to cumulative impacts on climate change would be significant.”⁴⁰⁶

As FERC acknowledged earlier this year, that approach falls short of NEPA’s requirements.⁴⁰⁷ In *Northern Natural Gas Company*,⁴⁰⁸ FERC “for the first time assessed the significance of a proposed natural gas pipeline project’s

⁴⁰⁴ *Id.* at 11.

⁴⁰⁵ FEIS at 4-488, 4-619–20.

⁴⁰⁶ *Id.* at 4-620.

⁴⁰⁷ News Release, Fed. Energy Regul. Comm’n, *FERC Reaches Compromise on Greenhouse Gas Significance* (Mar. 18, 2021), <https://www.ferc.gov/news-events/news/ferc-reaches-compromise-greenhouse-gas-significance#> [hereinafter 3/18/21 FERC News Release].

⁴⁰⁸ 174 FERC ¶ 61189 (2021). Although FERC concluded that the impacts of Northern Natural were insignificant, that project was a replacement of existing pipeline rather than a new pipeline. *Id.* at ¶ 1. In contrast, not only is the MVP a greenfield pipeline, but it is the largest-capacity pipeline announced or under construction in the Eastern United States. *See supra* note 354 and accompanying text. Thus, the MVP is exactly the kind of gas pipeline project that poses the most significant climate impacts.

greenhouse gas emissions and their contribution to climate change.”⁴⁰⁹ FERC Chairman Glick stated that,

[g]oing forward, [FERC is] committed to treating greenhouse gas emissions and their contribution to climate change the same as all other environmental impacts we consider. . . . A proposed pipeline’s contribution to climate change is one of its most consequential environmental impacts and we must consider all evidence in the record—both qualitative and quantitative—to assess the significance of that impact.⁴¹⁰

To provide meaningful analysis of the project’s climate change impacts, the new NEPA document should also calculate impacts utilizing the Social Cost of Carbon for the entire anticipated fifty-year life of the pipeline. Developed in 2010 and updated in 2016, the Social Cost of Carbon is a scientifically derived metric to “provide a consistent approach for agencies to quantify [climate change] damage in dollars.”⁴¹¹ The Social Cost of Carbon translates a one-ton increase in carbon dioxide emissions into changes in atmospheric greenhouse concentrations, consequent changes in temperature, and resulting economic damages.⁴¹² Those harms include “changes in net agricultural productivity, human health, property damages from increased

⁴⁰⁹ 3/18/21 FERC News Release.

⁴¹⁰ *Id.*

⁴¹¹ *Fla. Se. Connection, LLC*, 162 FERC ¶ 61,233, at ¶ 45 (Mar. 14, 2018).

⁴¹² *See* Interagency Working Group on the Social Cost of Carbon, Technical Support Document 5 (2010), https://www.epa.gov/sites/production/files/201612/documents/scc_tsd_2010.pdf.

flood risk, and the value of ecosystem services.”⁴¹³ The current values, which adjust the 2016 values for inflation, estimate that every additional ton of carbon dioxide released from anywhere on Earth will cause approximately \$51 in climate damages.⁴¹⁴ Utilizing the Social Cost of Carbon provides a more concrete, comprehensible metric that will help the Corps and the public assess the significance of the emissions. Additionally, it will allow the Corps “to incorporate the social benefits of reducing carbon dioxide (CO₂) emissions” into its review.⁴¹⁵

A complete analysis of climate change impacts, including by utilizing the Social Cost of Carbon, is essential for the Corps to satisfy its NEPA obligations, as well as to fully weigh the public interest review factors. If FERC’s currently pending environmental review does not include an exhaustive climate impacts analysis, the Corps must supplement any analysis by FERC with its own, to satisfy both its NEPA obligations associated with Mountain Valley’s Clean Water Act Section 404 permit application and its obligations to conduct a thorough public interest review under its own

⁴¹³ *Id.* at 2.

⁴¹⁴ Interagency Working Group on Social Cost of Greenhouse Gases, Technical Support Document (2021), https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf; Jean Chemnick, *Cost of Carbon Pollution Pegged at \$51 a Ton*, SCI. AM. (Mar. 1, 2021), <https://www.scientificamerican.com/article/cost-of-carbon-pollution-pegged-at-51-a-ton/>.

⁴¹⁵ Interagency Working Group on the Social Cost of Carbon, Technical Support Document 1 (2010).

regulations.⁴¹⁶ Whatever analysis the Corps relies upon must discuss and consider the pipeline’s climate change impacts, including their significance; incorporate national and state emission targets into its analysis; and quantify the associated harms of its emissions—including in-transit and end-use emissions—using the Social Cost of Carbon and any other methods recommended by the CEQ.

Finally, it is not too late to include a full analysis of the MVP’s climate impacts. Federal agencies can and should perform a robust analysis of the climate change impacts of new natural gas projects as part of a Supplemental EIS. The Department of Energy’s Office of Fossil Energy (“DOE/FE”) recently noticed its intent to prepare a Supplemental EIS analyzing potential environmental impacts of a natural gas project which includes production on the North Slope of Alaska, transport by pipeline, and liquefaction of the gas before export.⁴¹⁷ The project was authorized in August 2020, but the DOE/FE granted a rehearing request by the Sierra Club in April 2021. In explaining its rationale for “further evaluat[ing]” the Alaska LNG Project, DOE/FE explained that—since its issuance of the Alaska LNG—President Biden had issued two “relevant” executive orders, the Climate Order and the Restoring Science

⁴¹⁶ 33 C.F.R. § 320.4(a)(1).

⁴¹⁷ *Notice of Intent to Prepare a Supplemental Environmental Impact Statement for the Alaska LNG Project*, 86 Fed. Reg. 35,280, 35,280 (July 2, 2021).

Order discussed above.⁴¹⁸ The notice of intent indicates that the Supplemental EIS will include a study of the upstream environmental impacts of production and “a life cycle analysis (LCA) calculating the greenhouse gas (GHG) emissions for LNG exported from the proposed Alaska LNG Project.”⁴¹⁹ The LCA “will examine the global nature of GHG emissions associated with” the project’s exports to Asia and potentially other regional markets.⁴²⁰ DOE/FE has commissioned DOE’s National Energy Technology Laboratory to conduct both the upstream-impacts study and the LCA study.⁴²¹ Like DOE/FE, FERC can and should act in accordance with President Biden’s executive orders by preparing a Supplemental EIS that includes an LCA calculating the MVP’s cradle-to-grave GHG emissions.

VI. FERC CANNOT GRANT THE REQUESTED AMENDMENT ABSENT STATE CERTIFICATION OR WAIVER FROM WEST VIRGINIA AND VIRGINIA UNDER SECTION 401 OF THE CLEAN WATER ACT.

As Commenters explained in their April 15, 2021 Scoping Comments, the requested certificate amendment, if granted, would constitute a “Federal

⁴¹⁸ *Id.* at 35,281.

⁴¹⁹ *Id.* at 35,280.

⁴²⁰ *Id.* at 35,281; *see also id.* at 35,281 n.17 (“[A] LCA is a method of accounting for cradle-to-grave GHG emissions over a single common denominator. DOE considers GHG emissions from all processes in the LNG supply chains—from the ‘cradle’ when natural gas is extracted from the ground, to the ‘grave’ when electricity is used by the consumer.”).

⁴²¹ *Id.*

license or permit to conduct [an] activity . . . which may result in [a] discharge into the navigable waters,” thereby triggering the need for state certification under Section 401 of the Clean Water Act, 33 U.S.C. § 1341. On May 12, 2021, Commission staff wrote to the Virginia Department of Environmental Quality (“DEQ”) and the West Virginia Department of Environmental Protection (“WVDEP”) requesting those agencies’ “opinion . . . as to whether certification under Section 401 of the CWA is required for the amendment application activities.”⁴²² Many of the undersigned organizations subsequently wrote Virginia DEQ and WVDEP to explain that the requirements of the Clean Water Act are not a matter of opinion and that state certification is required by law.⁴²³

⁴²² Letter from James Martin, Fed. Energy Regul. Comm’n Off. of Energy Projects, to Melanie Davenport, Va. Dep’t of Env’tl. Quality (May 13, 2021), Accession No. 20210513-3016; Letter from James Martin, Fed. Energy Regul. Comm’n Off. of Energy Projects, to Brian Bridgewater, W. Va. Dep’t of Env’tl. Prot. (May 13, 2021), Accession No. 20210513-3012.

⁴²³ See Letter from Wild Virginia *et al.* to Melanie Davenport, Va. Dep’t of Env’tl. Quality, and Donald Anderson, Va. Off. of the Att’y Gen. (May 20, 2021), Accession No. 20210520-5090; Letter from Wild Virginia *et al.* to Melanie Davenport, Va. Dep’t of Env’tl. Quality, and Donald Anderson, Va. Off. of the Att’y Gen. (June 21, 2021), Accession No. 20210622-5067; Letters from Derek Teaney, Appalachian Mountain Advocates, to Brian Bridgewater, W. Va. Dep’t of Env’tl. Prot. (May 20, 2021 and June 21, 2021), Accession No. 20210622-5093.

Virginia DEQ responded to the Commission’s inquiry on June 25, 2021⁴²⁴ and WVDEP responded on July 20, 2021.⁴²⁵ Both state agencies correctly noted that the ultimate responsibility for determining whether Section 401 certification is required falls on the Commission. But beyond that, each agency offered its own dubious reasons why, if the Commission concludes (as it must) that Section 401 is triggered, state actions from 2017 would obviate the need for any further state review or approval under Section 401 at this juncture.

To reiterate, the Commission’s own precedent explains that Section 401 certifications are “specific to individual federal authorization applications.”⁴²⁶ Consequently, the Commission cannot satisfy its current obligation under Section 401 of the Clean Water Act by bootstrapping its action on Mountain Valley’s amendment application to years-old state actions on the pipeline’s original certificate. And when a federal agency violates Section 401, the remedy is vacatur of the federal license or permit.⁴²⁷

WVDEP’s response to the Commission is particularly problematic and invites the Commission to ignore Section 401 at its peril. In 2017, West

⁴²⁴ Accession No. 20210625-5242.

⁴²⁵ Accession No. 20210723-5171.

⁴²⁶ *Pacific Connector Gas Pipeline, LP*, 174 FERC ¶ 61,057 at ¶ 25 (Jan. 19, 2021).

⁴²⁷ *Ala. Rivers All. v. Fed. Energy Regul. Comm’n*, 325 F.3d 290, 300 (D.C. Cir. 2003).

Virginia issued a waiver of its Section 401 authority that was “specific to the above-referenced MVP project to construct a natural gas pipeline in West Virginia,” and the waiver letter’s subject line referred to “FERC Docket No. CP-16-10-000.”⁴²⁸ In its July 20, 2021 response to the Commission, WVDEP stated that it “does not believe the [requested amendment] creates a potential for a new discharge not previously considered in the 2017 waiver.”⁴²⁹ There are at least three reasons the Commission cannot rely on this statement to forego the Section 401 process at this juncture.

First, it is the Commission’s obligation to determine in the first instance whether the requested amendment would authorize activities that may result in discharges.⁴³⁰ **Second**, WVDEP’s statement here that the requested amendment would not involve “new discharge not previously considered in the 2017 waiver”⁴³¹ finds no support in the record. On the contrary, the 2017 waiver was expressly limited to the pipeline activities authorized in Docket No. CP16-10, and the amendment request is plainly outside that scope. FERC cannot credit West Virginia’s post-hoc account of what the 2017 waiver purportedly covered when the state’s position runs directly contrary to the

⁴²⁸ WVDEP 2017 Waiver, *available at* Accession No. 20210329-5300.

⁴²⁹ Accession No. 20210723-5171.

⁴³⁰ *See North Carolina v. Fed. Energy Regul. Comm’n*, 112 F.3d 1175, 1186 (D.C. Cir. 1997) (explaining that the Commission must answer the “logically antecedent” question whether Section 401 is triggered).

⁴³¹ Accession No. 20210723-5171.

plain terms of the 2017 waiver itself. **Third**, as Commenters have explained, the potential discharges from Mountain Valley’s bore pit dewatering and tunneling operations are different in kind and degree from those associated with the construction of the pipeline as originally certificated. Moreover, any argument that Mountain Valley may have discharged the same total volume of water or pollutants under its original certificate is unpersuasive; an increase in the rate of discharge (for example, from bore pit dewatering) is enough to trigger Section 401 “[g]iven the possibility that even a temporary increase in a discharge could have a negative water quality impact.”⁴³² Likewise, any argument that Mountain Valley’s tunneling plan involves only non-point source discharges that do not trigger Section 401 is legally incorrect; just last year, the United States Supreme Court confirmed that the Clean Water Act regulates point source discharges “when a point source directly deposits pollutants into navigable waters” and also “when there is the *functional equivalent of a direct discharge*.”⁴³³ This is a context-specific test that accounts

⁴³² *Ala. Rivers All.*, 325 F.3d at 300.

⁴³³ *County of Maui v. Haw. Wildlife Fund*, 140 S. Ct. 1462, 1476 (2020) (emphasis in original). *County of Maui* involved a dispute over an unpermitted effluent discharge rather than a Section 401 certification, but its explanation of the scope of point source discharges controls here even assuming Section 401 is limited to point source discharges, which provision we note has been challenged as an unlawful limitation on state authority under Section 401. See Compl. at 16 ¶¶ 5.45–5.48, *State of California et al. v. Wheeler*, No. 3:20-cv-04869 (N.D. Cal. July 21, 2020).

for distance, time, chemistry, hydrology, and more ⁴³⁴—which means categorical statements go too far.

The Commission also has a compelling practical reason not to rely on WVDEP’s shaky assertion: West Virginia has a demonstrated history of inducing federal agencies to violate Section 401 in its efforts to accommodate this pipeline.⁴³⁵ In the end, West Virginia may or may not ultimately decide to waive its Section 401 authority again, but the Commission cannot sidestep the required process by assuming the outcome.⁴³⁶

⁴³⁴ *County of Maui*, 140 S. Ct. at 1476–77.

⁴³⁵ See *Sierra Club v. U.S. Army Corps of Eng’rs*, 981 F.3d 251, 263 (4th Cir. 2020) (*Sierra Club II*) (staying Nationwide Permit 12 verification where “the Verification was likely issued in contravention of applicable law because WVDEP likely did not possess the authority to modify Special Condition A in April of 2019, and the [Army Corps] division engineer likely did not possess authority to rely on or incorporate this modification into NWP 12”); see also *Sierra Club v. U.S. Army Corps of Eng’rs*, 909 F.3d 635, 651–55 (4th Cir. 2018) (vacating NWP 12 verification in part because WVDEP unlawfully purported to waive condition of Section 401 certification without required notice-and-comment procedures); *Sierra Club II*, 981 F.3d at 259–60 (“In *Sierra Club* . . . we concluded that the WVDEP was required to engage in proper notice and comment procedures before it could waive the Section 401 requirement set forth in Special Condition A.”).

⁴³⁶ See *North Carolina v. Fed. Energy Regul. Comm’n*, 112 F.3d 1175, 1186 (D.C. Cir. 1997).

VII. BENT MOUNTAIN WETLANDS ILLUSTRATE THE APPLICABILITY OF SPECIAL CONSIDERATION FOR WETLANDS UNDER THE CORPS' PUBLIC INTEREST REGULATIONS, AND THE NEPA PROCESS MUST ACCOUNT FOR THIS ISSUE.

The wetlands in the vicinity of Bent Mountain, Virginia, provide a case study in the kind of review the Corps must undertake—and thus the kind of information that must be present in the Commission's NEPA document. The Commission's supplemental NEPA review must take a hard look at the environmental impacts of Mountain Valley's requested amendment activities and stream crossings and must also equip the Corps to make its required substantive determinations, including its public interest review determinations under 33 C.F.R. § 320.4.⁴³⁷ Commenters and others including EPA have noted that Mountain Valley's application materials are far too general and that FERC and the Corps must undertake site-specific analyses.

As explained below, the wetlands in the vicinity of Bent Mountain, Virginia are entitled to consideration under the Corp' public interest regulations such that a permit presumptively may not issue.⁴³⁸ Those wetlands

⁴³⁷ See, e.g., Letter from Jon T. Coleman, Pittsburgh District, U.S. Army Corps of Eng'rs, to Kimberly D. Bose, Secretary, Fed. Energy Regul. Comm'n Re: Acceptance of Cooperating Agency Responsibility (Mar. 10, 2021) (“[T]o ensure the information presented in any National Environmental Policy Act (NEPA) document is adequate to fulfill the Corps’ statutory requirements, including the requirements of Section 404(b)(1) of the Clean Water Act (40 CFR 230) and the Corps’ public interest review (33 CFR 320.4), the Corps requests the topics listed in Enclosure 1 be included in the scoping and evaluation of any submitted NEPA document.”).

⁴³⁸ See 33 C.F.R. § 320.4(b)(4).

are also a microcosm of conditions likely to be found along the proposed pipeline route and highlight information that the Commission must ensure it addresses in a supplemental NEPA document.

The Corps' public interest regulations recognize that “[m]ost wetlands constitute a productive and valuable public resource, the unnecessary destruction or alteration of which should be discouraged as contrary to the public interest.”⁴³⁹ The same regulations also recognize that wetlands can face major impairment due to the cumulative effect of numerous piecemeal changes, and the regulations require the Corps to evaluate “the particular wetland site for which an application is made . . . with the recognition that it may be part of a complete and interrelated wetland area.”⁴⁴⁰ Finally, the regulations identify eight non-exclusive categories of wetlands that are “considered to perform functions important to the public interest”⁴⁴¹ and create

⁴³⁹ 33 C.F.R. § 320.4(b).

⁴⁴⁰ 33 C.F.R. § 320.4(b)(3).

⁴⁴¹ 33 C.F.R. § 320.4(b)(2). Those categories of wetlands include:

- (i) Wetlands which serve significant natural biological functions, including food chain production, general habitat and nesting, spawning, rearing and resting sites for aquatic or land species;
- (ii) Wetlands set aside for study of the aquatic environment or as sanctuaries or refuges;
- (iii) Wetlands the destruction or alteration of which would affect detrimentally natural drainage characteristics, sedimentation patterns, salinity distribution, flushing characteristics, current patterns, or other environmental characteristics;

a rebuttable presumption that “no permit will be granted which involves the alteration” of wetlands in those categories unless the Corps expressly concludes that “the benefits of the proposed alteration outweigh the damage to the wetlands resource.”⁴⁴²

The wetlands in and around Bent Mountain perform functions important to the public interest as described in 33 C.F.R. § 320.4(b)(2) and, therefore, fall into many of the specially-protected categories of wetlands itemized in that regulation. For example, a June 2017 report by licensed professional geologist Pamela C. Dodds, Ph.D., notes that “[e]xtensive wetlands areas are developed along first order stream tributaries to Mill Creek as well as along Mill Creek,” and that “[t]he headwater areas and wetlands associated with the first order stream tributaries to Mill Creek provide the essential aquatic habitats for aquatic species and associated terrestrial fauna

(iv) Wetlands which are significant in shielding other areas from wave action, erosion, or storm damage. Such wetlands are often associated with barrier beaches, islands, reefs and bars;

(v) Wetlands which serve as valuable storage areas for storm and flood waters;

(vi) Wetlands which are ground water discharge areas that maintain minimum baseflows important to aquatic resources and those which are prime natural recharge areas;

(vii) Wetlands which serve significant water purification functions; and

(viii) Wetlands which are unique in nature or scarce in quantity to the region or local area.

33 C.F.R. § 320.4(b)(2)(i)–(viii).

⁴⁴² 33 C.F.R. § 320.4(b)(4).

and fowls within the entire length of the river continuum.”⁴⁴³ Dodds’ statement is consistent with a 2021 report by the Virginia Scientist-Community Interface, which states that the “[s]treams and wetlands surrounding Bent Mountain are a part of the headwaters of the Roanoke River,” and explains that “[h]eadwater streams are widely recognized as providing valuable aquatic habitat for a variety of aquatic species and it has been recognized that the biological integrity of entire river networks may be greatly dependent on the individual and cumulative impacts occurring in the many small streams that constitute their headwaters.”⁴⁴⁴

The wetlands in and around Bent Mountain are inextricably linked to groundwater in the area.⁴⁴⁵ For example, Dodds notes that the proposed pipeline route encounters “numerous wetlands which have formed in areas of a perched water table.”⁴⁴⁶ Dodds explains:

Perched aquifers are numerous in the watersheds of Mill Creek and Bottom Creek, accounting for the numerous wetlands. During a rain event, water will penetrate the ground and slowly migrate downward to the perched aquifer. Water in the perched aquifer will then provide water through springs to tributary streams in wetland areas, sometimes causing a large stream flow several days after a rain event.⁴⁴⁷

⁴⁴³ Dodds (2017) at 1; *see also* 33 C.F.R. § 320.4(b)(2)(i).

⁴⁴⁴ Virginia Scientist-Community Interface (2021) at 3 (internal quotation marks and emphasis omitted).

⁴⁴⁵ *See* 33 C.F.R. § 320.4(b)(2)(vi).

⁴⁴⁶ Dodds (2017) at 24.

⁴⁴⁷ *Id.*

Finally, Dodds notes that these perched aquifers “form[] seeps and springs where the bedding planes and fractures [in bedrock] intercept the ground surface,” and that these “seeps and springs also occur within streams and along stream banks, providing water to streams during drought conditions.”⁴⁴⁸

The NEPA process must account for the fact that the Corps is obligated to favor these wetlands and presumptively may not issue a permit absent an express finding that the benefits outweigh the costs.⁴⁴⁹ In other words, under the Corps’ regulations, even equipoise favors the wetlands on Bent Mountain. And even as Bent Mountain’s wetlands merit special solicitude in their own right, they also demonstrate the reality that myriad other wetlands along the pipeline right are surely also entitled to a presumption of protection under 33 C.F.R. § 320.4(b)(4). Unless and until the Commission and the Corps take a hard look at the site-specific characteristics of the streams and wetlands Mountain Valley proposes to degrade, the agencies will be cooperating on a NEPA document that cannot support the lawful issuance of a Corps permit.

VIII. EVEN IF FERC PERSISTS IN UNLAWFULLY PREPARING AN EA, RATHER THAN AN SEIS, THE PUBLIC SHOULD HAVE AN OPPORTUNITY TO COMMENT ON A DRAFT EA.

On June 11, 2021, the Commission issued a Notice of Schedule for the Preparation of an Environmental Assessment for the Proposed Amendment to the Certificate of Public Convenience and Necessity for the Mountain Valley

⁴⁴⁸ *Id.* at 37.

⁴⁴⁹ 33 C.F.R. § 320.4(b)(4).

Pipeline Project.⁴⁵⁰ Among other things, the notice “identify[d] Commission staff’s intention to prepare an environmental assessment (EA) for the Amendment Project.”⁴⁵¹

As an initial matter, Commenters reiterate that Mountain Valley’s proposed amendment threatens significant impacts not analyzed in the Commission’s 2017 FEIS, which means that an SEIS is necessary and an EA will not suffice.⁴⁵² Furthermore, an EIS is necessary to fully evaluate alternatives, cumulative impacts, and the like in order for the Army Corps to substantiate its application of the 404(b)(1) Guidelines to Mountain Valley’s parallel application for an individual Section 404 permit.⁴⁵³ Indeed, EPA’s May 27, 2021 comments to the Corps on Mountain Valley’s individual permit application explained, among other things, that Mountain Valley has not shown its stream crossing plan to be the least environmentally damaging practicable alternative.⁴⁵⁴ If the Corps as a cooperating agency wishes to reach a defensible permitting decision, it must insist on a more fulsome analysis than an EA will capture.

⁴⁵⁰ Accession No. 20210611-3044.

⁴⁵¹ *Id.* at 1.

⁴⁵² Accession No. 20210415-5319; *see also* Section I, *supra*.

⁴⁵³ *See* Section I, *supra*.

⁴⁵⁴ *See generally* Lapp Letter.

Even if the Commission believes that an EA will satisfy the agencies' NEPA obligations instead of an EIS (it will not), the Commission should provide the public an opportunity to comment on a draft EA. Although publication of a draft EA is not required in every case, agencies, "when preparing an EA, must provide the public with sufficient environmental information, considered in the totality of circumstances, to permit members of the public to weigh in with their views and thus inform the agency decision-making process."⁴⁵⁵ To be clear, "[t]he way in which the information is provided is less important than that a sufficient amount of environmental information—as much as practicable—be provided so that a member of the public can weigh in on the significant decisions that the agency will make in preparing the EA."⁴⁵⁶ In this case, the public has not been provided sufficient environmental information to weigh in on Mountain Valley's amendment request or its parallel individual permit application except to the extent that the public has already explained that crucial information is missing. In addition to citizen comments, EPA's May 27 letter to the Army Corps outlines much of the information that is absent.⁴⁵⁷ Even aside from the ultimate permitting decisions that the Commission and the Corps face, the immediately "significant

⁴⁵⁵ *Bering Strait Citizens for Responsible Res. Dev. v. U.S. Army Corps of Eng'rs*, 524 F.3d 938, 953 (9th Cir. 2008).

⁴⁵⁶ *Id.* (quoting *Sierra Nevada Forest Prot. Campaign v. Weingardt*, 376 F. Supp. 2d 984, 991 (E.D. Cal. 2005)).

⁴⁵⁷ *See generally* Lapp Letter.

decision[] that the agency will make in preparing the EA”⁴⁵⁸ is whether a finding of no significant impact will be defensible. As to this question too, the public has not received sufficient information to weigh in except to point out that necessary information is missing. In effect, the paucity of information available to date threatens to allow a straw NEPA process, where the public participates in a woefully inadequate review process and the project proponent and the agencies purport to evaluate the details and make decisions behind closed doors. Stated otherwise, the public must be permitted to review and comment on any information that Mountain Valley and the agencies use to attempt to fill the gaps in Mountain Valley’s applications.

The Commission recently announced the creation of the Office of Public Participation, with a mission that includes improving existing Commission processes in a manner responsive to public input, with the goal of ensuring processes are inclusive, fair, and easy to navigate.⁴⁵⁹ If the Commission is serious about acting in harmony with its stated values, it must permit the public to comment on a draft NEPA document, whether an EIS or an EA.

CONCLUSION

For the foregoing reasons, FERC cannot grant Mountain Valley’s Amendment Application, and the Corps cannot adopt or rely on the product

⁴⁵⁸ *Id.*

⁴⁵⁹ News Release, Fed. Energy Regul. Comm’n, *FERC Establishes Office of Public Participation* (June 24, 2021), available at <https://www.ferc.gov/news-events/news/ferc-establishes-office-public-participation>.

resulting from this environmental review, unless and until the agencies address the issues identified above, issue a final SEIS following additional opportunity for public review and comments, and obtain Clean Water Act Section 401 certifications, or waiver thereof, from Virginia and West Virginia.

Respectfully submitted,

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