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 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 March 16, 2021 Notice of Scoping Period,[1] 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

[1] Accession No. 20210316-3075. *See also* 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) ("Amendment Application").

(hereinafter "Commenters") submit comments on the scope of environmental issues that must be considered as part of the Commission's National Environmental Policy Act[2] (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"). Mountain Valley has requested authorization to change the method of waterbody crossing for 182 waterbodies at 120 locations along the route of the MVP from a dry open-cut method to one of several trenchless methods.[3] The actions for which Mountain Valley has requested authorization pose serious environmental risks that were not disclosed in the 2017 Final Environmental Impact Statement (EIS) on which the certificate of public convenience and necessity for the MVP relies, nor in the Commission's more recent Environmental Assessment for the similar, now withdrawn, amendment application in FERC Docket No. CP21-12. And neither Mountain Valley's new Amendment Application nor its supplemental materials provide adequate information to allow the Commission to fully and rationally assess the impacts of its proposed activities. Accordingly, FERC cannot grant Mountain Valley's application until it has collected

[2] 42 U.S.C. § 4332 *et seq.*

[3] Mountain Valley seeks the amendment because its authorization to cross these streams and wetlands pursuant to Clean Water Act section 404, 33 U.S.C. § 1344, has been stayed by the U.S. Court of Appeals for the Fourth Circuit. *See Sierra Club v. Army Corps of Eng'rs*, __ F.3d __, 2020 WL 7039300, at *7 (4th Cir. Dec. 1, 2020) (staying Army Corps of Engineers' stream and wetland crossing authorizations pursuant to Nationwide Permit 12); Amendment Application at 2 (noting that it is seeking coverage under an individual section 404 permit for the MVP's remaining waterbody crossings). Thus, under the status quo that would be altered by a grant of Mountain Valley's amendment application, Mountain Valley is not allowed to impact any of the waterbodies along the pipeline route.

substantial additional information necessary to evaluate the impacts of Mountain Valley's proposal and put that evaluation out for public review and comment in a Supplemental EIS in accordance with 40 C.F.R. § 1502.9(d)(3).[4]

[4] *See Dubois v. U.S. Dep't of Agric.*, 102 F.3d 1273, 1291 (1st Cir. 1996) *cert. denied,* 521 U.S. 1119 (1997) ("The question of a supplemental EIS is premised on the dual purposes of the EIS: to assure that the public who might be affected by the proposed project be fully informed of the proposal, its impacts and all major points of view; and to give the agency the benefit of informed comments and suggestions as it takes a 'hard look' at the consequences of proposed actions.").

FERC's timing of any actions on Mountain Valley's application for a certificate amendment is further constrained by Condition 9 of Mountain Valley's existing certificate and the need for additional action by the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers. Condition 9 of Mountain Valley's Certificate of Public Convenience and Necessity prohibits construction on the project in the absence of all required federal approvals. Order Issuing Certificates and Granting Abandonment Authority, 161 F.E.R.C. ¶ 61043, App. C, Cond. 9, 2017 WL 4925425, at *76 (Oct. 13, 2017). Mountain Valley's proposed changes to its stream crossing methods requires authorization under the Endangered Species Act from the Fish and Wildlife Service and under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Action from the Army Corps of Engineers *See generally* Mountain Valley Pipeline Project Amendment Environmental Assessment, FERC Docket No. CP21-12 (Jan. 2021) (Accession No. 20210107-3064) at 43 (explaining that FERC must consult with USFWS regarding the impacts of the previously-proposed boring activities); Amendment Application at 1-9 Table 1.10-1 (noting that additional consultation may be required for the amendment); Mountain Valley Pipeline Project, Individual Permit Application at 62 (Feb. 2021) (Accession No. 20210304-5122)). Consistent with Environmental Condition 9, the earliest FERC should take action on Mountain Valley's pending application is when the Fish and Wildlife Service and the Corps have both completed their decisionmaking processes.

I. FERC Must Prepare a Supplemental EIS for the Amendment

The Commission cannot authorize Mountain Valley to bore under more than 180 waterbodies[5] without preparing a supplemental environmental impact statement for the project. The activities for which Mountain Valley seeks authorization pose significant risks to the environment that have not been analyzed in the Commission's or any other agency's previous NEPA documents for the MVP. The Commission retains discretion to prevent those distinct impacts by denying Mountain Valley's application. Therefore, there is remaining major federal action on Mountain Valley's amendment application for which NEPA analysis is required.

A supplemental EIS is required where "there remains 'major Federal actio[n]' to occur, and . . . the new information is sufficient to show that the remaining action will 'affec[t] the quality of the human environment' in a significant manner or to a significant extent not already considered."[6]

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[5] Mountain Valley proposes to use the conventional bore technique at most waterbody crossings but also proposes the use of the guided conventional bore and Direct Pipe methods at certain locations. Amendment Application at 1 n.3.

[6] *Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360, 374 (1989) (internal citations omitted); *see also Webster v. U.S. Dep't of Agric.*, 685 F.3d 411, 418 (4th Cir. 2012) ("A supplemental EIS [is] *mandatory* if the agency 'makes substantial changes in the proposed action that are relevant to environmental concerns' or if 'significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts' arise.") (citing 40 C.F.R. § 1502.9(c)) (emphasis added); *Envtl. Def. Fund v. Tennessee Val. Auth.*, 468 F.2d 1164, 1177 (6th Cir. 1972) ("We believe it more consonant with congressional intent to hold that an agency must file an impact statement whenever the agency intends to take steps that will result in a significant environmental impact … whether or not the proposed steps represent simply the last phase of an integrated operation most of which was completed before that date."); *Klamath Siskiyou Wildlands Ctr. v. Boody*, 468 F.3d 549, 560 (9th Cir. 2006) (citations omitted) ("[I]f the proposed action might significantly affect the quality of the environment, a supplemental EIS is required.").

The Council on Environmental Quality's (CEQ) NEPA regulations require that agencies:

> (1) Shall prepare supplements to either draft or final environmental impact statements if:
> (i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or
> (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.
> (2) May also prepare supplements when the agency determines that the purposes of the Act will be furthered by doing so.[7]

The use of the word "shall" is mandatory and creates a duty on the part of the agency to prepare a supplement to the EIS if there are significant new circumstances or information relevant to environmental concerns.[8]

Changes to projects require a supplemental EIS when they are "*not* 'qualitatively within the spectrum of alternatives that were discussed' in a prior FEIS."[9] Changes require NEPA supplementation not only when they increase the

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[7] 40 C.F.R. § 1502.9(c) (2019). As explained in Section C, *infra*, FERC and the Corps should apply the pre-2020 version of the CEQ NEPA regulations. There is no substantive difference, however, between the pre-2020 supplemental EIS regulations and the 2020 regulation. *Compare id. with* 40 C.F.R. § 1502(9)(d) (2020).

[8] *See Marsh*, 490 U.S. at 372 ("The CEQ regulations, which we have held are entitled to substantial deference, impose a duty on all federal agencies to prepare supplements to either draft or final EIS's if there "are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.") (quoting 40 C.F.R. § 1502.9(d)) (citations omitted); *Price Rd. Neighborhood Ass'n, Inc. v. U.S. Dep't of Transp.*, 113 F.3d 1505, 1509 (9th Cir. 1997) (citation omitted) (explaining that NEPA "imposes a continuing duty to supplement previous environmental documents").

[9] *In re Operation of Missouri River Sys. Litig.*, 516 F.3d 688, 693 (8th Cir. 2008) (citing *Dubois*, 102 F.3d at 1292, quoting Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18026, # 29b (March 23, 1981) (emphasis in original).

magnitude or extent of impacts, but also when they will cause the project to impact the environment "in a significant *manner*" not previously considered.[10] That is, significance can "be viewed in either quantitative *or* qualitative terms."[11] A supplemental EIS is therefore required even where a proposed change reduces certain previously analyzed impacts if the change presents different risks that may significantly affect the environment.[12]

Here, Mountain Valley proposes to employ trenchless crossing methods that were not analyzed in the EIS for the MVP. As discussed below, these crossing methods present the risk of significant environmental impacts that are distinct from those of the open-cut crossing methods that were previously evaluated. Moreover, the baseline environmental conditions have likely changed significantly since FERC's 2017 EIS, in many instances as a result of the failures of Mountain

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[10] *Marsh*, 490 U.S. at 374 (emphasis added); *see also Davis v. Latschar*, 202 F.3d 359, 369 (D.C. Cir. 2000) (supplementation required where the effects of proposed changes are "significantly different from those already studied") (quoting *Corridor H Alternatives, Inc. v. Slater,* 982 F.Supp. 24, 30 (D.D.C.1997)); *Westlands Water Dist. v. U.S. Dep't of Interior*, 376 F.3d 853, 873 (9th Cir. 2004) (explaining that supplementation is required when a proposed change "will have a significant impact on the environment in a manner not previously evaluated or considered."); *Miccosukee Tribe of Indians of Fla. v. United States*, 420 F. Supp. 2d 1324, 1333–35 (S.D. Fla. 2006) (finding that changes to a project were significant enough to require a supplemental EIS, which was required to include "hydrologic modeling results").

[11] *Hodges v. Abraham*, 253 F. Supp. 2d 846, 853 (D.S.C. 2002) (emphasis added).

[12] *See Dubois*, 102 F.3d 1292–93 ("It would be one thing if the Forest Service had adopted a new alternative that was actually within the range of previously considered alternatives, *e.g.*, simply reducing the scale of every relevant particular. It is quite another thing to adopt a proposal that is configured differently, in which case public commenters might have pointed out, if given the opportunity—and the Forest Service might have seriously considered—wholly new problems posed by the new configuration (even if some of the environmental problems present in the prior alternatives have been eliminated).").

Valley to control erosion, sedimentation, and landslides along the MVP route. A supplemental EIS is thus required. A supplemental EIS, including an evaluation of a full range of alternatives to the proposed amendment, is particularly necessary here because this NEPA document will inform not only FERC's consideration of Mountain Valley's amendment request, but also the cooperating agency U.S. Army Corps of Engineers' review pursuant to Clean Water Act Section 404.[13]

A. FERC and the U.S. Army Corps of Engineers Should Not Rely on CEQ's 2020 NEPA Regulations

It is unclear the extent to which FERC intends to rely on the new NEPA regulations promulgated by the Council on Environmental Quality ("CEQ") in 2020 for additional environmental review of the MVP. On July 15, 2020, CEQ finalized a revision to its regulations implementing NEPA; that revision became effective two months later on September 14, 2020.[14] The effective date for CEQ's new NEPA regulations was September 14, 2020. Notwithstanding this change, we urge FERC to apply the prior NEPA regulations to the MVP, rather than these new rules, for several critical reasons.

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[13] 33 U.S.C. § 1344. *See* Acceptance of Cooperating Agency Responsibility (Accession No. 20210310-5059) 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)"); *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).

[14] Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 85 Fed. Reg. 43304 (July 16, 2020).

First, the fundamental obligations governing NEPA reviews arise from the statute itself, as interpreted by courts for fifty years. FERC must meet these statutory requirements "to the fullest extent possible."[15] Rather than attempt to find daylight between its statutory obligations and CEQ's new NEPA regulations, FERC should continue to apply the long-standing NEPA standards in place when Mountain Valley initiated the MVP in 2015 and when FERC issued its original EIS for the project in 2017. This choice matters: CEQ's new regulations eschew the requirement that agencies evaluate the cumulative impacts of proposed actions,[16] a foundational part of the review process since Congress enacted NEPA in 1970.[17] Cumulative impacts are an especially important consideration for projects like the MVP, which spans portions of two states and would cross hundreds of rivers, streams, and wetlands.[18]

Second, the new regulations expressly authorize agencies to use the prior regulations for ongoing processes.[19] Mountain Valley simplistically asserts that

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[15] 42 U.S.C. § 4332.

[16] 40 C.F.R. § 1508.1(g)(3) (2021) ("Cumulative impact, defined in 40 C.F.R. 1508.7 (1978), is repealed.").

[17] *See, e.g.*, *Hanly v. Kleindienst*, 471 F.2d 823, 830-31 (2d Cir. 1972) (interpreting the statutory term "significantly" to include the absolute quantitative adverse environmental effects of the action itself, including the cumulative harm that results from its contribution to existing adverse conditions or uses in the affected area").

[18] As hydrogeologist Pete Nimmer observes, cumulative effects of the proposed borings could be significant. *See* Nimmer Update at 6–7, *infra* n. 35 (concluding that impacts on surface and ground water quality and quantity "can be compounded due to the large number of crossings that are proposed").

[19] 40 C.F.R. § 1506.13; *see e.g.*, *Notice of Intent To Prepare a Draft Integrated Feasibility Report and Environmental Impact Statement*, 86 Fed. Reg. 15470 (Mar. 23, 2021) ("[The

FERC is bound by the new NEPA rules (and thus the company waves off any need to provide information about the cumulative impacts of its proposal).[20] But the new regulations give FERC a choice that is not Mountain Valley's to make. Mountain Valley initiated this pipeline project in 2015, and the proposed certificate amendment now at issue is a continuation of the existing project and its original NEPA review from 2017. Indeed, FERC and cooperating agencies like the Corps may intend to rely on portions of the 2017 EIS to fulfill their *present* NEPA obligations for the proposed certificate amendment. The only consistent and orderly approach is for FERC to continue to apply CEQ's prior NEPA regulations to the MVP project.

Third, reliance on the new NEPA regulations will place the MVP in additional legal jeopardy. The new regulations are the subject of multiple ongoing lawsuits that identify a number of legal deficiencies.[21] Further, the Biden Administration's CEQ announced in March 2021 that it is reconsidering the 2020 regulations because it has

> substantial concerns about the effects of the 2020 Rule on public health, the nation's land, water, and air quality, communities that have been

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Corps of Engineers] is exercising its discretion to employ the 1978 CEQ NEPA Implementing Regulations to this ongoing process . . . .").

[20] Mountain Valley Pipeline, LLC, Suppl. Envtl. Rep. for Proposed Certificate Amend. for Avoidance of Waters of the U.S., Dkt. No. CP21-57, at 2-11 (Feb. 19, 2021), *available at* Accession No. 2021-0219-5176 (citing 18 C.F.R. § 380.1).

[21] *Wild Virginia v. Council on Environmental Quality*, No. 3:20-cv-00045-MFU (W.D. Va. filed Aug. 18, 2020); *California v. CEQ*, No. 3:20-cv-06057-RS (N.D. Cal. filed Aug. 28, 2020); *Env't Just. Health All. v. CEQ*, No. 1:20-cv-06143-CM (S.D.N.Y. filed Aug. 6, 2020); and *Alaska Cmty. Action on Toxics v. CEQ*, No. 3:20-cv-05199-RS (N.D. Cal. filed July 29, 2020).

> historically marginalized and overburdened by pollution, the ability of citizens to have their voices heard in federal decision-making processes, and other issues, including the process by which the 2020 Rule was promulgated and the lawfulness of aspects of the 2020 Rule.[22]

A FERC environmental review for this project based on the 2020 NEPA regulations may be defective or delayed if those regulations are later struck down or repealed. For these reasons, FERC should apply CEQ's prior NEPA regulations and the caselaw interpreting those regulations when preparing the Supplemental EIS for Mountain Valley's requested amendment.

B. The EIS for The Project Does Not Evaluate the Potential Impacts of the Conventional Bore, Guided Conventional Bore, or Direct Pipe Methods

In the EIS for the MVP, FERC determined that Mountain Valley would employ only two waterbody crossing methods: the dry open-cut method and the horizontal directional drill (HDD) method.[23] These were the only methods evaluated in FERC's discussion of the MVP's potential impacts on water quality.[24] FERC briefly mentions boring, but only in the context of road, railroad, and trail crossings and without evaluating impacts to hydrology or aquatic resources.[25] The environmental impacts of using the conventional bore, guided conventional bore, and Direct Pipe methods to cross more than 180 waterbodies along the route of the

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[22] Declaration of Matthew Lee-Ashley, Council on Environmental Quality, *Wild Virginia v. Council on Environmental Quality*, No. 3:20-cv-00045-MFU, ECF No. 145-1 at ¶ 5 (W.D. Va., filed Mar. 17, 2021).

[23] EIS at 2-43.

[24] *See* EIS at 4-118–4-120; 4-136–4-144; 4-216–4-217; 4-153–4-154; 4-160–4-162; 5-4.

[25] *See* EIS at 2-46, 3-51, 4-333.

MVP have therefore not been evaluated or disclosed as part of the NEPA process for the project.

C. *The Proposed Boring Methods Would Have Significant Impacts on Hydrology, Water Quality, and Stream Ecology That Have Not Been Evaluated and That Cannot Be Adequately Evaluated Using the Existing Record Information*

The proposed conventional bore, guided conventional bore, and Direct Pipe methods would lead to adverse impacts on the environment that are distinct from the risks posed by the dry open-cut waterbody crossing method previously proposed and approved. In particular, these boring methods presents significant risks of disturbance to subsurface hydrogeology that would degrade surface and groundwater quality and quantity. Although the possible consequences of those boring methods are known, Mountain Valley has not provided sufficient information to determine the likelihood and extent of such adverse impacts occurring for its proposed bores.

1. Conventional boring causes significant adverse impacts to hydrology and water quality

The vast majority of the proposed borings would be completed using the conventional bore method.[26] Mountain Valley explains that accomplishing a conventional bore requires "excavation of launching and receiving pits located in workspace in uplands on each side of" the waterbody and then subsurface drilling to connect the two pits, in which "the construction crew advances a jacking pipe and a

[26] Amendment Application, Resource Report 1 at 1-4.

rotating cutting head that is attached to the leading edge of the auger string."[27] In a guided conventional bore, the drilling "typically continues non-stop until completed," thus requiring 24-hour operation.[28] Any spoil generated by the boring that cannot be returned to the bore pits must be stored during the boring operation and may be spread over the right-of-way upon completion of boring.[29]

FERC itself has recognized the risks of conventional bores. In the Final Environmental Impact Statement for Mountain Valley's Southgate Project, FERC acknowledged that,

> Conventional bores require large entry and exit pit excavations at each end of the bore pathway and therefore create the risk of sediment runoff entering the adjacent waterbody. Of greatest risk to the waterbody is the possibility of the borehole collapsing without warning. In such a case the bed of the waterbody could collapse and reroute the waterbody into the bore pathway.[30]

Likewise, the Court of Appeals for the Fourth Circuit recently explained that in order to bore under a stream, "MVP must excavate a pit nearby, which again may increase erosion and sedimentation. And there is risk that drilling fluid will escape into the surface waters, or that the drilled hole might collapse, causing the waterbed to collapse as well."[31]

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[27] *Id.*

[28] *Id.* at 1-6.

[29] *Id.* at 1-4.

[30] FERC, Southgate Project Final Environmental Impact Statement at 4-37, Docket No. CP19-14 (Feb. 2020) (eLibrary No. 20200214-3010).

[31] *Mountain Valley Pipeline, LLC v. North Carolina Dept. of Envtl. Quality*, 990 F.3d 818, 822 (4th Cir. 2021)

Mountain Valley itself has recognized, in discussing the potential for a conventional bore under the Greenbrier River, that the method presents "difficulties with groundwater management[and] bore pit stabilization."[32]

Photographs of bore pits that MVP has already excavated along the route demonstrate the groundwater intrusion and large spoil piles from boring:

[32] *See* Pre-Construction Notification, Huntington District at Appendix F, section 1.1 (Jan. 2020) ("Huntington PCN"), attached as Exhibit 1; *see also id.* at section 7.4.2 (noting that Mountain Valley "considered the potential groundwater impacts as a significant obstacle to boring the Greenbrier River . . . based on the potential pit depths of a conventional bore."). Additionally, in discussing the "benefits" of the Direct Pipe method, Mountain Valley has obliquely acknowledged certain impacts of conventional boring: "The steering capabilities of a Direct Pipe bore would allow Mountain Valley to dig shallower pits; whereas a conventional bore is straight and requires pits to be excavated to the depth of the pipe. This provides a number of benefits from both a constructability and safety standpoint. The Direct Pipe pit is approximately 10-feet deep compared to a conventional bore pit depth of over 30-feet deep. Geotechnical data shows that water may be encountered at approximately 25-feet deep. By avoiding these strata, the risk of groundwater intrusion is greatly reduced. This will lessen safety concerns and reduce the need for pumping and discharge while working in this location." Mountain Valley, Supplement to Variance Request No. MVP-014 at 1, Dkt. Nos. CP16-10 *et al.* (July 24, 2019) (eLibrary No. 20190724-5132).

Mountain Valley's compliance reports for the MVP demonstrate that the company's boring operations have already caused water quality problems.[33]

Commenters commissioned a review of Mountain Valley's proposal in Docket No. CP21-12 by Pete Nimmer, PG, LSRP, Senior Geologist with Greenstar Environmental Solutions.[34] Following Mountain Valley's withdrawal of that

[33] *See, e.g.*, Environmental Compliance Monitoring Program - Weekly Summary Report for August 25-31, 2019 at 3, Dkt. Nos. CP16-10 *et al.* (September 18, 2019) (eLibrary No. 20190918-4001) (describing winch breaking during boring and oil sheen inside the entry bore pit due to leaking hydraulic line (MP 140.2)); Environmental Compliance Monitoring Program, Weekly Summary Report for August 18-24, 2019 at 5, Dkt. Nos. CP16-10 *et al.* (September 9, 2019) (eLibrary No. 20190909-4004) ("Topsoil was salvaged from the [bore] pit area and segregated at the side of the extra work area. The topsoil was stacked too high against a row of belted silt retention fence and broke through." (MP 11.3)).

[34] Mr. Nimmer carries nearly 30 years of experience in the industry, including "extensive experience designing, managing, and executing investigation of groundwater issues" and "extensive experience designing, managing, and executing aquifer studies in bedrock and karst, well yield assessments and hydrogeology investigations." Pete Nimmer, Greenstar Environmental Solutions, LLC, *Comments on Mountain Valley Pipeline's Requested Amendment to its Certificate of Public Convenience and Necessity* at 10 (2020) ("Nimmer

application and submittal of the application and related materials in Docket No. CP21-57, Mr. Nimmer produced an update confirming the application of his earlier findings to the instant proposal.[35] Mr. Nimmer concluded that "MVP's assertion in its application that its proposed actions 'would have limited, if any, environmental impacts beyond those that have already been assessed and approved by the Commission' does not withstand scrutiny."[36] In contrast to Mountain Valley's unsupported claim, Nimmer found that "significant adverse consequences are likely to occur from [Mountain Valley's proposed] change of waterbody crossing method," which consequences include "disruption of groundwater flow, harm to drinking water supplies, dewatering of surface waters, inadvertent return of drilling fluids, and catastrophic failure of the pipe."[37] Those consequences "present significant harm to surface water and groundwater resources."[38]

One of the primary risks Nimmer identifies is the potential for the creation of "hydraulic conduits that can change groundwater flow conditions and

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Report"). That report is attached as Exhibit 2 to these comments and is hereby incorporated by reference as if set forth fully herein.

[35] Pete Nimmer, Greenstar Environmental Solutions, *Comments on FERC's January 7, 2021 Environmental Assessment, Mountain Valley Pipeline's February 2021 Individual Permit Application, FERC's March 12, 2021 Environmental Information Request, and Mountain Valley Pipeline's March 29, 2021 Response* (2021) ("Nimmer Update"). That report is attached as Exhibit 3 to these comments and is hereby incorporated by reference as if set forth fully herein.

[36] Nimmer Report at 2. *See also* Nimmer Update at 2.

[37] Nimmer Update at 2.

[38] Nimmer Report at 2.

groundwater/surface water interaction."[39] Those conduits "will cause changes in groundwater flow compared to current conditions" and can lead to the dewatering of surface streams and wetlands.[40] Nimmer explained that

> Conventional boring creates dewatering risks because of its significant impacts on soil characteristics, which lead to the formation of preferential hydraulic conduits along the borehole due to increases in soil porosity and/or permeability. The disruption of these areas, and increased turbidity caused by the project, will adversely impact ecosystems within the surrounding surface water bodies, flood plains and wetland areas, as well as the wildlife habitats in these areas.[41]

Those impacts can also "lead to unsafe drinking water conditions or impacts to private wells and/or public water supply sources in the surrounding area."[42]

Such impacts can occur even when the boring is successfully completed, but are particularly likely in the event of a failed borehole, which "has the potential to result in formation of a very large conduit that could result in the diversion of significant quantities of surface water or groundwater."[43]

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[39] Nimmer Report at 2.

[40] *Id.* at 3; *see also id.* at 5 ("[T]he boreholes and tunneling excavation activities can potentially interfere with groundwater aquifers, whether unconsolidated or bedrock aquifers and have the potential to alter the groundwater flow pattern and aquifer capacity.").

[41] *Id.* at 2–3. *See also id.*at 3 ("Borehole-created conduits can cause dewatering of wetland areas, significant changes in the size and quality of wetlands, or permanent drying of wetlands and subsequent loss of habitat in these areas.").

[42] *Id.* at 5.

[43] *Id.* at 7; *see also id.* at 3 n.1 ("If a borehole cannot be completed the failed borehole has the potential to become a major underground hydraulic conduit which may result in dewatering of surface water bodies."); *id.* at 6–7 ("The large diameter of the proposed boreholes has the potential to result in formation of a very large conduit that could result in the diversion of significant quantities of surface water or groundwater."); FERC Southgate Project FEIS at 4-37 ("Of greatest risk to the waterbody is the possibility of the borehole

Many of Mountain Valley's crossings appear to be particularly susceptible to borehole collapse due to their length. A report prepared by the Williams Company for the Northeast Supply Enhancement project notes that conventional bores are typically between 50 and 100 feet long and that a "[m]ajor factor limiting the success of a boring operation include[s] the crossing distance . . . ."[44] Mountain Valley proposes conventional bore lengths of up to 405 feet, including 36 bore locations that exceed 100 feet in length, thus increasing the serious risk of bore failure.[45] Likewise, Nimmer advises that "[o]ne or more failed boreholes should be considered a likely possibility given the size of the individual crossings …, the

collapsing without warning. In such a case the bed of the waterbody could collapse and reroute the waterbody into the bore pathway.").

Mountain Valley attempts to downplay the likelihood of borehole collapse by insisting that, in most instances, "the line pipe is installed immediately behind the bore pipe once the boring is complete, leaving no unsupported hole that could potentially collapse. Because the borehole is continuous supported by pipe throughout the process, the risk of bore collapse is minimal." Amendment Application at 1-4. This does not address the situation where a borehole has to be abandoned because of adverse geologic conditions, and the drilling rig withdrawn from the borehole, in which case nothing would remain to support the borehole. Nothing in FERC's staff's January 2021 Environmental Assessment addressed the impacts of such a scenario, and nothing in the information submitted in support of the pending application does either. Accordingly, the risks of borehole collapse and conduit creation are not as minimal as Mountain Valley represents.

[44] Williams, *Subsurface Pipe Installation* at 2 (2014), attached as Exhibit 4.

[45] *See* Amendment Application, Resource Report 1, Appendix A, Table A-1. Twenty-one of these crossings exceed the length of the longest crossing for which Mountain Valley has successfully completed a conventional bore. *See id.*; Amendment Application, Resource Report 1 at 1-8 (noting that the longest conventional bore waterbody crossing completed on the project to date is 147 feet).

cumulative total borehole distance …, and varying geologic conditions at the [different crossing locations]."[46]

In addition to creating conduits that alter groundwater flow and potentially dewater surface streams, conventional boring also impacts water quality and quantity due to the substantial pumping of groundwater necessary to keep the deep bore pits dry enough to operate equipment. Mountain Valley notes that, due to the significant rates of groundwater intrusion expected, it may have to pump up to 2,750 gallons of water per minute, 24 hours per day from some of the bore pits.[47] Mountain Valley acknowledges that pumping such large quantities of groundwater will cause "short-term drawdown of shallow groundwater in the immediate vicinity of the bore pits," and cites a study demonstrating reduced groundwater depths 300 feet from the boring operation.[48] But the company goes on to say that the magnitude of that impact in the present application depends on "site-specific characteristics," such as "the existing groundwater level" and "soil type," that Mountain Valley entirely fails to examine.[49] Moreover, Mountain Valley may not rely on the cited

[46] Nimmer Report at 6.

[47] Amendment Application, Resource Report 2 at 2-11 to 2-12. This "dewatering" of the bore pits, involving pumping of groundwater that infiltrates the pits to the surface to maintain dry workspace, is distinct from the dewatering of surface streams discussed in these comments, whereby changes to groundwater flow paths or drawdown of groundwater through pumping partially or entirely diminish the water flowing in surface streams and wetlands.

[48] *Id.* at 2-11.

[49] *Id. see also id.* ("Where groundwater is near the surface at the time of construction and larger or multiple pumps are required to operate continuously, water-level draw down near the bore pits could be measurable.").

study to establish the extent of groundwater drawdown because, as FERC explained in its March 12, 2021 Environmental Information Request, "the hydrogeologic terrain and aquifer characteristics used to define (model) water-level drawdown impacts are not similar to nor can be used to properly define the potential impacts within the hydrologic basins along the Amendment Project."[50]

Nimmer found that Mountain Valley's pit dewatering activities pose substantial threats to both surface and groundwater. Nimmer explained that dewatering activities of the magnitude Mountain Valley proposes "have a significant likelihood to affect nearby streams and drinking water sources."[51] Those impacts could be felt at distances greater than the 300 feet analyzed by the study Mountain Valley cites, depending on "geologic conditions, soil types, bedrock geology, well depth, and other variables."[52] The groundwater drawdown associated with the pit dewatering and other aspects of Mountain Valley's proposed operations "impact groundwater-dependent vegetation, surface streams, lakes, wetlands, and associated aquatic ecosystems, including springs and wells."[53] "Significant changes to water table elevations due to pumping, even if temporary, can result in significant long term degradation of water quality at nearby drinking water

[50] Environmental Information Request at 4 (Accession No. 20210312-3016.

[51] Nimmer Report at 9.

[52] *Id.* at 3.

[53] *Id.* at 5.

wells."[54] Though Mountain Valley claims that there are no known public or private groundwater wells within 150 feet of its bore pits,[55] Nimmer notes the existence of additional likely drinking water sources that could be adversely impacted by Mountain Valley's operations.[56]

Those pumping activities are also likely to have adverse impacts on surface water quality.[57] Indeed, Mountain Valley has already been cited by the West Virginia Department of Environmental Quality (WVDEP) multiple times for its failure to prevent sediment-laden water from escaping its dewatering devices, leading to violations of water quality standards.[58] Those violations require FERC to

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[54] *Id.* at 9.

[55] Amendment Application, Resource Report 2 at 2-12.

[56] *Id.* at 5, 8–9. Nimmer Update at 2 ("FERC should not authorize the proposed actions until it gathers sufficient information regarding the boring operations and potable wells …"), 4 (raising questions regarding the lack of information on drinking water wells and explaining that "[t]he issue of conclusively identifying all potable resources within 150 ft to 500 ft from the alignment and protecting potable water resources from potential adverse impacts must be more clearly discussed in FERC and MVP documents").

[57] *See, e.g., id.* at 3 ("Dewatering rates of this magnitude are likely to result in significant changes to surface water bodies, although the applicant does not discuss what effects may result or how effects will be mitigated, or where water will be pumped and how turbidity of the discharge will be managed to prevent fouling of surface water resources.").

[58] *See* WVDEP, Notice of Violation No. W19-21-074-TJC (August 14, 2019) at 2, attached as Exhibit 5 ("The offsite sediment laden water adjacent to 2919+50 occurred due to a dewatering operation at the time of inspection."); *id.* at 13 (showing "[o]ffsite sediment deposits . . . where a dewatering structure was placed offsite and caused offsite deposits"); *id.* at 13–14, 19–20 (showing dewatering structures failing to function as designed and resultant offsite sediment deposits); WVDEP, Notice of Violation No. W19-17-030-JTL (September 11, 2019) at 3, attached as Exhibit 6 ("At station No. 645+35 the dewatering structure used for the Stream S-B75 bore was not being maintained and operated properly causing the structure to not function as designed causing conditions not allowable in Stream S-B75 (Goose Run)); *id.* ("Sediment Laden water was observed leaving a dewatering structure used for the boring under Stream S-B75 (Goose Run)."); *id.* (Mountain Valley's boring operation "has caused conditions not allowable in waters of the State by allowing distinctly visible settleable solids in Stream S-B75 (Goose Run)."); *id.* at 2 ("The dewatering

apply close scrutiny to Mountain Valley's claims that its dewatering activities will not have significant impacts on surface waters and collect sufficient information to demonstrate that such failures are not likely to recur.

2. The Direct Pipe and guided conventional bore methods pose additional risks to water quality resulting from their use of drilling fluids

Mountain Valley proposes to use the Direct Pipe method to cross the Greenbrier River, the longest of the proposed trenchless crossings, and to use the guided conventional bore method at two other locations.[59] In addition to the risks associated with borehole collapse and disruption of subsurface water flows identified above, the Direct Pipe and guided conventional bore methods also pose risks due to the use of bentonite or other drilling fluids which may escape and contaminate ground and surface waters.[60] As Mountain Valley acknowledges, "[t]he two proposed trenchless crossing methods that require the use of fluids—guided conventional bore and Direct Pipe—also include a risk of inadvertent return (IR)." The impacts of such inadvertent returns can be significant.

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structure had stagnant water inside the structure with an odor present. . . . [A]n algae/bacterial mat was growing/forming on the ground where the discharge was occurring.").

[59] Amendment Application, Resource Report 1, Appendix 1, Table A-1; *id.*, Resource Report 3 at 3-9.

[60] Mountain Valley notes that it will also likely use "small quantities of water, bentonite, or polymer-based lubricant" to complete the longer conventional bores as well. Those crossings thus present similar contamination risks as the Direct Pipe crossing of the Greenbrier River. *See* Amendment Application, Resource Report 2 at 2-13.

As Nimmer explains, the use of boring technologies that employ drilling fluids "add significant risk to water bodies" that was not considered in the EIS for the project:[61]

> If pressurized drilling fluids are injected into the subsurface during completion of these bores, the fluids can move in unexpected directions including upwards and discharge into surface water or downwards into aquifers used for drinking water. If a bentonite or a bentonite/water mixture is used during the pilot hole drilling, similar risks of a release are present. A release of drilling fluids into surface waters or groundwater could have significant environmental effects due to the high pH of fluids, elevated turbidity and chemicals in the drilling fluid. Any release has the potential to cause acute or chronic human health or ecological impacts. For example, there is evidence that the short-term effects of releasing drilling fluid into wetlands include temporary displacement of resident fauna, smothering of benthic organisms and plant root systems, increased turbidity of water quality, and changes to water chemistry and wetland hydrology. Releases of drilling fluids are frequent occurrences during drilling operations. At these locations, should drilling fluids or bentonite reach surface water bodies or groundwater resources, significant short term and long term impacts could result.[62]

Nimmer notes that Mountain Valley fails to provide sufficient information to determine the likelihood or potential magnitude of such releases, including "the volume or amounts of bentonite or slurry that will be used, whether the slurry will be pressurized, or what pressures will be used."[63] FERC must obtain and evaluate this information in order to reasonably predict the impacts of the crossings that will employ drilling fluids.

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[61] Nimmer Report at 4.

[62] Nimmer Update at 5. *See also* Nimmer Report at 4.

[63] Nimmer Update at 5.

3. The trenchless crossing methods' hydrogeological and water quality impacts would cause significant harm to aquatic life

As demonstrated above, the boring methods proposed by Mountain Valley cause disruptions to groundwater systems, dewater surface streams and wetlands, and introduce significant additional sediment into surface waters. Those impacts will have significant adverse consequences for the biological communities that rely on the impacted aquatic resources.[64]

Matthew Baker, Professor of Environmental Science with a specialty in aquatic ecology at the University of Maryland, Baltimore County, reviewed Mountain Valley's proposal, along with the Nimmer Report, and determined that "the ecological consequences [of the proposed boring activities] would be somewhere between temporarily degraded to catastrophic."[65] The hydrological and water quality impacts described in the Nimmer Report would "reduce the extent and the quality of aquatic habitat" both spatially and temporally, "degrade fish

[64] *See* Nimmer Report at 3 ("The disruption of these areas, and increased turbidity caused by the project, will adversely impact ecosystems within the surrounding surface water bodies, flood plains and wetland areas, as well as the wildlife habitats in these areas."); *id.* ("Borehole-created conduits can cause dewatering of wetland areas, significant changes in the size and quality of wetlands, or permanent drying of wetlands and subsequent loss of habitat in these areas.").

[65] Matthew Baker, PhD, *Comments on Mountain Valley Pipeline's Requested Amendment to its Certificate of Public Convenience and Necessity* (2020) at 2 ("Baker Report"). That report is attached as Exhibit 7 to these comments and is hereby incorporated by reference as if set forth fully herein. Mr. Baker has over 20 years of experience in the fields of aquatic ecology and watershed science, including relevant "expertise in analyzing biological community data, characterizing and modeling physical and chemical drivers of habitat, and diagnosing causes of biological change in aquatic ecosystems;" experience "evaluat[ing] biological community response to hydrologic and chemical stressors in Maryland, Ohio, West Virginia, Virginia, and Massachusetts streams;" and "experience in analyzing stream hydrology and geomorphology." Baker Report at 1.

spawning beds," and "increase[e] the embeddedness of coarse channel substrate utilized by invertebrates and fish," among other impacts.[66]

One cause of the ecological impacts would be stream and wetland dewatering resulting from the creation of hydrological conduits associated with boring activities. "Short term dewatering would certainly be lethal for many aquatic organisms or displace them to downstream habitats (something that is only realistic for more motile taxa), where they are more vulnerable to predation."[67] The impacts of the creation of hydrological conduits associated with Mountain Valley's proposed activities, however, are likely to create "long-term issue[s]" that would lead to "prolonged dewatering," which has potentially much more serious impacts that have "yet to be assessed."[68] Those impacts include "reduce[d] recruitment of wetland plants that depend on periods of saturated soils or shallow water tables for germination or seasonal growth," "alter[ed] redox conditions that govern many important biogeochemical processes (e.g., nitrification and denitrification)," "reduced sediment transport, warmer water temperatures, poor aeration," "reductions in aquatic habitat," "increase[ed] . . .embeddedness of coarse channel substrate utilized by invertebrates and fish,"[69] and "more rapid warming of water

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[66] *Id.* at 4–5.

[67] *Id.* at 4.

[68] *Id.*

[69] Increased embeddedness is detrimental because "[i]nvertebrates rely on pore spaces to shelter from predators but suffer from reduced aeration when these spaces fill with sediment and constrict water circulation in the stream bed. Fish also make use of coarse

with air temperatures and greater diurnal fluctuation of temperatures" which would "contribute to reduced oxygen levels for aerobic respiration while increasing metabolic rates earlier in the season."[70]

The substantial volume of groundwater that will need to be pumped to maintain the bore pits would also have significant adverse impacts. If the pumped water is laden with sediment—as has been observed in Mountain Valley's previous boring operations, *see supra* at 20–21—Mountain Valley's discharges would "represent significant turbidity and potentially dramatic changes to the fine sediment load in many streams."[71] This is important because "[m]any aquatic larvae are sensitive to increases in turbidity and fine sediment, and fine deposition can degrade fish spawning beds."[72] The presence of excess sedimentation, whether from pit dewatering or other pipeline activities such as erosion from the cleared right-of-way or storage of bore pit spoil,[73] compounds the problems presented by

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beds for spawning, as the same conditions allow for protection of eggs and shelter of fry, both of which are notoriously sensitive to sedimentation in Appalachian streams." *Id.* at 4.

[70] *Id.*

[71] *Id.* at 5. *See also* Nimmer Update at 5 ("[T]here is evidence that the short-term effects of releasing drilling fluid into wetlands include temporary displacement of resident fauna, smothering of benthic organisms and plant root systems, increased turbidity of water quality, and changes to water chemistry and wetland hydrology.")

[72] Baker Report at 5.

[73] *See id.* at 5–6 (discussing the sedimentation risks created by Mountain Valley's proposed storage, handling, and disposal of excess spoil).

stream dewatering, leaving streams stressed and less able to recover from periods of reduced flow.[74]

The likely ecological impacts of Mountain Valley's proposed activities have not been evaluated in the EIS for the MVP and are neither equivalent to nor demonstrably less significant than the previously-approved open-trench method. As Baker explains,

> Although the pumping and discharge of groundwater seepage[,] handling of spoils, and associated sediment erosion may appear similar to what was described in the earlier EIS, the intensity of bore pit pumping is likely to be higher, the spoils dispersed over a broader area, and both would occur over longer periods than what was initially described during a different and arguably more sensitive season in the life history of stream dwelling organisms. Because of these differences, any claim that the workflow associated with borehole drilling somehow minimizes the environmental risks over open-cut crossings lacks credibility and remains entirely unsupported.[75]

Likewise, "[a]s opposed to the short-term dewatering considered in the EIS for open trench crossings, creation of new hydraulic conduits may represent permanent alterations to the system or a chronic condition. This would represent an entirely different kind of alteration than previously considered."[76]

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[74] *Id.* at 4.

[75] *Id.* at 2.

[76] *Id.* at 3; *see also id.* at 5 ("Because the EIS only considered temporary pumping of open-cut trenches during low water periods when many sensitive taxa are not be resident in small streams (i.e., because many aquatic invertebrates are in terrestrial stages or dormant, and fish have migrated to downstream habitats), and because the length of time spent drilling at each site could either be similar to trench or substantially longer due to geologic strata, the potential impacts of the proposed discharges are unclear, but entirely distinct in terms of timing, magnitude, and duration from what was evaluated by the EIS."); *id.* at 3 ("It thus appears that spoil relocation will be fairly commonplace, whereas such transport of sediment was not described as part of the original workplan considered by the EIS."); *id.* at 6 ("In developing the EIS, federal agencies never considered the potential

In order to satisfy NEPA, FERC must fully evaluate these potential impacts to aquatic life that have not been previously assessed or disclosed.

4. The current record is insufficient to evaluate the potential impacts of Mountain Valley's proposed activities

Although the existing information is sufficient to determine that Mountain Valley's proposed trenchless crossing operations are likely to have significant adverse impacts on the quality of the environment, much more is needed to fully evaluate the character and intensity of such impacts. Mountain Valley's application materials omit information that is essential to answer such critical questions as the likelihood of borehole failure, the susceptibility of the water table to disruption, the magnitude of expected sedimentation, and the extent and quality of the existing drinking water resources to be impacted.[77] The information is likewise insufficient to allow FERC to determine the likely impacts of the proposed activities on aquatic

impacts of discharge from excavation operations during the wintertime when many more aquatic species are resident, from deeper holes where groundwater seepage is likely to be far greater than the shallower trenches, and when greater stream flows are likely to transport fine material further downstream.").

[77] *See* Nimmer Report at 2 ("[A] review of the limited documentation MVP provided establishes that significant adverse consequences are likely to occur from this change of waterbody crossing method. Moreover, the information MVP has provided is incomplete and inadequate to fully assess the environmental impacts that may occur."); Nimmer Update at 2 ("FERC should not authorize the proposed actions until it gathers sufficient information regarding the boring operations and potable wells, as detailed below, such that it can rationally assess, consider, and disclose to the public the likely impacts of MVP's proposal.").

wildlife.[78] Without gathering this information, FERC cannot fulfill its duty under NEPA to assess and disclose the project's impacts.[79]

The most critical analyses that Mountain Valley has failed to provide are site-specific hydrogeological assessments of the boring sites. Such characterizations are necessary to assess the likelihood of success of boring in a particular location as well as the potential for disruption to subsurface hydrology.[80] Nimmer notes that, in the absence of pre-boring characterization of geologic conditions at crossings, "it is not possible to assess the likelihood of encountering geologic conditions," including "the presence of boulders or weathered bedrock," "which may prevent completion of boreholes, or to anticipate and prevent problems with the proposed drilling method."[81] Gathering such information in advance is essential because many of the

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[78] *See* Baker Report at 2 (concluding that the "circumstances of the proposed crossings are different from those considered under the earlier EIS" and that "[m]ore information is needed to adequately assess potential consequences of the proposed amendment"); *id.* ("Because of these differences [in impacts between conventional bore and dry open-cut crossings] and the site-specific nature of many of the potential consequences, the full scope of the impacts cannot be understood without further assessment.").

[79] *See Marsh*, 490 U.S. at 374.

[80] *See*, *e.g.*, Williams (2014) at 2 ("Subsurface soil and geologic conditions must be condusive [sic] to establishing and maintaining a safe bore pit excavation, as well as provide the capabilities for the boring equipment to conduct a successful bore. Loose packed sediment, free of rock material is preferred when conducting boring operations.").

[81] Nimmer Report at 4; *see also id.* at 6 ("Several [geologic] conditions would result in a borehole that cannot be completed to its intended length such as unexpected geology, problematic geology or soils, or equipment issues."); Baker Report at 2–3 (explaining that, because the depths of the bore pits are greater than the depth of the trench in the original crossing plans, Mountain Valley is more likely to encounter bedrock and to "involve interactions with groundwater aquifers"); *id.* at 4 ("The nature, extent, and magnitude of the impacts being described would likely vary based on network position and the site-specific hydrogeology."); *id.* at 6 ("Importantly, the switch to borehole crossings has emphasized the need to develop more detailed and site-specific understanding of valley bottom geology and aquifer characteristics. Such information is necessary to assess the

adverse impacts of the proposed activities may not be immediately apparent and thus not properly remediated by Mountain Valley.[82]

Mountain Valley itself recognizes that borehole failure could be caused by "[u]nanticipated geological or hydrological conditions in which ground or surface water affects construction, or the geologic materials become unstable or collapse."[83] But FERC and Mountain Valley may not simply resign themselves to the possibility of borehole failures. Rather, they must gather sufficient information so that they can reasonably anticipate—and, ideally, avoid—such consequences.[84]

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potential for chronic or permanent channel, floodplain, or wetland dewatering. Information in the approved EIS was insufficient to fully appreciate or understand the site-specific hydrologic implications or risks of borehole crossings."). *See also* Kwast-Kotlarek et al., *Introducing Bentonite into the Environment in the Construction Stage of Linear Underground Investment Using the HDD Method*, Applied Sciences, November 2018, attached as Exhibit 8 at 17 ("Designing the routes of gas pipeline systems is important for the function of ecosystems. Each gas pipeline construction project has to be based on thorough ecological and physiographic studies and a reliable evaluation of the environmental impact, which specify variant solutions for ensuring minimal losses and the lowest possible limitations to the function of the natural environment."); *id.* (explaining that drilling fluids such as bentonite "constitute a type of waste that is difficult to manage, as its nature may change depending on the chemical nature of the drilling fluid used and the geological and technological drilling conditions.").

[82] *See* Baker Report at 4 ("[C]hronic dewatering in stream channels and floodplains from hydraulic conduits accessed and/or created through borehole drilling might be inconspicuous in the wintertime [at the time of construction] when evapotranspirative demands are low and losses are masked by higher flows, but result in either reduced flow regimes or truncated periods of surface flow altogether when evapotranspiration increases in the spring and summer, with cascading environmental effects.").

[83] Amendment Application, Resource Report 1 at 1-9.

[84] Nimmer Update at 3 ("[I]nformation provided in [Mountain Valley's] response indicates how [borehole failure] issues will be addressed after occurring (i.e., default to contingency plan) but significantly, does not indicate how these issues will be prevented from occurring. Due to the serious adverse potential effects of a failed borehole, significant efforts should be made prior to and during drilling to prevent borehole failures, deviation from the planned

In order to predict the impacts of conventional boring at the proposed locations, FERC must assess "soil thickness," "the depth of the soil/bedrock interface," and "bedrock hardness which may affect drilling, or presence of fracturing or permeability that may increase the likelihood of forming an unintentional hydraulic connection between surface water and groundwater."[85] Without such analysis, "there is an increased risk of failure or encountering unexpected conditions such as borehole collapse."[86]

Mountain Valley has demonstrated that it can perform these sorts of analyses in its Feasibility Assessments for six of the longest of the proposed trenchless crossings. There, Mountain went beyond the inadequate desktop analysis that it relies on for the vast majority of the crossings and conducted "test borings" as well as "Resistivity Imaging Stud[ies]" that "help identify the subsurface geology along the guided conventional bore path."[87] This sort of analysis is necessary to determine the likely impacts at all proposed trenchless crossings, not just a handful selected by Mountain Valley.

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bore path or encountering boulders greater than on third of the diameter of the installed pipe that may prevent bore completion.").

[85] Nimmer Report at 4.

[86] *Id.*; *see also id.* at 5 ("No information is provided regarding depths of water bodies, bathometry of surface water at crossings, cross-sections, an understanding of bank conditions and how these compare to the proposed depth of each borehole.").

[87] *See, e.g.,* Amendment Application, Appendix F at F-1. FERC has required this sort of geotechnical analysis in the past, such as when it required Mountain Valley to perform a geotechnical analysis of the feasibility of crossing the Pigg River by HDD. *See* EIS at 4-119 (discussing Mountain Valley performing "core drilling" and other analyses to determine if it is "geologically feasible to cross under the Pigg River").

Compounding Mountain Valley's omission of sufficient information to evaluate the likelihood of borehole failure is its refusal to provide any detailed plans for addressing such a failed boring operation. As noted above, "[o]ne or more failed boreholes should be considered a likely possibility."[88] "However, there is a very limited discussion of what actions will be taken if obstacles are encountered which cannot be accommodated by the drilling method, or what will occur if boreholes are abandoned to prevent environmental impacts."[89] Although Mountain Valley claims that it will "shift the bore entry ten feet to either side of the original bore entry and attempt another bore" in the event a bore cannot be completed,[90] "[t]his limited description is not a contingency plan for how a failed borehole will be properly abandoned to prevent forming a major hydraulic conduit underlying wetlands or surface water which may cause dewatering of surface water bodies."[91] A meaningful contingency plan must "assess how the decision will be made to terminate a bore, how the bore will be properly abandoned so it does not create a hydraulic conduit or damage overlying surface water, inspections, or what actions will be taken to prevent bore collapse or limit the potential for a release of pressurized drilling fluids."[92]

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[88] Nimmer Report at 6.

[89] *Id.*

[90] Amendment Application, Resource Report 1 at 1-9.

[91] Nimmer Report at 6.

[92] *Id.* at 8. Grouting, which is part of Mountain Valley's proposal, is not a panacea. *See* Nimmer Update at 3.

In addition to information necessary to characterize the geological conditions at each boring location, FERC also lacks the information needed to determine the extent of groundwater resources threatened by Mountain Valley's proposal. Because the boring activities have the potential to impact aquifers used for domestic water supplies, FERC must collect "[l]ocation specific data on wells, well depths, flow rates and water elevation."[93] The one groundwater study provided by Mountain Valley observed measurable effects from pit dewatering at a radius of 300 feet, but FERC has stated that the study is not appropriate to predict impacts to groundwater under the conditions present in the area of the proposed amendment.[94] Moreover, Mountain Valley only attempted to determine the presence of drinking water sources within 150 feet of the proposed bore pits, and relied on incomplete public databases to do so.[95] It is therefore "very likely that other drinking water wells are located near all or some of the crossings, and further investigation is needed to quantify the actual number of residences and private wells that may be affected by the proposed drilling."[96] Without additional investigation, FERC cannot

[93] *Id.* at 9; *see also id.* at 5 ("There is limited information provided regarding current groundwater use, documenting current conditions, or addressing how the proposed drilling activities will protect drinking water aquifers.").

[94] *See supra* note 50 and accompanying text.

[95] Nimmer Report at 8; *id.* at 9 ("It is worth noting that private wells in rural areas are not likely to be represented in publicly available databases that MVP used to search for drinking water wells. . . . Instead of relying on databases and limited outreach, a comprehensive survey should be completed to accurately identify how many residences and wells are within 500 feet of drilling areas, or which may be affected by bore operations.").

[96] Nimmer Report at 5.

determine "the radius of potential impacts" nor whether "the borehole depths are properly located away from aquifers that are currently used for drinking water, or may be in the future."[97]

Finally, Mountain Valley fails to include adequate information to evaluate how it will detect and respond to adverse impacts from its proposed boring operations. "There is no information provided about how impacts will be monitored to reduce likelihood of damage to surface water or groundwater resources."[98] In order to detect and mitigate such impacts, FERC must require documentation of baseline water quality and quantity conditions at each boring site, followed by "close monitoring of groundwater and surface water resources . . . so any impacts will be observed early before significant damage to resources can occur."[99] Without such assessment and monitoring, the impacts of the proposed waterbody crossings cannot be determined nor minimized.[100]

[97] *Id.*; *see also id.* ("Information must be provided by the applicant and addressed by FERC to assess the potential hydrological and drinking water impact of the proposed Certificate amendment and to ensure that appropriate measures are implemented to minimize effects on people nearby.").

[98] *Id.* at 7.

[99] *Id.*

[100] *Id.*

D. FERC May Not Authorize the Use of Alternative Crossing Methods Without Fully Evaluating and Disclosing the Impacts of Those Methods at Specific Locations as Part of the NEPA Process

In its application, Mountain Valley requests authorization to bore under streams using three methods: conventional bore, guided conventional bore, and Direct Pipe.[101] However, Mountain Valley also requests that:

> in the unlikely event of a bore failure, or in the event Mountain Valley encounters unexpected conditions that may affect the feasibility of its proposed trenchless crossing method, Mountain Valley requests that the Commission grant Mountain Valley *the optionality to complete such crossing by reverting to the open-cut method* where Mountain Valley has met all other applicable legal and permitting requirements to utilize the open-cut method, as *well as the flexibility to change to a trenchless crossing method other than specified in this Application*.[102]

There are several major problems with this request.

First, Mountain Valley's request could be read to seek authorization to employ trenchless crossing methods that are not identified in its application, *i.e.*, methods other than conventional bore, guided conventional bore, and Direct Pipe. FERC may not approve the use of any crossing methods for which it has not analyzed and disclosed the impacts through the NEPA process. Mountain Valley has not provided information necessary to determine the impacts of any additional crossing techniques. Accordingly, FERC may not authorize the use of any other methods not specifically evaluated, even as a contingency.

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[101] Amendment Application at 1 n.3.

[102] *Id.* at 8 (emphasis added).

Furthermore, FERC cannot not grant Mountain Valley authority to change the method of trenchless crossing (even to a method that has been analyzed in a supplemental NEPA document) at its discretion because the different crossing techniques are likely to have different impacts when applied at different locations. As Mountain Valley's Feasibility Assessments in its Amendment Application demonstrate, certain locations present risks that are not present at all crossing locations.[103] Moreover, certain trenchless techniques have a greater likelihood of causing more significant environmental impacts, such that knowing the extent to which those techniques will be used is essential to predicting the intensity of the potential impacts associated with Mountain Valley's requested amendment.[104]

Finally, Mountain Valley's request that it be authorized to revert to an open-cut method if its proposed boring methods proves unworkable is not sensible. Although Mountain Valley claims that the 2017 final EIS "already evaluated the impacts of open-cut crossings for the same aquatic features proposed herein to be changed to trenchless crossings,"[105] that is not the only legal hurdle it must clear to

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[103] *See, e.g., Id.*, Appendix F at F-1 (noting that at the Elk River crossing, geotechnical data reveals that groundwater is expected to be encountered in the bore pits); F-3 (noting that the C-035 crossing contains materials that will likely require rock drilling techniques as well as additional "clearing and grading on both the launch and receiving pits side"). *See also id.*, Appendix I Table 1 (showing that at least six of the crossings are in areas of sensitive karst geology).

[104] *Id.* Appendix, F at F-5 (noting that the Direct Pipe method proposed for the Greenbrier River crossing involves the use of bentonite, which presents contamination risks in the event of an inadvertent return that are not present with the conventional bore method in most instances).

[105] *Id.* at 8.

be authorized to conduct an open-cut crossing. Rather, Mountain Valley would need to obtain an additional individual permit from the Army Corps for that crossing under Clean Water Act Section 404.

But Mountain Valley is not seeking authorization from the Corps for the crossings for which it is currently seeking FERC authorization to employ trenchless techniques. Indeed, Mountain Valley in a footnote acknowledges that "[c]hanging the crossing method to an open cut would require review and approval by the Corps."[106] Because that review and approval would require an individual permit with its own attendant NEPA process and public notice and comment procedures (as well as a "least environmentally damaging practicable alternatives" review by the Corps), there is no reason for FERC to grant Mountain Valley that authority now without having all the relevant facts before it. Rather, in the event that Mountain Valley encounters circumstances that it believes require it to change the method of crossing from an approved trenchless method to an open-cut, it can request an additional certificate amendment from FERC at the same time it seeks Section 404 authority from the Corps. That modification can then be analyzed in a single NEPA document, with the benefit of FERC not having to speculate about the potential impacts of the change on its current NEPA analysis.

In sum, if Mountain Valley is not confident that it can successfully complete the crossings using the specific methods identified in its application, it must identify the alternative crossing methods for which it seeks authorization and

[106] *Id.*, n.15.

provide adequate information for FERC to evaluate the impacts of using those methods at those specific locations, taking into account the current environmental conditions at each location. Otherwise, it must return to FERC for additional authorization, subject to additional NEPA analysis, when it knows what crossing technique it will employ at a specific location.

E. FERC Must Consider Alternatives That Utilize Trenchless Crossings at Additional Locations

In the EA for the now-withdrawn application in FERC Docket No. CP21-12, FERC 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.[107]

[107]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).

Notably, in the amendment application in Docket No. 21-12, Mountain Valley proposed to use the conventional bore method at *every single waterbody* within the first 77 miles of the MVP route.[108] In its current application, however, Mountain Valley omits numerous of those crossings that it previously claimed were feasible to accomplish with the conventional boring method. Commenters do not necessarily agree that conventional bores or other trenchless methods will always be environmentally preferable given the significant potential environmental impacts associated with those techniques and the shortage of site-specific information in the record.[109] Nevertheless, in order to fulfill its obligations under NEPA—and to allow the Corps 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."[110] The "discussion of alternatives must rigorously explore and objectively evaluate all reasonable alternatives."[111] The obligation to consider alternatives flows from the NEPA statute itself and exists for any proposal "which

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[108] Accession No. 20201118-5179.

[109] *See supra* § I.C.

[110] 40 C.F.R. § 1502.14.

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

involves unresolved conflicts concerning alternative uses of available resources."[112] 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 and presents an unresolved conflict over how those crossings should occur. 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 proposed discharge which would have less adverse impact on the aquatic ecosystem."[113] 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

[112] 42 U.S.C. § 4332(2)(E).

[113] Acceptance of Cooperating Agency Responsibility at 3.

damaging practicable alternative."[114] 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."[115]

So far, 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. In its Corps application, Mountain Valley maintains that there are site specific considerations at each stream.[116] But Mountain Valley has never detailed what those site specific considerations are.[117] In particular, for its proposed boring locations, Mountain Valley asserts in a conclusory way and without explanation that "there are no . . . significant environmental impacts relevant to the available methods."[118] That is insufficient to allow a hard look at the environmental impacts at each crossing and determine whether those impacts are significant.

In sum, trenchless crossings represent one potential avoidance and minimization alternative for the crossings that Mountain Valley proposes to

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[114] *Id.*

[115] *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).

[116] Mountain Valley Pipeline Project, Individual Permit Application at 62 (Feb. 2021) (Accession No. 20210304-5122).

[117] *Id.*, Table 15.

[118] *Id.*

accomplish using the 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 crossing methods at all crossing locations.

F. FERC Must Provide Additional Opportunity for Public Review and Comment of Currently Outstanding Information Necessary to Assess the Impacts of the Proposal

While commenters appreciate the present opportunity to identify relevant environmental issues in this scoping process, additional opportunities are required for the public to adequately participate in the Commission's decisionmaking process. When seeking public input in the NEPA process, agencies 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." *Bering Strait Citizens for Responsible Dev. v. U.S. Army Corps of Eng'rs*, 524 F.3d 938, 953 (9th Cir. 2008). FERC has failed to provide adequate information to allow the public to develop complete comments and fully identify all significant issues that need to be addressed in the EIS.

As explained above, there are significant gaps in the information that Mountain Valley has provided that preclude a full assessment of the likely impacts of the proposed activities. Indeed, on April 12, 2021, just three days prior to the deadline for these scoping comments, Commission staff issued an environmental

information request to Mountain Valley seeking outstanding information that is "necessary for [FERC] to continue preparation of the National Environmental Policy Act document," and requested that Mountain Valley respond within 15 days.[119] The critical outstanding information that will not be subject to public review and comment as part of this scoping process includes:

- "the containment and disposal measures that would be used for any drilling fluid and/or lubricants to avoid potential impacts to resources during and after boring activities;"
- information concerning "the stability of the proposed bore pits," including a description of "how the bore pits would be constructed in order to prevent collapse;"
- information supporting Mountain Valley's claims regarding the likelihood of a bore deflection to breach the stream bottom;
- information regarding energy-dissipation devices that would purportedly mitigate the impacts of the discharges from borehole dewatering devices;
- the acreage of disturbance of riparian buffers;
- information regarding time-of-year restrictions relative to hibernation season for the Indiana bat;
- information necessary to determine the Environmental Justice implications of the proposed activity;
- information regarding the best management practices to be applied in areas of sensitive karst geology; and
- information necessary to determine the likelihood of boring failures including the likelihood of encountering "boulders more than one-third the size of the casing," "mixed-face conditions of soil and solid rock," and "flowing/heaving sands and artesian groundwater conditions."[120]

In order to satisfy NEPA's public participation goals, the public must have an opportunity to review and respond to Mountain Valley's responses to the

[119] Accession No. 20210412-3045.

[120] *Id.*

Commission's information request and any other information Mountain Valley may submit to fill the existing information gaps as part of the NEPA process. This fact further supports the conclusion that FERC must, after gathering adequate information, prepare a Supplemental EIS and circulate that document for public review and comment.

G. FERC Must Consider the MVP's Climate Change Impacts as Part of Its NEPA Analysis for the Proposed Amendment

FERC's environmental review must fully consider the climate impacts of this pipeline project and may not rely on the deficient and outdated discussion in its 2017 FEIS. President Biden's executive orders addressing climate change, as well as a recent FERC order, make clear that NEPA requires more. Because Mountain Valley's request for an amended certificate requires FERC to revisit the environmental impacts of the project, its reasonable alternatives, and whether the project is in the public interest, FERC must include a climate change analysis that comports with its current understanding of its NEPA obligations. Furthermore, if the Corps intends to rely on FERC's environmental review for its NEPA obligations associated with Mountain Valley's Clean Water Act Section 404 permit application, the environmental review must include a climate impacts analysis.

Because "[t]he harms associated with climate change are serious and well recognized,"[121] carefully considering a project's climate impacts is critical to any NEPA review—particularly when the project's very purpose is the transportation of

[121] *Massachusetts v. U.S. Envtl. Prot. Agency*, 549 U.S. 497, 521 (2007).

gas that will drive emissions of carbon dioxide and other greenhouse gases that contribute to climate change.[122] This pipeline project would generate end-use greenhouse gas emissions for its expected lifespan of fifty years,[123] in conflict with the national goals espoused in President Biden's recent executive orders.[124] Executive Order 14008 establishes the goals of "net-zero emissions, economy-wide, by no later than 2050."[125] In Executive Order 13990, 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."[126] The order reestablishes 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 scholars,[127] to "capture the full

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[122] *Cf. Sierra Club v. FERC*, 867 F.3d 1357, 1372 (2017) (holding that FERC must analyze the climate change effects for a project whose purpose is to burn gas in power plants).

[123] FEIS, at 2-58.

[124] *See* Exec. Order No. 14008, Tackling the Climate Crisis at Home and Abroad, 86 Fed. Reg. 7619, 7619 (Jan. 27, 2021); 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).

[125] Exec. Order No. 14008, 86 Fed. Reg. at 7619.

[126] Exec. Order 13990, 86 Fed. Reg. at 7037.

[127] *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 Gas*, 357 SCIENCE 655 (2017).

costs of greenhouse gas emissions as accurately as possible, including by taking global damages into account."[128]

Executive Order 13990 also makes clear that agencies should look to CEQ's 2016 guidance on climate change analysis during NEPA review.[129] That guidance recommends that agencies quantify greenhouse gas emissions and provide "a qualitative summary discussion of the impacts of GHG emissions."[130] The guidance also makes clear 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 sources of emissions each make a relatively small addition to global atmospheric GHG concentrations that collectively have a large impact."[131]

The analysis in the 2017 FEIS satisfies neither FERC's, nor 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

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[128] Exec. Order 13990, 86 Fed. Reg. at 7040.

[129] *See id.* at 7042.

[130] Council on Envtl. 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"].

[131] *Id.* at 11.

pipeline.[132] However, the FEIS 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."[133]

As FERC acknowledged last month, that approach falls short of NEPA's requirements.[134] In *Northern Natural Gas Company*,[135] FERC "for the first time assessed the significance of a proposed natural gas pipeline project's greenhouse gas emissions and their contribution to climate change."[136] 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."[137]

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[132] FEIS, at 4-488, 4-619–20.

[133] *Id.* at 4-620.

[134] News Release, FERC, *FERC Reaches Compromise on Greenhouse Gas Significance* (Mar. 18, 2021) [hereinafter "FERC News Release"], *available at* https://www.ferc.gov/news-events/news/ferc-reaches-compromise-greenhouse-gas-significance#.

[135] 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. MVP, with a capacity of 2.0 bcf/day, is one of the largest gas pipelines proposed anywhere in the country and is exactly the kind of gas pipeline project that poses the greatest risk of serious climate impacts.

[136] FERC News Release.

[137] *Id.*

FERC's order acknowledges the deficiency of its previous treatment of climate change impacts and provides additional details on how climate change impacts will be analyzed in similar projects. FERC notes: "In previous orders, the Commission has concluded that it was unable to assess the significance of a project's greenhouse gas (GHG) emissions or those emissions' contribution to climate change. Upon reconsideration, we no longer believe that to be the case."[138] The analysis proceeds by

> compar[ing] the project's reasonably foreseeable GHG emissions to the total GHG emissions of the United States as a whole. That comparison allows us to assess the project's share of contribution to GHG emissions at the national level, which provides [an agency] with a reasoned basis to consider the significance of the project's GHG emissions and their potential impact on climate change.[139]

The order further states that, "[f]or additional context, when states have GHG emissions reduction targets we will endeavor to consider the GHG emissions of a project on those state goals."[140] When states do not have emissions reduction targets, FERC stated that it could compare the project-related emissions to the state's emissions in a previous year.[141] Mountain Valley has not identified end users for the vast majority of the MVP's gas, but key downstream states have established rigorous carbon reduction programs that FERC must consider. Virginia has set a

[138] *N. Nat. Gas Co.*, 174 FERC ¶ 61189, at ¶ 29.

[139] *Id.* at ¶ 34.

[140] *Id.* at ¶ 35.

[141] *Id.*

goal of achieving a net-zero carbon energy economy by 2050[142] and has joined the Regional Greenhouse Gas Initiative ("RGGI") to help reach this target.[143] Virginia and the other RGGI members aim to collectively reduce power sector carbon dioxide emissions by 30% by 2030.[144] North Carolina, another downstream state,[145] 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.[146] FERC and the Corps should consider Virginia and North Carolina's recent policy achievements seeking a transition away from fossil fuels, especially their 2050 net-zero goals, when weighing their respective permitting decisions. For West Virginia and other downstream states lacking emissions reduction targets, the agencies should consider each state's baseline emissions, in addition to other relevant factors. Mountain Valley must disclose sufficient information to allow the agencies to do so.

In order to comply with Executive Order 13990 and provide meaningful analysis of the project's climate change impacts, the new NEPA document should

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

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

[144] Va. Dep't of Envtl. Quailty, *Carbon Trading*, https://www.deq.virginia.gov/air/greenhouse-gases/carbon-trading (last accessed April 14, 2021).

[145] If constructed, the MVP Southgate extension project (approved by FERC in Docket No. CP19-14) would carry a portion of the MVP's gas from the terminus of the MVP in Pittsylvania County, Virginia to North Carolina markets.

[146] N.C. Dep't of Envtl. Quality, Clean Energy Plan 11, 12 (2019), https://bit.ly/3evSnMC.

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."[147] 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.[148] Those harms include "changes in net agricultural productivity, human health, property damages from increased flood risk, and the value of ecosystem services."[149] 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.[150] Utilizing the Social Cost of Carbon provides a more concrete, comprehensible metric that will help FERC and the public assess the significance of the emissions. Additionally, it will allow FERC and the Corps "to incorporate the social benefits of reducing carbon

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

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

[149] *Id.* at 2.

[150] Interagency Working Group on Social Cost of Greenhouse Gases, Technical Support Document (2021), *available at* 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/.

dioxide (CO2) emissions" in the no-action alternative to building a new gas pipeline.[151]

FERC may not rely on the deficient discussion of climate change in its 2017 FEIS but rather must fully analyze the climate change impacts of the project due to Mountain Valley's request to amend its certificate. Although labeled an "amendment" rather than an application for a new certificate, the requested change is a major departure from the previous proposal that will result in previously unconsidered impacts to 182 waterbodies and wetlands. These changes were significant enough to require FERC to reopen its environmental review, without which the certificate cannot be amended and the pipeline cannot be built. FERC's new environmental review must include consideration of reasonable alternatives to the project, including the no-action alternative, which cannot be properly accomplished without analyzing climate change impacts. A complete analysis of the climate change impacts is therefore essential to reaching a well-reasoned determination as to whether the requested amendment is in the public interest. Mountain Valley has requested changes significant enough to require additional environmental review—that review should comport with FERC's current, improved understanding of NEPA's requirements with respect to climate change impacts and Executive Order 13990. It would be arbitrary for FERC to reopen the environmental

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

review without fixing the deficiencies it has identified with its discussion of climate impacts.

Moreover, the Corps may not rely on the climate change discussion in the 2017 FEIS when processing Mountain Valley's Section 404 permit application. In the event that FERC's 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, under NEPA[152] and as part of its own separate public interest review,[153] to consider the climate change impacts of Mountain Valley's proposal.

In sum, in order to comply with NEPA, President Biden's executive orders, and its own recently acknowledgment that it can and must fully evaluate climate impacts, FERC must provide a meaningful analysis of 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 end-use emissions—using the Social Cost of Carbon. The Corps must do the same, whether by relying on FERC's NEPA document or by considering climate change in a separate environmental review.

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[152] *See, e.g.*, *Wyo. Outdoor Council v. U.S. Army Corps of Eng'rs*, 351 F. Supp. 2d 1232, 1243 (D. Wyo. 2005) (holding that Corps' failure to assess cumulative impacts of proposed permit on non-wetland environmental resources was arbitrary and capricious under NEPA).

[153] *See* 33 C.F.R. § 320.4(a).

II. FERC May Not Grant the Proposed Amendment Absent State Certification or Waiver from West Virginia and Virginia under Section 401 of the Clean Water Act

The Commission's March 12, 2021 environmental information request asked Mountain Valley whether its application required new certifications under Section 401 of the Clean Water Act, 33 U.S.C. § 1341.[154] In Mountain Valley's response, submitted on March 29, 2021,[155] Mountain Valley takes the position that:

> [n]o additional 401 Water Quality Permit is required for the Amendment Project, including trenchless crossings of Section 10 streams. The Virginia State Water Control Board issued a water quality certification on December 8, 2017, that expressly covers future modifications to the Project approved by the Commission . . . . As required by the certification, Mountain Valley notified the Virginia Department of Environmental Quality of the Amendment Project on February 19, 2021. The West Virginia Department of Environmental Protection issued a general waiver of its authority to issue a water quality certification for the MVP Project on November 1, 2017 . . . .[156]

Mountain Valley included copies of the waiver from West Virginia and certification from Virginia that Mountain Valley claims obviate the need for Section 401 certifications or waivers now.[157]

Contrary to Mountain Valley's claim, the Commission cannot lawfully approve the requested certificate amendment without additional Section 401 certifications or waivers from West Virginia and Virginia.

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[154] Accession No. 2021-0310-3016.

[155] Accession No. 20210329-5300.

[156] *Id.* at 1

[157] See generally id. Attachment 1

As an initial matter, there is no genuine dispute that the requested certificate amendment triggers Section 401. Section 401 requires state certification before "a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters" may issue.[158] The name of the federal approval in question is immaterial so long as it would authorize an "activity which may result in any discharge."[159] Section 401 does not require any pollutant to be discharged: a discharge of water will suffice and the statute "is triggered by the potential for a discharge to occur, rather than the presence of an actual discharge."[160]

Section 401's standard is met here. Mountain Valley previously requested (and later withdrew its request for) a similar certificate amendment that would have approved fewer trenchless crossings than Mountain Valley seeks now, and Commission staff determined then that Mountain Valley's tunneling plan would have had environmental impacts "not considered in the final environmental impact statement (FEIS) issued in FERC Docket No. CP16-10-000,"[161] including the possibility of boreholes breaching stream bottoms and a chance that "bentonite or polymer-based lubricant . . . may enter surface waterbodies during drilling or

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[158] 33 U.S.C. § 1341(a)(1).

[159] *Del. Riverkeeper Network v. FERC*, 857 F.3d 388, 398 (D.C. Cir. 2017) (cleaned up).

[160] Environmental Protection Agency, Clean Water Act Section 401 Certification Rule, 85 Fed. Reg. 42,237 (Jul. 13, 2020).

[161] Accession No. 20210107-3064 at 6.

through inadvertent spills."[162] The same discharges surely may result here since the requested amendment involves even more crossings in even more challenging terrain using the same conventional bore method. Furthermore, probable discharges are not limited to those that Commission staff recently acknowledged. For example, Mountain Valley's current application contemplates dewatering of bore pits on a scale that suggests at least some pumped water will flow back into surface waters near the bore sites.[163] Since those flows would constitute discharge[s] into the navigable waters,"[164] the potential for those flows triggers Section 401.

Mountain Valley implicitly concedes that its requested certificate amendment would authorize activities that "may result in [a] discharge into the navigable waters."[165] Rather than claim its requested certificate amendment does not trigger Section 401, Mountain Valley elides the question and insists that it has already obtained the requisite approval in the form of a waiver from West Virginia and a certification from Virginia. Not so.

In reality, Commission precedent establishes that Mountain Valley's existing waiver from West Virginia and certification from Virginia do not cover its requested certificate amendment. Just three months ago, the Commission confirmed in *Pacific Connector Gas Pipeline, LP*, that Section 401 certifications are "specific to

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[162] *Id.* at 19–20.

[163] *See* Supplemental Environmental Report at 2-11, *available at* Accession No. 20210219-5179.

[164] 33 U.S.C. § 1341.

[165] *Id.*

individual federal authorization applications."[166] *Pacific Connector* involved a dispute over whether a state had waived through inaction but its rule is equally applicable here: a project proponent can "use a single application to request water quality certification for multiple federal authorizations, so long as doing so is permitted by the state certifying agency and the certification application is clear as to what authorizations the applicant is requesting certification for."[167] *Pacific Connector* is dispositive here. Mountain Valley's position rests on the premise that its existing state approvals—a waiver from West Virginia and a certification from Virginia—apply to something other than the "individual federal authorization application[]" it submitted for a certificate amendment, but *Pacific Connector* confirms that such a blanket approach is not permissible.[168]

In the case of West Virginia, crediting Mountain Valley's position requires the Commission to extend West Virginia's previous waiver to cover a different federal authorization with different associated discharges. Mountain Valley's position has two fatal flaws. First, West Virginia's 2017 waiver expressly stated that it 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."[169] The specific iteration of the MVP project contemplated

[166] 174 FERC ¶ 61,057, ¶ 25 (Jan. 19, 2021)

[167] *Id.* ¶ 26.

[168] *Id.* ¶ 25.

[169] 2017 Waiver, *available at* Accession No. 20210329-5300.

in 2017 in Docket No. CP-16-10-000 assumed that "[a]ll waterbody crossings for the MVP would be dry open-cut crossings."[170] In other words, West Virginia did not issue a blanket waiver for all project activities, as Mountain Valley claims; the state issued a waiver in response to a specific request for certification in connection with a specific federal authorization application.

Second, Mountain Valley's position is contrary to *Pacific Connector*, which explains that a certification decision for one federal authorization is not dispositive as to other federal authorizations. It is true that a single certification may cover multiple federal authorizations, but only if the applicant "is clear as to what authorizations the applicant is requesting certification for."[171] Mountain Valley cannot have satisfied that standard in 2017 as to its requested certificate amendment because the need for an amendment had not yet arisen and the EIS contemplated a wholly different approach to stream crossings with a different set of associated discharges.[172] To be sure, West Virginia's prior decision to waive its Section 401 certification authority may—or may not—foreshadow its choice as to the requested certificate amendment, but that choice is for West Virginia alone—not for the Commission and certainly not for Mountain Valley.

In the case of Virginia, Mountain Valley claims that the state's 2017 Section 401 certification covers subsequent changes to the project approved by the

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[170] Final Environmental Impact Statement (EIS) at 2-43.

[171] 174 FERC ¶ 61,057, ¶ 26.

[172] *See* FERC FEIS at 2-43.

Commission, purportedly including Mountain Valley's requested certificate amendment. However, Virginia's 2017 certification is not as broad as Mountain Valley claims, nor could it have been given the record before the Virginia State Water Control Board at the time. To start, Mountain Valley cherry picks a sentence from the "Definitions" section of Virginia's 2017 certification, which states that "[t]he 401 Water Quality Certification applies to the location of pipeline right of way, access roads, and appurtenances as described in the EIS and any changes thereto subsequently approved by [the Commission]."[173] This language most naturally applies only to those subsequent changes that remain within the scope of the EIS—that is, those that do not require supplemental review under the National Environmental Policy Act (NEPA)—but to the extent there is any ambiguity, the "Scope of Certification" section resolves it: "This Certification covers all relevant upland Project activities within the route identified in the [EIS]."[174] Furthermore, Virginia could not have rationally issued the sweeping certification in 2017 that Mountain Valley posits because the EIS assumed at that time that "[a]ll waterbody crossings for the MVP would be dry open-cut crossings" and did not evaluate impacts from the types of crossings now proposed.[175]

Whatever flexibility Virginia intended to confer upon the Commission by the language that Mountain Valley invokes, the requested certificate amendment is

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[173] *See* 2017 Certification at 2, *available at* Accession No. 20210329-5300.

[174] *Id.* at 3.

[175] FERC FEIS at 2-43.

beyond the scope of that flexibility. Indeed, by initiating supplemental NEPA analysis for the requested certificate amendment,[176] the Commission tacitly acknowledges that impacts from the requested certificate amendment would be different in both kind and degree from those associated with the variance requests that the Commission has approved for Mountain Valley in the past that were not supported by such analysis or new Section 401 certifications or waivers.[177]

When Commission staff prepared an environmental assessment studying Mountain Valley's now-withdrawn application for a more modest certificate amendment to conduct trenchless crossings, Commission staff opined that the amendment would result in less impact to resources than open-cut crossings.[178] This prediction may—or may not—prove true here, but it is beside the point. Section 401 authority belongs to the states, and neither West Virginia nor Virginia has had an opportunity to consider whether Section 401 certifications should issue for *this* federal authorization and *these* discharges. To our knowledge, Mountain Valley has not yet requested a new Section 401 certification for this certificate amendment from either state.[179] Absent such certifications or waiver thereof, according to the

[176] *See* Scoping Notice, Accession No. 20210316-3075.

[177] Whether the Commission's liberal use of variances for this pipeline is lawful is an issue beyond the scope of this letter and immaterial to the question of whether new Section 401 certifications are required for this amendment application.

[178] Accession No. 20210107-3064 at 6.

[179] Mountain Valley's notice to the Virginia Department of Environmental Quality on February 19, 2021, without more, is not enough to start the waiver clock because "a state certifying agency's mere awareness of an application filed with the Commission does not

plain terms of Section 401, the Commission may not grant Mountain Valley's requested amendment.

CONCLUSION

For the foregoing reasons, FERC may not grant Mountain Valley's Amendment Application unless and until it has gathered additional necessary information outlined above, issued a final Supplemental EIS following additional opportunity for public review and comment, and obtained Clean Water Act Section 401 certifications, or waiver thereof, from Virginia and West Virginia.

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sufficiently establish that the agency received a request for section 401 certification with respect to that application." *Pacific Connector*, 174 FERC ¶ 61,057 at ¶ 34.

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Dated: April 15, 2021.

CERTIFICATE OF SERVICE

I hereby certify that on April 15, 2021, I caused the foregoing document to be served by electronic mail upon each person designated on the official service list compiled by the Secretary in this proceeding.

/s/Benjamin A. Luckett
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APPALACHIAN MOUNTAIN ADVOCATES