October 27, 2021

Sent by Electronic Mail to MVP@DEQ.Virginia.gov
Steve Hardwick
Central Office
Virginia Department of Environmental Quality
P.O. Box 1105
Richmond, VA 23218


Dear Mr. Hardwick:

The Virginia Department of Environmental Quality (“DEQ”), acting under the authority of the Virginia State Water Control Board (“Board”), has solicited public comments on an application by Mountain Valley Pipeline, LLC (“Mountain Valley”), for a Virginia Water Protection (“VWP”) Permit Pursuant to Va. Code 62.1-44.15:20.D. This permit would act as a State Water Quality Certification pursuant to Section 401 of the Clean Water Act, 33 U.S.C. § 1341.


...
Salem, Protect Our Water, Heritage, Rights (POWHR), Sierra Club Virginia Chapter, Virginia Conservation Network, and Wild Virginia (the “Commenters”) respectfully submit the following comments on Mountain Valley’s application.¹

¹ We incorporate into our comments by reference, as if they were fully set forth herein, the exhibits cited herein, including, but not limited to, the following expert reports by reference, as if they were fully set forth herein:

- Starr Silvis, Review of Mountain Valley Pipeline, LLC’s Application for an Individual Section 404 Permit from the U.S. Army Corps of Engineers (May 27, 2021) (attached as Ex. 1);

- Catherine Dare and Timothy McAuley, Mountain Valley Pipeline (MVP) Project, Individual Permit Application – Virginia and West Virginia: Stream Crossing Cost Evaluation (2021) (attached as Ex. 2); and

- Evan Hansen and Meghan Betcher, Sediment Generation and Impacts from Dry-Ditch Open-Cut Stream Crossings Such as Those Proposed for the Mountain Valley Pipeline (May 26, 2021) (attached as Ex. 3).

There are a total of 82 exhibits to these comments, some of which are large electronic files. As directed in personal correspondence with DEQ, we will upload these exhibits to the agency’s Vitashare platform. Please inform us if there is any issue with the transmission of these exhibits.

References in these comments to the “draft permit” are to DEQ’s Draft VWP Individual Permit Number 21-0416. References to the “fact sheet” are to DEQ’s Draft Fact Sheet for VWP Individual Permit No. 21-0416. References to the “certification request” are to Mountain Valley’s March 4, 2021, Water Quality Certification Request submitted to DEQ.
# TABLE OF CONTENTS

I. MOUNTAIN VALLEY’S PROPOSED DISCHARGES CANNOT COMPLY WITH VIRGINIA’S WATER QUALITY STANDARDS.................................................................2

A. THE BOARD MUST DENY MOUNTAIN VALLEY’S APPLICATION BECAUSE MOUNTAIN VALLEY HAS NOT ESTABLISHED THAT DRY-DITCH, OPEN-CUT CROSSINGS ARE THE LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE.................................................................3

   1. OVERVIEW OF THE ALTERNATIVES ANALYSIS REQUIRED BY THE SECTION 404(B)(1) GUIDELINES. .................................................................6

   2. MOUNTAIN VALLEY HAS NOT REBUTTED THE PRESUMPTIONS APPLICABLE TO SPECIAL AQUATIC SITES..............11

   3. MOUNTAIN VALLEY CANNOT ESTABLISH THAT THERE ARE NOT LESS ENVIRONMENTALLY DAMAGING PRACTICABLE CONSTRUCTION METHOD ALTERNATIVES.................................................................20

      a. Mountain Valley’s “No Action (No Permit) Alternative” Examines an Alternative with the Wrong Level of Generality.................................20

      b. Mountain Valley’s Assertions Regarding Practicability Are Not Credible Because of Its Demonstrated History of Misrepresenting the Practicability of Alternative Crossing Construction Methods...............22

         i. Mountain Valley’s Initial FERC Permitting Efforts and 2016 Waterbody Crossing Review.................................................................23

         ii. Mountain Valley’s November 2020 Application to Amend its FERC Certificate.................................................................................29

      c. Mountain Valley’s Presentation of Logistical and Technical Issues at Each Crossing Is So Opaque and Inconsistent that It Would Be Arbitrary and Capricious for the Board to Rely on It. .........................36

      d. Mountain Valley Cannot Establish that Any Trenchless Crossings Are Impracticable from the Standpoint of Cost. ..................................45

   4. MOUNTAIN VALLEY CANNOT ESTABLISH THAT THERE ARE NOT LESS ENVIRONMENTALLY DAMAGING PRACTICABLE ROUTE ALTERNATIVES.................................................................54

      a. The Board Must Consider Routing Alternatives in Its Review of Mountain Valley’s Application; DEQ’s Assertions to the Contrary Are Legally Wrong..................................................................................54

      b. Neither Mountain Valley’s Application, Nor the Draft Permit, Addresses Routing Alternatives that Would Avoid and Minimize Adverse Impacts to State Waters....................................................66
5. MOUNTAIN VALLEY'S APPLICATION IS INCOMPLETE BECAUSE IT FAILS TO ENGAGE IN AN ALTERNATIVES ANALYSIS FOR ROAD CROSSINGS. .................................................................75

6. THE BOARD MUST NOT ALLOW MOUNTAIN VALLEY'S GAMBLING TO PREJUDICE THE ALTERNATIVES ANALYSIS OR THE DETERMINATION OF THE LEDPA. .............................................76

B. THE BOARD MUST DENY MOUNTAIN VALLEY'S APPLICATION BECAUSE THE PROPOSED DISCHARGES WILL CAUSE OR CONTRIBUTE TO WATER QUALITY STANDARDS VIOLATIONS AND SIGNIFICANT DEGRADATION OF VIRGINIA'S WATERS.................................................82

1. MOUNTAIN VALLEY UNDERSTATES THE IMPACTS ON WATER QUALITY, AQUATIC LIFE, AND AQUATIC ECOSYSTEMS FROM DRY-DITCH, OPEN-CUT CROSSINGS.........................................................83

2. THE MVP WILL CAUSE OR CONTRIBUTE TO VIOLATIONS OF WATER QUALITY STANDARDS..................................................................................................................99

   a. Mountain Valley’s Stream Crossings Will Cause or Contribute to Violations of Virginia’s Narrative Standard..................................................................................99

   b. Mountain Valley’s Stream Crossings Will Cause or Contribute to Violations of Virginia’s Antidegradation Policy. .................................................................105

      i. Tier 1 Antidegradation Rules Protect Already Impaired Streams. ..............................................................................................................110

      ii. Tier 2 Antidegradation Rules Protect High-Quality Streams. .........................................................................................................................112

3. THE MVP WILL CAUSE OR CONTRIBUTE TO SIGNIFICANT DEGRADATION OF THE WATERS OF THE UNITED STATES, LEADING TO NONATTAINMENT OF THE AQUATIC-LIFE USE...117

   a. Mountain Valley’s Stream Crossings Threaten Significant Adverse Effects to Fish and Shellfish. ..................................................................................118

   b. Mountain Valley’s Crossings Threaten Significant Adverse Effects to Life Stages of Aquatic Life and Other Wildlife. .................................120

   c. Mountain Valley’s Crossings Threaten Significant Adverse Effects to Aquatic Ecosystem Diversity, Productivity, and Stability. ..........122

4. THE DRAFTS PERMIT'S “STRUCTURAL STABILITY” DISCLAIMER COULD LEAD THE BOARD TO IGNORE POTENTIALLY SIGNIFICANT WATER QUALITY IMPACTS.................................124

C. MOUNTAIN VALLEY HAS NOT PROVIDED SUFFICIENT INFORMATION TO ALLOW THE BOARD TO DETERMINE THAT THE PROPOSED ACTIVITY WILL COMPLY WITH WATER QUALITY STANDARDS.................................................................125
1. POST-CONSTRUCTION INSPECTION AND MONITORING DATA IS REQUIRED FOR EACH OF MOUNTAIN VALLEY’S COMPLETED CROSSINGS................................................................. 134

2. ADDITIONAL INFORMATION IS NEEDED TO DETERMINE THE CUMULATIVE EFFECTS OF THE HUNDREDS OF CROSSINGS PROPOSED BY MOUNTAIN VALLEY................................ 139

3. MOUNTAIN VALLEY’S PERMIT APPLICATION OMITS LIKELY AFFECTED WATERBODIES. ..................................................................................................................... 145

D. THE BOARD CANNOT CERTIFY THE MVP BECAUSE ALL APPROPRIATE AND PRACTICABLE STEPS HAVE NOT BEEN TAKEN TO MINIMIZE POTENTIAL ADVERSE IMPACTS TO THE AQUATIC ECOSYSTEM. ..................................................................................................................... 147

1. MOUNTAIN VALLEY’S RESTORATION PLANS ARE INADEQUATE BECAUSE THEY DO NOT INCLUDE APPROPRIATE AND PRACTICABLE STEPS TO MINIMIZE ADVERSE IMPACTS TO WETLANDS AND STREAMS. ......................................................... 150

   a. Mountain Valley’s Restoration Plans Would Not Minimize Adverse Impacts to Streams and Wetlands................................................................. 151

      i. Mountain Valley’s existing plans are bare-bones and one-size-fits-all................................................................. 151

      ii. The Draft Permit’s Conditions Related to Restoration Are Inadequate to Ensure Successful Restoration................................. 154

   b. Mountain Valley Has Not Established that Simply Rebuilding Streambeds Restores Ecological Function......................................................... 156

   c. Mountain Valley’s Sole Existing Criterion for Successful Restoration of Streambanks and Wetlands Does Not Minimize Impacts to Ecological Functions................................. 158

   d. Even Compliant Restoration Efforts Would Not Reverse Expected and Significant Adverse Impacts, Including Cumulative Impacts..... 160

2. THE BOARD CANNOT ALLOW MOUNTAIN VALLEY TO RELY ON TOYRS AS A MINIMIZATION TECHNIQUE AND SIMULTANEOUSLY RESERVE THE RIGHT TO SEEK WAIVERS OF SUCH RESTRICTIONS. ..................................................................................................................... 166

3. MOUNTAIN VALLEY’S RELIANCE ON FERC’S WATERBODY AND WETLAND PROCEDURES IS INSUFFICIENT TO MINIMIZE THE IMPACTS OF ITS CROSSINGS.......................... 171

4. USE OF A RISK-BASED ASSESSMENT WOULD CONSTITUTE AN APPROPRIATE AND PRACTICABLE STEP TO MINIMIZE THE EFFECTS OF MOUNTAIN VALLEY’S PROPOSED DISCHARGES, IF PERMITTING THOSE DISCHARGES WERE LAWFUL. ................. 173
E. ANY SOCIAL OR ECONOMIC IMPORTANCE OF THE PROPOSED PROJECT IS NOT SUFFICIENT TO JUSTIFY THE DEGRADATION THAT ITS DISCHARGES WOULD CAUSE IN TIER 2 STREAMS. ........................... 175

1. THE PUBLIC’S INTEREST IN COMBATTING CLIMATE CHANGE PRECLUDES BUILDING THE MVP. ............................................................ 176
   a. Our National Objective is Now to Quickly Shift the National Economy Away from Fossil Fuels ......................................................... 179
   b. The MVP Proposal Conflicts With Our Nation’s Energy Trajectory. 184

2. THE LACK OF PUBLIC NEED FOR THE MVP WEIGHS HEAVILY AGAINST FINDING THAT THE PROJECT IS NECESSARY FOR SOCIAL AND ECONOMIC REASONS. .................................................. 187
   a. Mountain Valley’s Claims of Increasing Demand in the Energy Markets Purported to be Served by the MVP are Contradicted by the Available Evidence .............................................................. 191
      i. The Southeast ........................................................................ 191
         (a) With No New Gas-Fired Power Plants on the Horizon and Sufficient Pipeline Capacity to Meet the Generation Demands of Existing Plants, Any Purported Need for the MVP to Serve Electrical Utilities in Virginia Has Evaporated ........................................ 193
         (b) Demand for Natural Gas for Power Generation Has Also Declined in North Carolina, a Trend That Will Continue Under the State’s New Clean Energy Plan .................................................. 199
         (c) Newly Proposed and Recently Completed Projects Further Diversify the Region’s Gas Supply .................................................. 203
      ii. Mid-Atlantic and Northeast ...................................................... 205
   b. The MVP’s Capacity Contracts are not Reliable Indicators of Need for the Project in Light of the Anchor Shipper’s Statements that it no Longer Needs or Desires Capacity on the MVP .................................... 210

3. CONSIDERATION OF PROPERTY OWNERSHIP FAVORS DENYING MOUNTAIN VALLEY’S PERMIT APPLICATION .......... 214

II. THE RECENT VACATUR OF EPA’S 2020 SECTION 401 CERTIFICATION RULE AFFECTS THE BOARD’S ANALYSIS OF MOUNTAIN VALLEY’S APPLICATION .......................................... 221

A. THE VACATUR OF THE 2020 CERTIFICATION RULE MAKES CLEAR THAT THE BOARD MUST EVALUATE THE MVP’S IMPACT ON VIRGINIA’S GROUNDWATER AND, IF IT CERTIFIES THE PROJECT, MUST INCLUDE CONDITIONS TO PROTECT GROUNDWATER .......... 221
B. THE VACATUR OF THE 2020 CERTIFICATION RULE MERITS THE BOARD REQUESTING THE FULL ONE-YEAR PERIOD TO ACT ON MOUNTAIN VALLEY'S APPLICATION

C. DESPITE THE RECENT VACATUR OF THE 2020 CERTIFICATION RULE, THE BOARD SHOULD NONETHELESS PROVIDE DETAILED JUSTIFICATION WHEN DENYING MOUNTAIN VALLEY’S APPLICATION
INTRODUCTION

Having twice failed to obtain lawful verifications under Nationwide Permit 12, Mountain Valley now seeks an individual permit under Section 404 from the United States Army Corps of Engineers (the “Corps”) for discharges of dredged and/or fill material associated with the proposed Mountain Valley Pipeline (the “MVP”). Because that permit would authorize discharges into Virginia’s waters, a certification under Section 401 of the Clean Water Act from the Board is required. The activities related to Mountain Valley’s proposed 304-mile-long pipeline span two states, three Corps districts, and two Corps divisions. In Virginia, in addition to impacts on two Section 10 rivers, the permit sought would authorize the discharge of dredged and/or fill material into more than three linear miles of streams and 9.41 acres of wetlands.

Consistent with the concerns expressed below, the United States Environmental Protection Agency (“EPA”) recently recommended that the Corps deny Mountain Valley’s individual permit application absent significant additional information and alterations to the project. EPA explained:

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


It is not apparent that all impacts have been minimized, nor is it evident that the direct, secondary, and cumulative impacts have been thoroughly evaluated and mitigated so that the proposed project will not cause or contribute to significant degradation of the waters of the United States. EPA recommends modifications to the permit application and project be undertaken to address the detailed comments identified in the attached enclosure.\(^5\)

The materials that Mountain Valley has provided do not remedy the deficiencies identified by EPA. Because, as explained below, the proposed discharges cannot comply with Virginia’s water quality standards, the Board must deny the application for a Section 401 certification.

**I. MOUNTAIN VALLEY’S PROPOSED DISCHARGES CANNOT COMPLY WITH VIRGINIA’S WATER QUALITY STANDARDS.**

As explained more fully below, Mountain Valley’s alternatives are not the least environmentally degrading practicable alternatives required by Virginia’s antidegradation policy and will cause violations of Virginia’s water quality standards. Moreover, Mountain Valley’s application does not provide sufficient information to support the issuance of a Section 401 certification, and the company has not sufficiently minimized its discharges in accordance with Virginia’s antidegradation policy. Finally, any positive socioeconomic effects of the MVP do not outweigh the degradation it would cause to Tier 2

\(^5\) Id. at 2.
waters under Virginia’s antidegradation policy. For those reasons, the Board must deny the pending application.

A. THE BOARD MUST DENY MOUNTAIN VALLEY’S APPLICATION BECAUSE MOUNTAIN VALLEY HAS NOT ESTABLISHED THAT DRY-DITCH, OPEN-CUT CROSSINGS ARE THE LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE.

Virginia law expressly incorporates the Clean Water Act Section 404(b)(1) Guidelines’ requirement that a proposed activity that will discharge into state waters must be “the least environmentally damaging practicable alternative” or “LEDPA.” Specifically, the Board’s regulations provide that, for an application for a Section 401 certification to be complete, it must include, inter alia,

[an alternatives analysis for the proposed project detailing the specific on-site and off-site measures taken during the project design and development to first avoid and then minimize impacts to surface waters to the maximum extent practicable in accordance with the Guidelines for Specification of Disposal Sites for Dredged or Fill Material, 40 CFR Part 230. Avoidance and minimization includes, but is not limited to, the specific on-site and off-site measures taken to reduce the size, scope, configuration, or density of the proposed project, including review of alternative sites where required for the project, which would avoid or result in less adverse impact to surface waters, and documentation demonstrating the reason the applicant determined less damaging alternatives are not practicable. The analysis shall demonstrate to the satisfaction of the board that avoidance and minimization opportunities have been identified and measures have been applied to the proposed activity such that the proposed activity in terms of impacts to

---

state waters and fish and wildlife resources is the least environmentally damaging practicable alternative.\textsuperscript{7}

The Board must deny a 401 certification when “[t]he project that the applicant proposed fails to adequately avoid and minimize impacts to state waters to the maximum extent practicable.”\textsuperscript{8}

Moreover, and as discussed further below, among the water quality standards with which the Board must ensure compliance during its review of an application for a Section 401 certification is the State’s antidegradation policy and implementation plan.\textsuperscript{9} Virginia’s antidegradation policy must be construed and applied consistently with EPA’s regulation codified at 40 C.F.R. § 131.12(a). That regulation requires the Board to engage in an alternatives analysis for Tier 2 waters similar to the least environmentally damaging

\textsuperscript{7} Id.

\textsuperscript{8} Id. § 25-210-2301(A)(3).

practicable alternatives analysis required by the 404(b)(1) Guidelines. In relevant part, EPA’s regulation provides that:

The State shall develop and adopt a statewide antidegradation policy. The antidegradation policy shall, at a minimum, be consistent with the following:

**

(ii) Before allowing any lowering of high water quality, pursuant to paragraph (a)(2) of this section, the State shall find, after an analysis of alternatives, that such a lowering is necessary to accommodate important economic or social development in the area in which the waters are located. The analysis of alternatives shall evaluate a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity. When the analysis of alternatives identifies one or more practicable alternatives, the State shall only find that a lowering is necessary if one such alternative is selected for implementation.\(^\text{11}\)

Virginia’s antidegradation policy\(^\text{12}\) and its attendant implementation policy\(^\text{13}\) must be interpreted consistently with 40 C.F.R. § 131.12(a)(ii).

The following comments are adapted from those submitted to the Army Corps of Engineers on Mountain Valley’s alternatives analysis. However, the flaws in Mountain Valley’s alternatives analysis identified below also preclude the Board from concluding that the Mountain Valley has identified the LEDPA for each crossing or will comply with Virginia’s antidegradation provisions.

---

\(^{10}\) See \textit{Mountain Valley Pipeline}, 990 F.3d at 830 (recognizing similarities between the alternatives analyses required by antidegradation policies and the 404(b)(1) Guidelines).

\(^{11}\) 40 C.F.R. § 131.12(a)(ii).


\(^{13}\) Va. Dep’t of Envtl. Quality, Guidance Memo No. 00-2011, Guidance on Preparing VPDES Permit Limits (Aug. 24, 2000), at 6–14 (attached as Ex. 5)).
because (1) the Board’s regulations incorporate by reference the Corps’ LEDPA requirements and require the Board to deny 401 certifications to projects that do not fully avoid and minimize adverse impacts and (2) the United States Court of Appeals for the Fourth Circuit has equated the alternatives analyses for antidegradation purposes with those required by the Corps’ 404(b)(1) Guidelines. As explained below, Mountain Valley’s alternatives analysis is wholly inadequate.

1. OVERVIEW OF THE ALTERNATIVES ANALYSIS REQUIRED BY THE SECTION 404(B)(1) GUIDELINES.

Because the Board’s regulations require it to apply the alternatives analysis required by the Section 404(b)(1) Guidelines,14 the Board must familiarize itself with the relevant requirements for that analysis. The 404(b)(1) Guidelines prohibit the issuance of permits where “there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem[].”15 “[P]racticable alternatives include, but are not limited to, (i) Activities which do not involve a discharge of dredged or fill material into the waters of the United States” and “(ii) Discharges of dredged or fill material at other locations in waters of the United States or ocean waters[].”16 This is commonly referred to as the “least environmentally damaging practicable alternative”—or “LEDPA”—analysis.

15 40 C.F.R. § 230.10(a).
16 Id. § 230.10(a)(1).

—6—
The burden to demonstrate that the proposed alternative is the least environmentally damaging alternative lies on the applicant—and the same is true under Virginia law. In performing the LEDPA analysis, the reviewing agency has “an obligation to independently verify the information supplied to it” by the applicant.

As explained below, Mountain Valley’s LEDPA analysis is wholly inadequate. EPA—the author (in conjunction with the Corps) of the Section 404(b)(1) Guidelines—instructs that, in order to comply with the Guidelines,

The record [for the permit at issue] must contain sufficient information to demonstrate that the proposed discharge complies with the requirements of Section 230.10(a) of the Guidelines. The amount of information needed to make such a determination and the level of scrutiny required by the Guidelines is commensurate with the severity of the environmental impact (as determined by

17 Utahns for Better Transp. v. U.S. Dep’t of Transp., 305 F.3d 1152, 1187 (10th Cir. 2002), modified on reh’g, 319 F.3d 1207 (10th Cir. 2003); see also All. for Legal Action v. U.S. Army Corps of Eng’rs, 314 F. Supp. 2d 534, 543 (M.D.N.C. 2004) (holding “the burden to clearly demonstrate a lack of practicable alternatives lies with the project applicant”).

18 9 Va. Admin. Code 25-210-80(B)(1)(g) (requiring the applicant to submit, along with its application “documentation demonstrating the reason the applicant determined less damaging alternatives are not practicable” and to “demonstrate to the satisfaction of the board that avoidance and minimization opportunities have been identified and measures have been applied to the proposed activity such that the proposed activity . . . . is the least environmentally damaging practicable alternative”).

As EPA explains it, “[t]he burden of proof to establish compliance with the Guidelines rests with the applicant; where insufficient information is provided to determine compliance, the Guidelines require that no permit be issued.” Memorandum to the Field, Subject: Appropriate Level of Analysis Required for Evaluating Compliance with the Section 404(b)(1) Guidelines Alternatives Requirements (Aug. 23, 1993), available at 62 Fed. Reg. 31,492, 31,499 (June 9, 1997).

19 Friends of the Earth v. Hintz, 800 F.2d 822, 835 (9th Cir. 1986).
the functions of the aquatic resource and the nature of the proposed activity) and the scope/cost of the project.\(^{20}\)

Here, the literature establishes that the potential environmental impacts could be severe and permanent.\(^{21}\) Moreover, as discussed below, the cost of the project is astronomical: the MVP is a **$6.2 billion** project.\(^{22}\) Mountain Valley’s proposed pipeline is unprecedented. It stands out as one of the largest gas transmission lines attempted through the steep, forested mountains of Appalachia.\(^{23}\) Accordingly, a tremendous amount of information and scrutiny


\(^{21}\) See generally Section I.B.1, infra.


\(^{23}\) Jacob Hileman, Ph.D., conducted a review of the pipelines authorized by FERC from 1997 to 2020. Letter from Jacob Hileman, Ph.D., to Kimberly Bose, Secretary, Fed. Energy Regul. Comm’n Re: Mountain Valley Pipeline, Docket No. CP16-10-000, Request for an Extension of Time at 6 (Sept. 9, 2020) (attached as Ex. 6). Dr. Hileman found, *inter alia*, that (a) the MVP would cross more high-slope risk terrain than any other pipeline he reviewed, *id.* at 8; (b) “the MVP crosses more miles of steep slopes than any other large-diameter gas pipeline approved by the Commission since 1997,” *id.* at 9; and (c) “[w]ith the notable exception of the now-cancelled [Atlantic Coast Pipeline], the MVP impacts farm more upland forest (4,453.1 acres) than all other large-diameter gas pipelines[,]” *id.* at 11. For the Board’s purposes, Dr. Hileman’s conclusions ranking MVP’s effects on streams is of utmost importance:

The MVP crosses more perennial waterbodies than any other large gas pipeline approved by FERC since 1997, even including pipelines that are hundreds of miles longer. Only the now-cancelled [Atlantic Coast Pipeline] would have crossed more perennial streams.

*Id.* at 12.
are required for the LEDPA analysis for this project. As discussed below, the application falls short of those requirements.

Under the Section 404(b)(1) Guidelines, there are at least two classes of practicable alternatives that must be considered:

(i) Activities which do not involve a discharge of dredged or fill material into the waters of the United States or ocean waters; [and]
(ii) Discharges of dredged or fill material at other locations in waters of the United States or ocean waters.  

For purposes of considering Mountain Valley’s application, alternatives under Subsection 230.10(a)(1)(i) should be considered “construction method alternatives,” and alternatives under Subsection 230.10(a)(1)(ii) should be considered “routing alternatives.” Virginia’s regulations similarly require consideration of both “construction method alternatives” and “routing alternatives.” Mountain Valley’s presentation of each of these types of alternatives is so severely flawed that the Board must deny Mountain Valley’s application.

This is not just the Commenters’ position—it is EPA’s as well. On May 27, 2021, EPA Region 3 submitted comments to the Corps on Mountain Valley’s pending application for an individual Section 404 permit for the MVP’s

---

24 40 C.F.R. § 230.10(a)(1)(i)–(ii).
25 9 Va. Admin. Code § 25-210-80(B)(1)(g) (requiring a review of “specific on-site and off-site measures taken to reduce the size, scope, configuration, or density of the proposed project” as part of the alternatives analysis).
26 Id. § 25-210-80(B)(1)(g) (requiring a review of “alternative sites” as part of the alternatives analysis).
waterbody crossings. In those comments, EPA Region 3 stated that the MVP “may not comply with the [Section 404(b)(1) Guidelines,” and recommended “that the permit not be issued until modifications described in the attachment . . . have been addressed and incorporated into the project.” Among the reasons underlying EPA’s recommendations were its concerns about Mountain Valley’s presentation of crossing alternatives.

EPA recognized that alternatives to the proposed action should include “not only geographical siting but also operational options, such as design modifications.” To accomplish a robust alternatives analysis, EPA recommended that “a full range of practicable alternatives” be considered for each crossing. Indeed, EPA specifically recommended further consideration of trenchless crossings “at streams where [such methods are] not currently proposed, particularly streams that will be crossed multiple times, streams that are of good quality, and/or streams that may contain threatened or endangered aquatic species . . .” EPA’s assessment was based on Table 15 to Mountain Valley’s application, which has not substantively changed since EPA’s review.

---

27 Lapp Letter.
28 Id. at 2.
29 Id. at 4–6.
30 Id. at 4.
31 Id.
32 Id. at 5.
EPA’s recommendations echo the Commenters’ consistent refrain: DEQ’s and the Board’s review must include site-specific, crossing-by-crossing alternatives analysis to ensure that there are not less environmentally damaging practicable alternatives available.

2. MOUNTAIN VALLEY HAS NOT REBUTTED THE PRESUMPTIONS APPLICABLE TO SPECIAL AQUATIC SITES.

As a threshold matter, it must be noted that Mountain Valley has failed to rebut the presumptions of available alternatives applicable to special aquatic sites. For projects (like the MVP) that are not water dependent, alternatives to discharges into special aquatic sites—which include, among other things, wetlands and streams with riffle and pool complexes—“are presumed to be available, unless clearly demonstrated otherwise.” Where that presumption applies, a permit cannot issue “unless the applicant, ‘with independent verification [by the permitting authority], . . . provide[s] detailed, clear and convincing information proving’ that an alternative with less adverse impact is ‘impracticable.’” “[T]he burden is on the Applicant . . . , with independent verification by the [permitting authority] to provide detailed, clear and convincing information proving impracticability.” And the

33 40 C.F.R. § 230.10(a)(2).

34 Greater Yellowstone Coal. v. Flowers, 359 F.3d 1257, 1269 (10th Cir. 2004) (quoting Utahns for Better Transp., 305 F.3d at 1186–87; first modification added; emphasis in Utahns for Better Transp.).

35 Utahns v. Better Transp., 305 F.3d at 1186 (emphasis in original).
permitting authority must take a hard look at the [applicant’s] proposals” to determine whether the presumption of practicable alternatives has been overcome. Because Virginia law incorporates the LEDPA requirements of the Section 404(b)(1) Guidelines by reference, the Board is bound by the special aquatic site presumptions and requirements in its review of Mountain Valley’s application.37

Under the Section 404(b)(1) Guidelines, special aquatic sites include wetlands and streams with riffle and pool complexes.38 Regarding the latter, the Guidelines state:

(a) Steep gradient sections of streams are sometimes characterized by riffle and pool complexes. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. Pools are characterized by a slower stream velocity, a steaming flow, a smooth surface, and a finer substrate. Riffle and pool complexes are particularly valuable habitat for fish and wildlife.

(b) Possible loss of values: Discharge of dredged or fill material can eliminate riffle and pool areas by displacement, hydrologic modification, or sedimentation. Activities which affect riffle and pool areas and especially riffle/pool ratios, may reduce the aeration and filtration capabilities at the discharge site and downstream, may reduce stream habitat diversity, and may retard repopulation of the disposal site and downstream waters through sedimentation and the creation of unsuitable habitat. The discharge of dredged or fill material which alters stream

37 9 Va. Admin. Code § 25-210-80(B)(1)(g) (providing that 401 certification applications are governed in accordance with the Section 404(b)(1) Guidelines).
hydrology may cause scouring or sedimentation of riffles and pools. Sedimentation induced through hydrological modification or as a direct result of the deposition of unconsolidated dredged or fill material may clog riffle and pool areas, destroy habitats, and create anaerobic conditions. Eliminating pools and meanders by the discharge of dredged or fill material can reduce water holding capacity of streams and cause rapid runoff from a watershed. Rapid runoff can deliver large quantities of flood water in a short time to downstream areas resulting in the destruction of natural habitat, high property loss, and the need for further hydraulic modification.39

Mountain Valley’s proposed activities would impact wetlands at 113 locations in Virginia.40 The presumption of practicable alternatives applies to each wetland crossing.41 And the Board must ensure that wetland impacts are avoided and minimized “to the maximum extent practicable.”42

Although Mountain Valley’s application establishes that its proposed activities will impact riffle and pool complexes, Mountain Valley has made little effort to quantify those impacts or to distinguish in its various stream impact tables which streams have riffle and pool complexes at the crossing locations. Mountain Valley’s 401 certification application is silent about riffle and pool complexes. All Mountain Valley states in its 404 application about riffle and pool complexes is that, “[a]s part of the stream restoration process, Mountain Valley will replace the stream substrate and restore the streambed

39 Id. § 230.45.
41 40 C.F.R. § 230.10(a)(2).
as close as practicable to preexisting contours.”

As discussed elsewhere in these comments, restoration of geomorphologic stream characteristics does not have a good track record. In any event, promising to restore riffle and pool complexes is not sufficient under the Section 404(b)(1) Guidelines. Rather, Mountain Valley must first avoid impacting those special aquatic sites.

To be sure, Mountain Valley has included some information about riffles and pools at some locations in the stream forms it submitted along with its application. But burying such important data in those forms places an excessive burden on DEQ and the Board to review that data and consider it in deciding whether a proposed crossing is the LEDPA. Because Mountain Valley

---


44 See Section I.D.1.b, infra.

45 40 C.F.R. § 230.10(a)(2) (presuming availability of practicable alternatives); see also Ohio Valley Envtl. Coal. v. Aracoma Coal Co., 556 F.3d 177, 202 (4th Cir. 2009) (recognizing that an applicant must first avoid impacts, before turning to minimization and mitigation); 9 Va. Admin. Code § 25-210-10 (defining “mitigation” to require avoidance and then minimization sequentially).

46 Mountain Valley also recently stated that it is gathering additional information about riffle and pool complexes and will submit supplemental information to DEQ. Attachment 6 at 9 & n. 3, 19, to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213. The Board must apply the presumptions to any locations with riffle and pool complexes identified in that supplemental data. Moreover, DEQ and the Board should solicit public comment on those supplemental data. 33 U.S.C. § 1341(a)(1) (requiring public notice of information in applications for 401 certifications); Va. Code Ann. § 62.1-44.15(20)(B) (requiring opportunity for public comment); 9 Va. Admin. Code § 25-210-150 (requiring that public be given access to all information pertaining to an application).
has failed to clearly identify these resources, before DEQ or the Board can
determine that a proposed crossing is the LEDPA, they must review the stream
forms and determine whether the proposed crossing affects special aquatic
sites, and if it does, they must apply the presumptions that less
environmentally damaging alternatives are available.

Because Mountain Valley has treated riffle and pool complexes so
dismissively in its application, the full extent to which Mountain Valley is
proposing to discharge into riffle and pool complexes is unclear. As a result, it
is impossible to know to which stream crossings the special aquatic site
presumptions apply. Accordingly, the Board must require Mountain
Valley to review every stream discharge location for riffle and pool
complexes before the Board can process Mountain Valley’s
application; otherwise the Board will not be able to properly apply the
special aquatic site presumptions. But, based on Mountain Valley’s
concession in its application that riffle and pool complexes will be affected, and
based on its stream assessment information, it cannot be disputed that the
presumptions apply to at least some of the proposed crossings.\footnote{Our review of Mountain Valley’s stream assessment forms reveals that the company is seeking permission to make discharges associated with dry-ditch, open-cut stream crossings identified at least 22 streams where the stream assessment forms quantify the affected stream reach as consisting of a combination of both riffles and pools at a percentage of 75% of the stream reach or greater. Specifically, using Mountain Valley’s stream identifier codes, those streams are S-Q13, S-G29, S-G30, S-G33, S-G35, S-IJ18, S-OO13, S-NN11, S-IJ52, S-G39, S-IJ1, S-F9B, S-E18, S-H37, S-D7, S-CC10, S-CC11, S-CC1, S-Q3, S-68, S-OO1, and S-OO2 (see Virginia-Norfolk Stream Forms).}
The 404(b)(1) Guideline’s presumptions applicable to the wetlands and riffle and pool complexes in the MVP’s path are twofold. As the Corps’ Huntington District explains to applicants in its “Checklist for Preparing an Alternatives Analysis Under Section 404 of the Clean Water Act”:

The Guidelines include two rebuttable presumptions for projects with discharges of dredged and/or fill material into waters of the U.S. which involve special aquatic sites that do not require access to or siting within the special aquatic site(s) to achieve their basic essence (basic project purpose). All practicable alternatives not involving a discharge into special aquatic sites are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise. The first presumption states that alternatives that do not affect special aquatic sites are presumed to be available. The second presumption states that practicable alternatives located in non-special aquatic sites (e.g., other waters, uplands, etc.) have less adverse impact on the aquatic ecosystem. It is the applicant’s responsibility to clearly demonstrate to the Corps that both of these presumptions have been rebutted in order to pass the alternatives portion of the Guidelines.48

Here, Mountain Valley has failed to carry its burden to rebut either presumption.

Where Mountain Valley proposes to use dry-ditch, open-cut crossings through wetlands and streams with riffles and pools, Mountain Valley has failed to clearly demonstrate that it can rebut the presumption that there are practicable alternatives that do not affect wetlands or streams with riffles and pools.

pools. Mountain Valley must rebut that presumption on a crossing-by-crossing basis. It has not done so either by clearly demonstrating that there are (1) no practicable “construction method alternatives” under Subsection 230.10(a)(1)(i) and 9 Virginia Administrative Code § 25-210-80(B)(1)(g) or (2) no practicable “routing alternatives” under Subsection 230.10(a)(1)(ii) and 9 Virginia Administrative Code § 25-210-80(B)(1)(g).

In a recent response to comments that it sent to the Corps, Mountain Valley contends that the information in Table 15 is “sufficient to overcome the regulatory presumptions relating to special aquatic sites.” That is not so.

With regard to “construction method alternatives,” as discussed elsewhere in these comments, Mountain Valley’s analysis in Table 15 falls woefully short of establishing that a dry-ditch, open-cut crossing is the LEDPA at any location, regardless of whether special aquatic sites are present or not. For those same reasons, Mountain Valley has failed to prove that a practicable trenchless method is not available at any of the 113 wetlands impact sites or at any stream reach with riffle and pool complexes. The Board must presume such alternative methods are available, and Mountain Valley’s failure to rebut that presumption means that its application must be denied.

---

49 Attachment 6 at 18 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213.

50 See Section I.A.3, infra.
With regard to “routing alternatives,” Mountain Valley’s application contains conclusory and categorical statements about alignment and right-of-way adjustments which are insufficient to “clearly demonstrate”—at each and every wetland and stream with a riffle and pool complex—that there is no routing alternative available. Mountain Valley’s categorical statements are insufficient. Instead, Mountain Valley must clearly demonstrate on a crossing-by-crossing basis that there are no routing changes that would allow it to avoid special aquatic sites.\(^{51}\) On streams with riffle and pool complexes, such a demonstration would entail showing that there are no upstream or downstream stream reaches without riffle and pool complexes across which the MVP could be routed; for wetlands, such a demonstration would entail showing that wetland features cannot be avoided through minor alignment changes.

Mountain Valley concedes that it only looked at shifting the pipeline alignment “within the current route.”\(^{52}\) But that is insufficient to overcome the presumptions applicable to special aquatic sites. Because there is a

\(^{51}\) Section 404 authorizes the Corps to issue permits for discharges at “specified disposal sites,” and requires the Corps to specify—and therefore evaluate—“each such disposal site” through the application of the 404(b)(1) Guidelines. 33 U.S.C. § 1344(a)–(b) (emphasis added); see also Wild Bainbridge v. Mainlander Servs. Corp., 544 F. Supp. 2d 1159, 1163 (W.D. Wash. 2008) (“Each disposal site for which the Corps issues an individual permit must be specified in accordance with guidelines developed by the Administrator of the Environmental Protection Agency in conjunction with the Corps.” (emphasis added)).

\(^{52}\) Attachment 6 at 21 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213.
presumption that there are alternative off-site locations that would not affect special aquatic sites, Mountain Valley must prove that there are not. Mountain Valley does not do so. Instead, it contends that data on locations outside the current right-of-way “are not readily available.” Avoiding the question in that manner falls far short of proving that alternative realignments that do not affects special aquatic sites are available.

That particular failure has implications for the second presumption applicable to special aquatic sites. Not only do the 404(b)(1) Guidelines presume that there are practicable alternatives available to discharges in special aquatic sites, they also presume that discharges into waters of the United States at non-special aquatic site locations have fewer adverse environmental impacts. Accordingly, as applied to the MVP and streams with

53 Id.

54 It also violates Virginia law, which requires off-site configurations that avoid and minimize adverse impacts to be presented in a 401 certification application. 9 Va. Admin. Code § 25-210-80(B)(1)(g).

Mountain Valley has also contended that it should not have to consider minor realignments to avoid special aquatic sites because those adjustments “would require additional tree-clearing and grading” in adjacent segments. Attachment 6 at 22 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213. But the Board’s alternatives analysis requires it to look at “impacts to state waters and fish and wildlife resources [in] the least environmentally damaging practicable alternative” analysis, not environmental impacts writ large. 9 Va. Admin. Code § 25-210-80(B)(1)(g).

riffle and pool complexes, there are presumptions (1) that Mountain Valley could avoid riffle and pool complexes through realignment to cross the feature outside of the riffle and pool complexes and (2) that crossings in such locations would have fewer adverse environmental impacts. Because of the deficiencies in its application regarding wetlands and riffle and pool complexes, Mountain Valley has not clearly demonstrated that it can rebut those presumptions. Accordingly, the Board must deny its application.

3. MOUNTAIN VALLEY CANNOT ESTABLISH THAT THERE ARE NOT LESS ENVIRONMENTALLY DAMAGING PRACTICABLE CONSTRUCTION METHOD ALTERNATIVES.

a. Mountain Valley’s “No Action (No Permit) Alternative” Examines an Alternative with the Wrong Level of Generality.

Mountain Valley defines its project’s purpose as completing construction of a natural gas pipeline as approved in its FERC Certificate. In Section 3.2.2 of its individual Section 404 permit application, Mountain Valley dismisses its “No Permit” alternative as neither practicable nor possible by arguing that it has “attempted to avoid stream and wetland resources whenever practicable,” and that it cannot use trenchless technologies at all crossings because of technical and cost feasibility issues. As discussed in detail below, Mountain

56 404 Application at 10. Mountain Valley expressly incorporated its 404 application into its 401 certification application for purposes of the required alternatives analysis. VA 401 Application, Ex. B-1. As discussed further in Section I.A.3, infra, Mountain Valley’s project purpose is impermissibly narrow.

57 404 Application at 15 (emphasis added).
Valley’s conclusions about trenchless crossings are neither credible, substantiated, nor consistent. 58 And, as explained elsewhere in these comments, Mountain Valley has failed to carry its burden to provide sufficient information to establish that its proposed discharges comply with the 404(b)(1) Guidelines. 59 In other words, Mountain Valley’s application fails to provide enough information to support rejecting “No Section 404 Permit” alternatives.

But, even assuming Mountain Valley were correct that a “No Section 404 Permit” alternative is impossible, that conclusion would be insufficient because it is framed at too high a level of generality. That is, Mountain Valley is presenting its application as an all-or-nothing affair. It asks whether it can construct its preferred alignment without a Section 404 Permit. But Mountain Valley must show—on a crossing-by-crossing basis—that there is neither (1) a practicable “construction method alternative” for that crossing that would allow it to avoid discharges into waters of the United States, 60 nor (2) a practicable “routing alternative” that would still involve discharges, but at “other locations” and with fewer adverse impacts on the aquatic ecosystems. 61 The alternatives analysis, correctly framed, should ask whether Mountain

58 See Section I.A.3.b, infra.

59 Utahns for Better Transp., 305 F.3d at 11187,

60 See 9 Va. Admin. Code § 25-210-80(B)(1)(g) (requiring a review of “specific on-site and off-site measures taken to reduce the size, scope, configuration, or density of the proposed project” as part of the alternatives analysis).

61 Id. § 25-210-80(B)(1)(g) (requiring a review of “alternative sites” as part of the alternatives analysis).
Valley can construct each of its hundreds of crossings without discharges into waters of the United States.\textsuperscript{62} Rather than one “No 404 Permit” alternative that must be considered, there are hundreds. Virginia’s alternatives analysis provisions do not allow Mountain Valley to overgeneralize its alternatives to the point that its analysis is useless simply because it proposes to build a project with hundreds of crossings. If that were the case, the biggest, most destructive projects would face fewer requirements than a project with just one disposal site. Mountain Valley has failed to provide sufficient information to allow full consideration of alternatives, let alone to reject them.

\textit{b. Mountain Valley’s Assertions Regarding Practicability Are Not Credible Because of Its Demonstrated History of Misrepresenting the Practicability of Alternative Crossing Construction Methods.}

Mountain Valley has no credibility on whether trenchless technologies are practicable at any particular location. Over the years, Mountain Valley rejected many trenchless crossings that it now proposes to construct; and, just seven months ago, it proposed many trenchless crossings that it today rejects as neither technologically nor financially feasible. Those prior inconsistent statements completely undermine Mountain Valley’s present statements about whether a trenchless crossing is practicable at any particular location.\textsuperscript{63}

\textsuperscript{62} Virginia’s alternatives analysis provision requires detailed information \textit{about each discharge location}, and Mountain Valley has not met that requirement.

\textsuperscript{63} \textit{Cf. United States v. Hale}, 422 U.S. 171, 176 (1975) (noting “basic” legal principle that prior inconsistent statements impeach an individual’s
In light of Mountain Valley’s lack of credibility on the issue, the Board’s obligation to independently verify the information in Mountain Valley’s alternatives analysis (particularly the information in Table 15 of its individual Section 404 permit) is heightened. An agency acts arbitrarily and capriciously when it bases an action on information that is untrustworthy and not credible. Stated otherwise, because of Mountain Valley’s lack of credibility established below, the Board may not accept any statements by Mountain Valley on the question of practicability at face value; instead, the agency must reject the permit application.

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

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

---

64 See, e.g., Colo. Fire Sprinkler, Inc. v. Nat’l Lab. Rel. Bd., 891 F.3d 1031, 1041 (D.C. Cir. 2018) (holding agency decision to be arbitrary and capricious because of its reliance on “demonstrably untrustworthy” information); Friends of Boundary Waters Wilderness v. Bosworth, 437 F.3d 815, 825 (8th Cir. 2006) (holding an agency cannot rely on questionable data without independently validating it); Menorah Med. Ctr. v. Heckler, 768 F.2d 292, 295–96 (8th Cir. 1985) (reliance on untrustworthy survey rendered decision arbitrary and capricious); St. James Hosp. v. Heckler, 760 F.2d 1460, 1467 n.5 (7th Cir. 1985) (“[I]t is an agency’s duty to establish the statistical validity of the evidence before it prior to reaching conclusions based upon that evidence.”).
initial efforts to obtain FERC approval and its 2016 Waterbody Crossing Review.\textsuperscript{65}

Mountain Valley initially asserted that it would cross the Elk, Gauley, and Greenbrier Rivers in West Virginia using a \textit{wet}, open-cut method.\textsuperscript{66} A wet, open-cut method is typically faster and cheaper than a dry-ditch, open-cut crossing.\textsuperscript{67} FERC pushed back against Mountain Valley’s plan, asking the company to “provide quantitative modeling results of the turbidity and sedimentation associated with construction.” \textsuperscript{68} Mountain Valley initially resisted, insisting that its proposed technique was incorporated in FERC’s Wetland and Waterbody Construction and Mitigation Procedures (2013)\textsuperscript{69} and was “an accepted and well-established pipeline construction technique that inherently accounts for the temporary stream impacts of the water crossing.”\textsuperscript{70}

\textsuperscript{65} Mountain Valley Pipeline, LLC, Waterbody Crossing Review (April 2016) [hereinafter “WCR”] (attached as Ex. 7).

\textsuperscript{66} FERC, Mountain Valley Project and Equitrans Expansion Project: Final Environmental Impact Statement at 4-119 (June 2017) [hereinafter “FEIS”] (attached as Ex. 8).


\textsuperscript{68} Mountain Valley Pipeline, LLC, Responses to FERC Environmental Information Request Dated March 31, 2016 at 64 (Apr. 21, 2016) (attached as Ex. 9).

\textsuperscript{69} Available at https://www.ferc.gov/industries/gas/enviro/procedures.pdf. These procedures constitute FERC’s attempt to “identify[] baseline mitigation measures for minimizing the extent and duration of project-related disturbance on wetlands and waterbodies.” \textit{Id.} at 1.

\textsuperscript{70} \textit{Id.} at 65.
FERC persisted, however, and required Mountain Valley to quantify the effects of wet crossings of the Elk, Gauley, and Greenbrier Rivers. That modeling predicted substantial sediment load increases in those rivers. As a result, Mountain Valley acquiesced and changed its proposed crossing method at those rivers to dry-ditch open-cut.

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

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

---

71 FERC, Mountain Valley Project and Equitrans Expansion Project: Draft Environmental Impacts Statement at 4-110 (Sept. 2016) [hereinafter “DEIS”] (attached as Ex. 10).
72 FEIS at 4-139.
73 Id.
74 Id. at 4-118.
75 WCR at 7.
during construction. This would pose a risk of failure that is likely insurmountable.”

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

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

Third, with regard to the Pipeline’s crossing of the Gauley River, Mountain Valley once more insisted that bore pit depths associated with a

---

76 Id. (emphasis added).
77 Table 15 (October 2021 Revision) at 6 (attached as Ex. 11) (emphasis added).
78 Compare WCR at 7, with Table 15 (October 2021 Revision) at 6 (attached as Ex. 11).
79 WCR at 8.
80 Table 15 (October 2021 Revision) at 6 (attached as Ex. 11).
trenchless crossing—in this case 36 and 23 feet deep—“would pose a risk of failure that is likely insurmountable.” 81 Today, even though it now estimates that bore pits of 57 feet will be required, Mountain Valley concedes that a trenchless crossing of the Gauley River is practicable. 82

**Fourth,** Mountain Valley also predicted a “likely insurmountable” “risk of failure” of a trenchless crossing of the Greenbrier River in 2016. 83 And it rejected any use of the Direct Pipe method because of “the relative newness of the Direct Pipe technology, potential risk associated with geologic formations, and larger impact area on the launch side.” 84 Today, Mountain Valley admits (1) that the Direct Pipe stream crossing method is practicable and (2) that the risks of a failure of a trenchless crossing at the Greenbrier River are not “insurmountable.” 85

**Finally,** in 2016—and only in the face of pressure from FERC—Mountain Valley conceded that the crossing of the Pigg River using horizontal directional drilling (“HDD”) would be practicable with a route realignment. 86 Even then, however, Mountain Valley continued to resist using that trenchless method, telling FERC that “a dry[-ditch, open cut] crossing would be

---

81 WCR at 9.
82 Table 15 (October 2021 Revision) at 12 (attached as Ex. 11).
83 WCR at 10.
84 Id. at 5.
85 Table 15 (October 2021 Revision) at 20 (attached as Ex. 11).
86 WCR at 15.
FERC would not back down, however, and directed Mountain Valley to adopt the realignment near the Pigg River and to implement an HDD crossing. Today, Mountain Valley boasts that its “pipeline was successfully installed under the Pigg River with a horizontal directional drill.”

In sum, Mountain Valley’s 2016 Waterbody Crossing Review demonstrates Mountain Valley’s commitment to pursuing stream-crossing methods based on convenience rather than practicability. Time and again Mountain Valley characterized trenchless crossings at specific streams as having “likely insurmountable” “risk[s] of failure,” yet today it admits that it can implement trenchless methods at those streams. Accordingly, Mountain Valley’s present assertions of practicability issues with trenchless methods at the majority of its crossings are simply not credible and cannot be taken at face value. The Board cannot grant Mountain Valley a Section 401 water quality certification based on the company’s statements. Rather, the Board must deny Mountain Valley’s application.

---

87 FEIS at 4-119.
88 Id. at 4-139–4-140.
89 404 Application at 44.
90 Cf. Friends of the Earth v. Hintz, 800 F.2d 822, 835 (9th Cir. 1986); see also Colo. Fire Sprinkler, 891 F.3d at 1041; Friends of Boundary Waters Wilderness, 437 F.3d at 825; Menorah Med. Ctr., 768 F.2d at 295–96; St. James Hosp., 760 F.2d at 1467 n.5.
ii. Mountain Valley’s November 2020 Application to Amend its FERC Certificate

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

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

91 Order, Sierra Club v. U.S. Army Corps of Eng’rs, No. 20-2039(L), Doc. #50 (4th Cir. Nov. 9, 2020).
92 Abbreviated Application of Mountain Valley Pipeline, LLC for Limited Amendment to Certificate of Public Convenience and Necessity and Request for Expedited Action at 1, FERC Docket No. CP21-12-000 (Nov. 18, 2020) (attached as Ex. 12).
93 Id.
application. Mountain Valley specifically identified the Fourth Circuit’s stay of its Nationwide Permit 12 verifications and “continuing uncertainty regarding the options that will ultimately be available to Mountain Valley to complete the waterbody and wetland crossings for the Project” as its motivation for seeking that amendment.

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

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

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

---


95 Mountain Valley Pipeline, LLC, Supplemental Environmental Report for Proposed Conventional Bore Waterbody and Wetland Crossings from Mileposts 0 to 77 at 1-1 (Nov. 2020) [hereinafter “SER”] (included with Mountain Valley’s November 2020 application and attached as Ex. 12).

96 Ex. 12, SER at 1-2 (emphasis added).

97 Id. at app. C.
and asked FERC for permission to start boring operations by December 31, 2020.98

By February 19, 2020—just three months later—Mountain Valley had changed its tune about the practicability of conventional boring for 38 of the 41 crossings that it had recently told FERC were well-suited for conventional boring. On that day—having withdrawn its November 2020 application for permission to bore under all the streams and wetlands along the first 77 miles of its route on January 26, 202199—Mountain Valley filed its pending Section 404 application with the Corps. In that application, Mountain Valley asks for permission to use dry-ditch, open-cut crossings at 38 of the 41 crossings at issue in its November 2020 FERC application.100 In so doing, Mountain Valley has the audacity to assert that conventional boring is not practicable at those 38 crossings, without ever acknowledging—let alone explaining—what changed between November 2020 and February 2021.

98 Ex. 12, Abbreviated Application at 2.
99 Letter from Matthew Eggerding, Asst. General Counsel, Mountain Valley Pipeline, LLC, to Kimberly D. Bose, Secretary, FERC, Re: Mountain Valley Pipeline, LLC, Docket No. CP21-12-000, Withdrawal of Application (Jan. 26, 2021) (attached as Ex. 13).
In rejecting conventional boring for 26 of those 38 crossings, Mountain Valley asserts that site conditions make conventional boring “logistically difficult” or “logistically challenging,” 101 notwithstanding that just three months earlier Mountain Valley told FERC that all aspects of those crossings were “well suited for conventional bores.” 102 In rejecting conventional boring for 33 of those 38 crossings, Mountain Valley complained about the depth of the requisite bore pit, 103 despite explicitly telling FERC just three months earlier that the “bore pit logistics for the crossings . . . are well suited for conventional bores,” 104 and despite the fact that, for four of those 33 crossings, the required bore pits would be no deeper than those required for one of the crossings in the first 77 miles that Mountain Valley has agreed to retain as a conventional bore. 105


102 Ex. 12, SER at 1-2.


104 Ex. 12, SER at 1-2.

105 Mountain Valley proposes to implement a conventional bore at crossing number A-008, which will require a bore pit depth of 29 feet. Table 15 (October 2021 Revision) at 1 (attached as Ex. 11). Nonetheless, Mountain Valley complains about the bore pit depth at crossing numbers A-013, A-017, B-009, and B-016, notwithstanding that the required bore pits at those crossings will be 17, 28, 20, and 23 feet deep, respectively. Id.
Because it so recently vouched for the technical feasibility of trenchless crossings, the only plausible reason for Mountain Valley to now reject the practicability of trenchless crossings at those 38 locations is cost. But Mountain Valley only complains about the cost of 33 of the 38 crossings that it previously proposed to bore. And the cost difference between trenchless and open-cut crossings at eight of the 38 crossings is less than Mountain Valley’s self-imposed (but unjustified) 5:1 cost ratio. In any event, Mountain Valley’s cost figures for the 38 crossings it previously committed to bore are unsubstantiated, not transparent, and cannot be validated as reasonable, according to Catherine Dare, a civil engineer with 30 years of experience who reviewed Table 15 of Mountain Valley’s pending individual Section 404 application, as well as its November 2020 application. Dare concluded in her review that “[t]he current level of detail in Table 15 does not support the truthing of the presented costs.”

---


107 See infra at 52–53 for a discussion of Mountain Valley’s 5:1 cost ratio.

108 Id. Those crossings are A-001, A-014, B-002, B-009, B-016, B-017, C-001, and C-002.

109 See generally Dare (2021), supra n.1.

110 Id. at 4.
Mountain Valley’s changing positions regarding the crossings along the first 77 miles of the pipeline’s route call into question the company’s statements about the crossings along the remainder of the route as well. When Mountain Valley changes a crossing’s characterization from “well suited for conventional boring” to “logistically challenging” in the absence of any changed circumstances, that calls into question every crossing it characterizes as “logistically challenging.” When Mountain Valley says that a bore depth of 67 feet is “well suited for [a] conventional bore[]”—as it did with regard to crossing number C-007 in its November 2020 certificate amendment application—and then later complains that such a pit is too deep, that calls into question the company’s assertions every time it complains about a bore bit depth shallower than 67 feet.

In recent correspondence with the Corps, Mountain Valley struggles to explain its about-face on the crossings in its November 2020 amendment application. It insists that it was only after it submitted that application that it identified “constructability and logistical challenges associated with trenchless crossings at most of the locations.” Even if that explanation were accepted as true, it should not be as comforting to a regulatory agency as

---

111 Mountain Valley uses the phrase “logistically challenging” to characterize at least 28 crossings outside the first 77 miles. See generally Table 15 (October 2021 Revision) (attached as Ex. 11).

112 Attachment 6 at 28 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213.
Mountain Valley intends it to be. In making this excuse, Mountain Valley admits that it is willing to make representations about its engineering judgment—such as telling FERC that all the crossings along the first 77 miles of its route “are well suited for conventional bores”—without having first done an analysis of whether that statement is true. Because Mountain Valley is concededly willing to shoot from the hip with its statements to agencies about the constructability of its pipeline crossings, the Board cannot give credence to any assertion by Mountain Valley about the constructability of a crossing without demanding and independently verifying an exacting and detailed analysis.

Mountain Valley also concedes in recent correspondence with the Corps that the challenging crossings in the first 77 miles “may be technically practicable,” but it steadfastly refuses to employ those less environmentally damaging and practicable alternatives. 113 The clear implication of that concession is that Mountain Valley is willing to reject trenchless crossings that are technically practicable, but in its view not worth the effort, without presenting its analysis of why the less damaging option was not selected.

Given Mountain Valley’s apparent willingness to say anything about any particular crossing to justify its preferred-method-of-the-day, nothing the company says about the practicability of trenchless methods can be trusted. Accordingly, the Board must conclude that Mountain Valley has failed to carry

113 Id. at 29.
its burden to establish that any dry-ditch, open-cut crossing is the least environmentally degrading practicable alternative at any particular crossing.\(^{114}\)

\hspace{1cm} \textit{c. Mountain Valley’s Presentation of Logistical and Technical Issues at Each Crossing Is So Opaque and Inconsistent that It Would Be Arbitrary and Capricious for the Board to Rely on It.}

In Table 15 of its Section 404 permit application, Mountain Valley purports to explain how it determined which crossings it would bore and which crossings it would trench, and claims that “[t]he on-site alternative for each stream crossing selected through this analysis also would constitute the least environmentally damaging practicable alternative. So, to the extent applicable, this section also demonstrates compliance with 40 C.F.R. §230.10(a).”\(^{115}\) The Board’s analysis of Mountain Valley’s claims must start

\(^{114}\) Hintz, 800 F.2d at 835; see also Colo. Fire Sprinkler, 891 F.3d at 1041; Friends of Boundary Waters Wilderness, 437 F.3d at 825; Menorah Med. Ctr., 768 F.2d at 295–96; St. James Hosp., 760 F.2d at 1467 n.5.

\(^{115}\) 404 Application at 49 n. 52. Contrary to the insinuation in Mountain Valley’s “to the extent applicable” qualifier, 40 C.F.R. § 230.10(a)—and its attendant prohibition against allowing discharges where there are less damaging practicable alternatives—applies entirely. Because a trenchless crossing does not result in discharges of dredged or fill material, it is a quintessential practicable alternative under the Section 404(b)(1) Guidelines. See 40 C.F.R. § 230.10(a)(1)(i) (providing that “practicable alternatives include, but are not limited to . . . [a]ctivities which do not involve a discharge of dredged or fill material into the waters of the United States or ocean waters”). Accordingly, it is also a less environmentally damaging alternative under 9 Va. Admin. Code § 25-210-80(B)(1)(g).

As expert engineer Starr Silvis states in her report, “the preferred method to reduce negative environmental impacts [attendant to pipeline stream crossings] is trenchless construction absent special site-specific conditions.” Silvis (2021), supra n.1, at 1. And notes from a January 14, 2021 conference
with this fundamental premise: “The least environmentally damaging practice for pipeline crossing is almost always trenchless[.]”

Silvis (2021) explains that trenchless methods are the “preferred” and “least destructive approach for pipeline crossings of waterbodies absent site-specific conditions.” Mountain Valley has failed to carry its burden to establish that its proposed dry-ditch, open-cut crossings are exceptions to the general rule.

Mountain Valley has utterly failed to justify its selections on a case-by-case basis. The company’s “logic” in Table 15 is impenetrably opaque. It is riddled with inaccuracies and inconsistencies. Indeed, it is so defective as to be entirely inadequate as an attempt at an alternatives analysis. Two engineers independently reviewed Mountain Valley’s LEDPA analysis and both reached the same conclusion: It is conclusory and wholly unsupported to the point that it is all but useless.

Call between representatives of Mountain Valley and the Corps establish that the Corps has already recognized the significance of Mountain Valley’s proposal to bore every crossing between Mileposts 0 and 77, stating that the Corps “must consider and evaluate (from LEDPA perspective)” Mountain Valley’s November 2020 proposal (attached as Ex. 14).

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

Id. at 1, 8.

Hansen & Betcher (2021), supra n.1, at 2 (concluding that any reductions in sedimentation achieved by selection of dry-ditch, open-cut crossings over wet-ditch crossings “fall short of complete avoidance of sediment release and are less than would be achieved through the use of trenchless technologies”).

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

Silvis (2021), supra n.1, at 1 (“At a minimum, the defects of the IP application make it impossible to fairly assess whether Mountain Valley’s proposal is in fact the least environmentally damaging practicable
As the Corps’ Huntington and Pittsburgh Districts make clear in their “Checklist for Preparing an Alternatives Analysis Under Section 404 of the Clean Water Act,” “[t]he criteria used to establish [practicability screens] and how an alternative passes or fails the screen needs to be clearly elucidated and supported.”\(^{121}\) To accomplish this, the Checklist encourages applicants to use an alternatives-comparison matrix, with a detailed narrative.\(^{122}\) Mountain Valley’s application generally, and its Table 15 specifically, fall short of what is required of applicants.\(^{123}\)

---


\(^{122}\) Id.

\(^{123}\) Not only does Mountain Valley’s analysis fall short with respect to the practicability screens and matrix—what the Huntington and Pittsburgh Districts characterize as “Step 3” in their Checklist, Mountain Valley also falls short on Step 4—the specific identification of LEDPA. The Checklist explains that the applicant must “identify, specify, and quantify the impacts to the aquatic ecosystem.” Id. Mountain Valley fails to provide the level of specificity and detail required by the Checklist. Id.
Expert engineer Catherine Dare reviewed Table 15 and concluded that, because of its conclusory nature, it utterly fails to provide an understanding of how Mountain Valley selected its crossing methods:

[We] focused on the Crossing Method Decision Logic Column of Table 15, and the metrics discussed focus primarily on technical and logistics issues with respect to the two technologies. Typically, when assessment of preferred methodologies is performed, a ranking system is used which scores each of the factors evaluated to allow for an understanding of the importance of each factor being considered in relationship to the other factors. This also provides transparency in the process, as many of the factors can be competing. The summary assessment provided in Table 15 in the Crossing Method Decision Logic column does not discuss how the various competing factors were ranked to arrive at the proposed stream crossing methodology. The “risk management” based assessment that the permit application discusses does not appear to have been used in the crossing selection process. The process should balance the competing interests of cost and protectiveness against the impacts and potential impacts should unanticipated conditions be encountered, and unforeseen circumstances result in environmental degradation. The Application as presented does not demonstrate that the Affected Environment and Environmental Review Factors discussed in Section 4 of the application, and the Mitigating factors discussed in Section 5, affected the proposed stream crossing selection. This failure of explanation represents a lack of assessment of environmental impacts and technical issues as presented and any approval without this level of detail could be interpreted as an arbitrary and capricious technology selection process. The complexities of each of the stream crossings dictates the need for a case-by-case assessment which balances the cost, logistics and the environmental factors discussed in the application. This assessment step needs to be included in Table 15 in such a way as to present a meaningful summary of all factors considered that supports the selected crossing technology. The addition of this detail in the assessment provides the necessary transparency to demonstrate how the protectiveness, logistics and physical
constraints of each stream crossing, and cost were balanced and considered.124

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

Several inconsistencies illustrate that point. For example, as Silvis (2021) observes, the orangefin madtom (*Noturus gilberti*)—a candidate species for protection under the Endangered Species Act—is treated inconsistently in Table 15.125 According to Silvis,

In Table 15, 31 of the 101 streams where orangefin madtom is located are designated for conventional boring with the following statement listed in the Crossing Method Decision Rationale: “Orangefin madtom habitat may be present in this stream and it is a trout water. The direct aquatic impact will be avoided/minimized by use of the conventional bore method”. Mountain Valley recognizes that avoidance and minimization of impacts to these sensitive fish is maximized using trenchless methods, but no information exists in the IP detailing how impacts to orangefin madtom at the remaining 70 sites where it was listed will be avoided and minimized.126

In other words, Mountain Valley accepts conventional boring as a method to protect orangefin madtom habitat at a small subset of sites where the species may be located, but completely fails to explain why a dry-ditch, open-cut crossing is the least environmentally degrading practicable alternative at

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

125 Silvis, *supra* n.1 at 13–14.

126 *Id.* (emphasis added).
scores of other madtom locations. And Silvis notes that the same is true for trout waters.127

Silvis also notes that, in Table 15, Mountain Valley frequently cites a lack of space to stockpile spoil as a rationale for rejecting a trenchless crossing.128 But Mountain Valley also noted that insufficient spoil storage space was an issue at 44 of the locations where it accepted conventional boring as the least environmentally damaging practicable alternative anyway.129 Apparently, Mountain Valley can sometimes find ways to work around a lack of space, but does not explain the differences between the sites where it can and the sites where it supposedly cannot.

Bore pit depth is yet another area where Mountain Valley is all over the map. In November 2020, Mountain Valley asked FERC for permission to use a conventional bore at crossing number C-007, even after its engineer’s plan and profile drawings revealed that the crossing would require a 67-feet-deep bore pit.130 Mountain Valley told FERC that “bore pit logistics [for Crossing Number C-007] are well suited for conventional bores.”131 Yet Mountain Valley now complains that the bore pit at C-007—and shallower ones at scores of other

127 Id. at 14.
128 Id. at 19.
129 Id.
130 Ex. 12, SER, drawing no. C-BP-WV-BR-046.01.002.
131 Id., Supplemental Environmental Report at 1-2.
crossing locations—are too deep to make conventional boring practicable.\textsuperscript{132} Indeed, Mountain Valley concedes that a trenchless crossing of the Gauley River (Crossing Number D-041) is practicable, even with a 57-feet-deep bore pit. \textsuperscript{133} Yet Mountain Valley rejects scores of trenchless crossings with shallower bore pits on the grounds that the bore pits are too deep.\textsuperscript{134}

Mountain Valley’s inconsistencies on bore pit depth even reach the shallowest of bore pits. In its application, Mountain Valley states that “[t]renchless crossing methods are generally considered technically and logistically achievable for any crossing that would require bore pits less than 20 feet in depth . . . .”\textsuperscript{135} And, at some crossings with bore pit requirements less than 20 feet, Mountain Valley concedes that there are “no significant constraints” to conventional boring, and selects that crossing method.\textsuperscript{136} But at other crossings that would require bore pits of a similar depth, Mountain Valley rounds the bore bit depth up to “nearly” or “approximately” 20 feet and asserts that a conventional bore would not be practicable.\textsuperscript{137}

\textsuperscript{132} See generally Table 15 (October 2021 Revision) (attached as Ex. 11).
\textsuperscript{133} Id. at 12.
\textsuperscript{134} See generally id.
\textsuperscript{135} 404 Application at 57.
\textsuperscript{136} Table 15 (October 2021 Revision) at 12 (Crossing No. D-035 (17 feet)), 15 (Crossing No. E-009 (17 feet)), & 24 (Crossing No. G-014 (15 feet)) (attached as Ex. 11).
\textsuperscript{137} Id. at 7 (Crossing No. C-029 (17 feet)), 9 (Crossing No. D-013 (17 feet)), 13 (Crossing No. D-045 (17 feet)), and 16 (Crossing No. E-010 (17 feet)).
Mountain Valley’s inconsistencies on protection of orangefin madtom, spoil storage area, and bore pit depth underscore the conclusion that its decision-making logic in its selection of crossing methods is indecipherable. As Dare observes, “[t]ypically, when assessment of preferred methodologies is performed, a ranking system is used which scores each of the factors evaluated to allow for an understanding of the importance of each factor being considered in relationship to the other factors.” This is particularly important where, as here, “many of the factors can be competing.” Nothing in Table 15 establishes that Mountain Valley performed that sort of robust assessment. Rather, it appears that Mountain Valley made decisions of convenience, instead of taking the requisite hard look on a crossing-by-crossing basis. Accordingly, reliance on Mountain Valley’s alternatives analysis—and its “failure of explanation”—risks employing “an arbitrary and capricious technology selection process.”

138 Dare (2021), supra n.1, at 5. The ranking system Dare describes is consistent with the detailed alternatives comparison matrix and accompanying narrative recommended in “Step 3” of the Huntington and Pittsburgh Districts’ Checklist for Preparing an Alternatives Analysis Under Section 404 of the Clean Water Act, Buffalo District – Regulatory Branch, Pittsburgh District – Regulatory Division, Huntington District – Regulatory Division (May 13, 2020) (requiring that “the criteria used to establish [practicability] screens and how an alternative passes or fails the screen . . . be clearly elucidated and supported”) (attached as Ex. 15).

139 Id.

140 Id.

141 Id.; see also Silvis (2021), supra n.1, at 8 (“Mountain Valley has not substantiated why its crossing choice at any given site is the least environmentally damaging practicable alternative.”).
Mountain Valley responded to similar criticisms in recent correspondence with the Corps.\textsuperscript{142} In those response, Mountain Valley admits that Table 15 only summarizes a multi-factor analysis performed by “Mountain Valley’s engineering and construction staff (in consultation with other subject-matter experts as appropriate).”\textsuperscript{143} But the summaries are insufficient to satisfy Mountain Valley’s burden as an applicant to establish that its proposed project is the LEDPA. If these other detailed analyses exist, it is incumbent on Mountain Valley to provide them to the regulatory authorities for their review. Instead, Mountain Valley says, “Trust us, we looked at each crossing and considered multiple factors.” But presumably these analyses were performed by the same people who assured FERC that certain locations were “well suited” for conventional boring based on the relevant factors, before later changing their minds. The Board cannot just take Mountain Valley at its word that its “summaries” in Table 15 are the result of engineering judgment—it must demand that Mountain Valley justify its claims.

For example, with regard to crossing C-029 discussed above, Mountain Valley provided to the Corps additional context for its decision to use an open-cut, dry-ditch crossing at that location.\textsuperscript{144} But that need for explanation only

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{142} Attachment 6 at 29–33 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213.
\item \textsuperscript{143} \textit{Id.} at 30.
\item \textsuperscript{144} \textit{Id.} at 33.
\end{enumerate}
\end{footnotesize}
serves to highlight the deficiencies in Table 15. Mountain Valley must provide more robust explanations for every crossing before the Board can lawfully conclude that the proposed project avoids and minimizes adverse impacts.

**d. Mountain Valley Cannot Establish that Any Trenchless Crossings Are Impracticable from the Standpoint of Cost.**

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

Mountain Valley’s capital budget for the MVP is **$6.2 billion**.\(^\text{145}\) At the time Mountain Valley received its FERC certificate, the estimated capital costs for the Pipeline were $3.7 billion.\(^\text{146}\) The project’s proponents have time and again absorbed large cost increases. Indeed, when Mountain Valley successfully persuaded the United States Supreme Court not to review the question of whether the federal courts could allow it immediate possession of easements for which it had not yet paid just compensation, it told the Court that “[i]t is inconceivable that Mountain Valley would abandon a nearly-

---


completed project of this magnitude in which it already has invested several billion dollars.”

In the context of Mountain Valley’s capital budget, the costs of the trenchless crossings Mountain Valley has rejected are insignificant. Dare calculated the “increased cost for changing the currently proposed open cut crossings to conventional auger would be just over $270M USD. As a point of reference, $270M represents approximately 4.5% of the total overall cost.”

Robert C. Cooper—the engineer in charge of constructing the MVP—testified in federal court that an increase in construction cost of 5% is not unusual in

---


148 Dare (2021), supra n.1, at 5. Dare’s analyses—as well as the balance of the comments in this section—were based on the version of Table 15 that Mountain Valley submitted to the Corps to support its 404 Application. Although Mountain Valley has “updated the cost estimates” in its alternatives analysis to include costs of mitigation and monitoring, Mountain Valley did so in such a way that it apparently increased cost estimates for open-cut, dry-ditch crossings and trenchless crossings roughly proportionally. Attachment 6 at 6–7, 34 n.14 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213. Accordingly, although the comments in this section are based on earlier cost estimates, they are still applicable.

But it should be noted that Mountain Valley’s revised cost estimates—ostensibly in response to comments from EPA—are dubious because the company revised its estimates in a way that preserved the cost differences between open-cut, dry-ditch crossings and trenchless crossings and served their desired end of avoiding trenchless crossings. This convenient and unlikely outcome suggests that Mountain Valley may be manipulating its cost estimates.
his experience as a pipeline project manager.\textsuperscript{149} Or, as Dare puts it, “[a]n increase of $270M [in a $6.2B project] is not outside the possible margin of error” of the project cost estimates.\textsuperscript{150} Indeed, on an industry-wide basis, it is acknowledged that the “direct costs of various [stream] crossing techniques are difficult to predict,” because of, among other things, necessary contingency factors.\textsuperscript{151}

As EPA explained in its August 23, 1992 Memorandum to the Field, Subject: Appropriate Level of Analysis Required for Evaluating Compliance with the Section 404(b)(1) Guidelines Alternatives Requirements, “[t]he determination of what constitutes an unreasonable expense should generally consider whether the projected cost is substantially greater than the costs normally associated with the particular type of project. Generally, as the scope/cost of the project increases, the level of analysis should also increase.”\textsuperscript{152}

EPA further explained that “[i]t is important to emphasize . . . that it is not a particular applicant’s financial standing that is the primary consideration for determining practicability, but rather characteristics of the project and what

\textsuperscript{149} Ex. 16 at 128:15–17.

\textsuperscript{150} Dare (2021), supra n.1, at 5.


constitutes a reasonable expense for these projects that are most relevant to practicability determinations.”153

Oil and gas pipelines are frequently multi-billion-dollar affairs, and their capital costs have been increasing in recent years.154 Stream crossings “strongly affect pipeline construction costs.”155 Because the cost practicability component must be evaluated in the context of natural gas pipelines generally, and because such pipelines frequently cost billions of dollars to build—with significant construction costs turning on the frequency of stream crossings—the 4.5% cost increase that would result from implementing only trenchless crossings does not render that method impracticable from a cost standpoint.156 In other words, Mountain Valley cannot be permitted to dismiss any of the trenchless crossings on the basis that they may be impracticable based on cost.

But even where Mountain Valley attempts to establish that certain trenchless crossings are impracticable due to cost, its efforts fall short. In

153 Id.
155 Id. (citing Natural Gas Pipeline Profits, Construction Both Up, OIL & GAS J. (Sept. 5, 2016)).
156 Mountain Valley has suggested that the project at issue—for purposes of cost evaluation—is an open-cut, dry-ditch crossing. Attachment 6 at 35 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213. But the proper analysis focuses on the entire project, not just a single aspect of a project. In the context of a multibillion-dollar natural gas pipeline, the increased costs of trenchless crossings are inconsequential.
Tables 13 and 14, Mountain Valley purports to provide the unit costs that underlay its cost estimates in Table 15. But, as Silvis (2021) observes, “[t]he cost estimates provided in Tables 13 and 14 are inconsistent with prices provided in Table 15 that are used as Decision Rationale.” For example, at Crossing H-025, Mountain Valley’s cost estimate for using a dry-ditch, open-cut method for that 200-foot crossing is dramatically lower than the estimate calculated by Silvis based on the price per foot for dry-ditch, open-cut crossings set out in Table 13, leading Silvis to conclude “that the cost discrepancy between dry-ditch and trenchless methods [at this crossing] is not as great as the company states.”

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

In an attempt to comprehend Mountain Valley’s cost estimates, Dare (2021) examined a subset of the crossings that Mountain Valley had asked for FERC authorization to bore in November 2020, only to turn around and claim

---

157 404 Application, tbls. 13–15.
158 Silvis, supra n.1, at 18.
159 Id.
160 Dare (2021), supra n.1, at 1.
161 Id.
such boring to be impracticable in February 2021.\textsuperscript{162} Dare found the fifteen “switched-method” crossings with cost estimates over $1M exceeded the average cost per linear foot by five times, and the average bore-depth cost by two times.\textsuperscript{163} That conclusion “demonstrates the need to provide transparency in the cost assessment process by providing breakout costs that can be rolled up into each crossing estimate. Currently, there is no transparency in the assembly of costs.”\textsuperscript{164} Based on her review, Dare concluded that the escalation of cost seen in the estimates for those 15 crossings was not substantiated by the information in the application.\textsuperscript{165}

Overall, Dare concludes that “the proposed costs are not transparently developed to readily allow for independent verification and limits the ability of a reviewer to validate the costs presented are reasonable.”\textsuperscript{166} The Board has an obligation to independently verify the information supplied to it by applicants.\textsuperscript{167} That simply cannot be done here, given Mountain Valley’s failure to provide sufficient costing detail.\textsuperscript{168}

The thresholds that Mountain Valley uses to distinguish between conventional borings that are practicable from a cost perspective and those

\textsuperscript{162} \textit{See} Section I.A.3.b.ii, \textit{supra}.

\textsuperscript{163} Dare (2021), \textit{supra} n.1, at 3–4.

\textsuperscript{164} \textit{Id.} at 4.

\textsuperscript{165} \textit{Id.}

\textsuperscript{166} \textit{Id.}

\textsuperscript{167} Cf. \textit{Hintz}, 800 F.2d at 835–36.

\textsuperscript{168} \textit{See generally} Dare (2021), \textit{supra} n.1.
that are not is also opaque. Mountain Valley frequently states in Table 15 that the costs of boring are “excessively expensive” or “unreasonably high relative to” dry-ditch, open-cut construction. But, as Silvis observes in her report, Mountain Valley never specifies what “unreasonably high” means.

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

---

169 In a January 22, 2021, call between representatives of Mountain Valley and the Corps, someone suggested (without support) that any bore ten times more expensive than the open-cut method would be impracticable. (Call notes attached as Ex. 17). If Mountain Valley applied such a threshold, it must explicitly state that it has done so and provide a thorough and supported explanation for why it selected that threshold.

170 See generally 404 Application, tbl. 15.

171 Silvis, supra n.1, at 18.

172 For example, the cost of conventional boring at Crossing Number I-062 is 14.87 greater than the cost of an open-cut dry-ditch at that location. 404 Application, tbl. 15 at 42. Nonetheless, Mountain Valley proposes to implement a trenchless method at that crossing. Id. In contrast, however, by our count there are 149 crossing where the cost of conventional boring is less than 14.87 times the cost of trenching. See generally id. Yet, Mountain Valley chose the dry-ditch, open-cut method at those locations. Id.

Taking another example, at Crossing H-044, Mountain Valley agrees to use a conventional bore at a site requiring 21-feet-deep bore pits, notwithstanding that the cost of boring is 6.51 times greater than the cost of trenching. Id. at 32. By our count, there are 120 crossings where the cost of conventional boring is less than 6.51 times the cost of trenching, yet Mountain Valley proposes to trench those locations. See generally id. On average, at the crossings where Mountain Valley proposes to use trenchless technologies, the cost of that
assumed that Mountain Valley was applying a maximum cost threshold. But the company has agreed to use trenchless technologies at a very high cost at some locations, while rejecting the technology as a lesser cost at other locations.\textsuperscript{173} In other words, the Mountain Valley’s preferred cost thresholds are not apparent on either a ratio or strict-cost basis. It is within the realm of possibilities that Mountain Valley’s method selection at some crossings in Table 15 was based on technical feasibility or environmental effects. But, because Mountain Valley casually stated on so many occasions that costs were “unreasonably high” or “excessively expensive” in the same breath that it complained of engineering or environmental factors, there is no clear explanation that shows how, or if, the relative factors have been ranked. And, as Dare observes, a transparent ranking is critical to a complete application.\textsuperscript{174}

In response to criticisms about the transparency of its alternatives analysis, Mountain Valley represented that, “[a]s a general matter, Mountain

\textsuperscript{173} Mountain Valley has agreed to use trenchless methods at a cost of $10.1M at one of its crossings (F-021). \textit{Id.} at 20. Yet only one of the crossings where it proposes to trench through the waterbody or wetland would cost more than $10.1M to complete using a trenchless method. \textit{See generally id.} Stated otherwise, Mountain Valley rejected trenchless methods at approximately 300 locations that would cost less than the most expensive bore to which it has agreed. \textit{Id.} The average cost of the trenchless crossings to which Mountain Valley has agreed is $467,481, yet Mountain Valley rejected trenchless methods at 134 crossings with boring estimates less than that average. \textit{Id.}

\textsuperscript{174} Dare (2021), \textit{supra} n.1, at 5.
Valley did not consider it reasonable or appropriate to utilize a trenchless alternative to avoid minimal and temporary impacts to an environmental resource that would exceed the construction cost of an open cut by a factor of roughly five. But what Mountain Valley still fails to explain is why that threshold is the appropriate one in the context of a natural gas pipeline. Mountain Valley must provide a thorough and supported explanation for why it selected that threshold, otherwise reliance on Mountain Valley’s self-serving 5:1 ration would be entirely arbitrary. Moreover, because a 10:1 threshold was apparently on the table at some point, Mountain Valley must explain why it rejected that 10:1 threshold it discussed with the Corps in favor of a 5:1 threshold. Furthermore, as noted above, Mountain Valley rejected scores of trenchless crossings with a cost ratio less than 5:1. Mountain Valley must provide a detailed, crossing-by-crossing explanation of those rejections.

Finally, as Dare further observes, “based on the available information, it is difficult to understand the metrics used to select the stream crossing methodology.” That is particular true here, where there are competing factors (cost and technical considerations). Table 15 is simply too opaque to

---

175 Attachment 6 at 34 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213 (emphasis added).

176 See footnote 169, supra.

177 Id.

178 Dare (2021), supra n.1, at 4.

179 Id. at 5.
provide useful insight into how cost factored into Mountain Valley’s acceptance of some trenchless crossings and its rejection of others.

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

a. The Board Must Consider Routing Alternatives in Its Review of Mountain Valley’s Application; DEQ’s Assertions to the Contrary Are Legally Wrong.

Make no mistake: the Board cannot lawfully issue a 401 certification for the MVP unless it first considers routing alternatives—an obligation that the draft permit and accompanying fact sheet do not discharge. State and federal law require this analysis, and the Natural Gas Act (“NGA”) does not displace the Board’s authority or its obligation. As the Fourth Circuit recently observed, when reviewing an NGA pipeline project under Section 401, “[a] state’s consideration of a possible alternative route that would result in less substantial impact on its waterbodies is plainly within the state’s authority.”180 That is so, notwithstanding FERC’s siting authority under the NGA.181 “[T]he NGA yields to the CWA.”182 NGA Section 717(b)(d) provides that “nothing in

180 Mountain Valley Pipeline, 990 F.3d at 829 (emphasis added).
181 Washington Gas Light Co. v. Prince George’s Cnty. Council, 711 F.3d 412, 423 (4th Cir. 2013) (“[T]he NGA gives FERC jurisdiction over the siting of natural gas facilities[].”).
this chapter affects the rights of States under [the CWA].”\textsuperscript{183} As the Fourth Circuit observed while reviewing a 401 certification issued by the Board:

The NGA largely preempts environmental regulation of interstate natural gas pipelines by states. \textit{See AES Sparrows Point LNG, LLC v. Smith}, 527 F.3d 120, 125–26 (4th Cir. 2008). \textit{However, it does “allow[] states to participate in environmental regulation of [pipelines] under three federal statutes: the Clean Air Act, the Coastal Zone Management Act, and the Clean Water Act.”}\textsuperscript{184}

And the Fourth Circuit reiterated that conclusion earlier this year in another pipeline 401 certification case, holding that the NGA “expressly preserves State authority to regulate pipelines under the Clean Water Act, and FERC’s powers cannot sideline States from protecting their own waters.”\textsuperscript{185}

In Virginia, state regulation of pipelines under the Clean Water Act requires a fulsome alternatives analysis. Like the North Carolina 401 certification program at issue in \textit{Mountain Valley Pipeline},\textsuperscript{186} Virginia’s 401 certification program requires the Board to consider routing alternatives to avoid and minimize impacts to the state’s waters. The Annotated Code of Virginia provisions governing 401 certificates provides that “\textbf{[a]ll pipelines shall be constructed in a manner that minimizes temporary and permanent impacts to state waters and protects water quality to the maximum extent

\textsuperscript{183} 15 U.S.C. § 717b(d), \textit{quoted in Sierra Club}, 981 F.3d at 265.

\textsuperscript{184} \textit{Sierra Club v. State Water Control Bd.}, 898 F.3d 383, 388 (4th Cir. 2018) (emphasis added).

\textsuperscript{185} \textit{Mountain Valley Pipeline}, 990 F.3d at 823 (citing \textit{State Water Control Bd.}, 898 F.3d at 388, and 15 U.S.C. § 717(b)(d)).

\textsuperscript{186} 990 F.3d at 830.
practicable.”\textsuperscript{187} To ensure that statutory requirement is implemented, the regulations require the Board to consider alternatives—including routing alternatives—to determine whether they would minimize impacts to state waters and are practicable.\textsuperscript{188}

The Virginia Administrative Code requires that, for a 401 certification application to be complete, it must include an alternatives analysis “to first avoid and then minimize impacts to surface waters to the maximum extent practicable in accordance with” the Section 404(b)(1) Guidelines.\textsuperscript{189} The regulations further provide that

\begin{quote}
[a]voidance and minimization includes, but is not limited to, the specific on-site and off-site measures taken to reduce the size, scope, configuration, or density of the proposed project, \textit{including review of alternative sites where required for the project}, which would avoid or result in less adverse impact to surface waters.\textsuperscript{190}
\end{quote}

As a result, the Board must consider alternative sites for stream and wetland crossings in evaluating MVP’s application.

Moreover, the regulations place a burden on the applicant for a 401 certification to “demonstrate to the satisfaction of the board that avoidance and minimization opportunities have been identified and measures have been applied to the proposed activity such that the proposed activity in terms of

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{187} Va. Code Ann. § 62.1-44.15:21(J)(2) (emphasis added).
\item \textsuperscript{188} 9 Va. Admin. Code § 25-210-80(B)(1)(g).
\item \textsuperscript{189} Id.
\item \textsuperscript{190} Id.
\end{enumerate}
\end{footnotesize}
impacts to state waters and fish and wildlife resources is the least environmentally damaging practicable alternative.” 191 If the applicant fails to carry that burden, the Board must deny an application for a 401 certification where “the project that the applicant proposed fails to adequately avoid and minimize impacts to state waters to the maximum extent practicable.” 192

Virginia’s requirements “are consistent with the Clean Water Act, which is replete with similar language,” 193 and thus are not preempted. 194 As the Fourth Circuit recently observed in Mountain Valley Pipeline, minimization requirements in a 401 certification analysis flow from the Clean Water Act. The EPA’s regulation specify that States must engage in minimization analysis as part of their antidegradation rules. . . . Under Section 404 of the Clean Water Act, the EPA and U.S. Army Corps have also issued regulations using similar language, stating that a permit should not issue if, among other things, “practicable, environmentally superior alternatives are available” or “appropriate and practicable steps have not been taken to minimize potential adverse impacts.” 195

As discussed above, Virginia’s statutes and regulations codify an obligation to consider routing alternatives. And an agency acts unlawfully when it fails to

---

191 Id.

192 Id. § 25-210-230(A)(3).

193 Mountain Valley Pipeline, 990 F.3d at 830.

194 Id. at 829 n.9.

195 Id. at 830 (quoting 40 C.F.R. § 230.10 and citing James City Cnty. v. Envtl. Prot. Agency, 12 F.3d 1330, 1333 (4th Cir. 1993)).
undertake analyses required by law, even when another agency has similar obligations to consider alternatives.\textsuperscript{196}

Mountain Valley’s application fails to provide any route alignment alternatives for crossings that would avoid or minimize impacts on sensitive resources, including special aquatic sites (as discussed above) and protected aquatic species. Rather than conclude (as it must) that Mountain Valley’s submission falls short without this information, DEQ claims in the fact sheet accompanying the permit it drafted for the Board that neither DEQ nor the Board can consider routing alternatives.\textsuperscript{197} That is not true. If the Board were to adopt the draft permit as currently written, its action would be plainly unlawful because the application is insufficient and because DEQ and the Board must consider routing alternatives.\textsuperscript{198}

DEQ dodges its obligation to consider routing alternatives, and implies that the Board cannot consider them either, based on Virginia Code Annotated § 62.1-44.15:81(F).\textsuperscript{199} That statute provides that “[n]o action by either the Department or the Board on a certification pursuant to this article shall alter the siting determination made through Federal Energy Regulatory


\textsuperscript{197} Fact Sheet at 5, 9, & 12.

\textsuperscript{198} U.S. Forest Serv., 897 F.3d at 604 (holding that the NGA “does not limit or modify other agencies’ authority or obligations”).

\textsuperscript{199} Fact Sheet at 5, 9, & 12.
Commission or State Corporation Commission approval.”200 DEQ asserts in its fact sheet that that language “limits the scope of DEQ’s review of project alternatives[.]”201 DEQ further contends that, because (in its view) Section 62.1-44.15:81(F) prohibits DEQ from altering siting determinations made by FERC, it has to accept FERC’s determination of the preferred alternative.202 Based on its view of the statute, DEQ concludes that “[g]iven the . . . prohibitions under § 62.1-44.15:81, we have determined the proposed project is the LEDPA.”203

DEQ’s interpretation of Section 62.1-44.15:81(F), however, is flat-out wrong. As explained below, nothing in that statute obviates the Board’s obligations to consider routing alternatives as required by the regulations discussed above. Stated otherwise, an alternatives analysis requirement remains binding even when other agencies may have responsibilities regarding site determinations.204

Section 62.1-44.15:81(F) has no effect on the Board’s obligations to consider alternatives, including its obligation to deny a 401 certification where “the project that the applicant proposed fails to adequately avoid and minimize

201 Fact Sheet at 5.
202 Id. at 9.
203 Id. at 12.
204 U.S. Forest Serv., 897 F.3d at 604 (holding that the NGA “does not limit or modify other agencies’ authority or obligations”).
impacts to state waters to the maximum extent practicable.”205 At most, the statute limits the Board’s ability to affirmatively require route realignments through conditions imposed in a certification.206 But, as explained further below, a limitation on affirmatively requiring realignments neither eliminates the need for an alternatives analysis nor cabins the Board’s authority to deny an application for a project that does not avoid and minimize adverse impacts.

By its own terms, Section 62.1-44.15:81(F) purports only to limit the Board’s authority to “alter” FERC’s citing determination for the MVP.207 The Board must apply the plain meaning of the General Assembly’s chosen words.208 The word “alter” means “to make different without changing into something else.”209 The synonyms of “alter” include “change” and “modify.”210 Accordingly, at most, the statute limits only the Board’s authority to change or modify a siting determination.

Importantly, the statute does not—and cannot—limit the Board’s authority to deny an application based on the availability of a less environmental damaging practicable alternative under 9 Va. Admin. Code 25-

205 Id. § 25-210-230(A)(3)
206 But see footnote 221, infra.
210 Id.
Paragraph H of Section 62.1-44.15:81 expressly provides that “nothing in this section shall be construed to prohibit the Department or the Board from taking action to deny a certification in accordance with the provisions of § 401 of the federal Clean Water Act (33 U.S.C. § 1341).” That language makes clear that the General Assembly did not intend to limit, through Section 62.1-44.15:81(F) or otherwise, the Board’s authority to deny a 401 certification where a proposed project does not sufficiently avoid or minimize adverse impacts to state waters.

But even without considering Subparagraph H, it is crystal clear from the regulatory scheme that the limitation in Section 62.1-44.15:81(F) is not as broad as DEQ maintains. A statute must be construed to give effect to all of its parts. To achieve that end, the context of the statutory and regulatory scheme as a whole must be considered. Here, other sections of the governing code and regulations make clear that an alternatives analysis remains required, even if the Board’s options for what to do with that analysis were somehow limited.

---


212 Cuccinelli, 283 Va. at 426 (recognizing that a statute is not to be construed by singling out a particular phrase (internal quotation marks and citations omitted)); In re Total Realty Mgmt., LLC, 706 F.3d 245, 251 (4th Cir. 2013) (holding that statutes must be construed to give effect to all parts and avoid reducing terms to surplusage).

213 Cuccinelli, 283 Va. at 425; In re Total Realty Mgmt., LLC, 706 F.3d at 251.
Section 62.1-44.15:21(A) of the Virginia Code provides that “[p]ermits shall address avoidance and minimization of wetland impacts to the maximum extent practicable.”214 And Section 62.1-44.15(J)(2) of the Code provides that “[a]ll pipelines shall be constructed in a manner that minimizes temporary and permanent impacts to state waters and protects water quality to the maximum extent practicable.”215 The General Assembly charged the Board with the authority to adopt rules with respect to the issuance of certificates and orders, and the Board has done so.216 Through those regulations, the Board defines “avoidance” to mean either “not taking or modifying a proposed action or parts of an action so that there is no adverse impact to the aquatic environment,” “minimization” to mean “lessening impacts by reducing the degree or magnitude of the proposed action and its implementation,” and “mitigation” to mean “sequentially avoiding and minimizing impacts to the maximum extent practicable, and then compensating for the remaining unavoidable impacts of a proposed action.”217 And, as discussed above, the regulations make clear that avoidance and minimization includes a “review of alternative sites” in order to establishing that the proposed activity is the “least environmentally damaging practicable alternative.”218

215 Id. § 62.1-44.15:21(J)(2).
216 Id. § 62.1-44.15(10).
218 Id. § 25-210-80(B)(1)(g).
Under the statute and the regulations, when faced with a permit application that does not comport with the avoidance and minimization requirements of the alternatives analysis, the Board could either (1) include conditions requiring the applicant to select a different site that avoids and minimizes impacts through a practicable alternative or (2) deny the permit because “the project that the applicant proposed fails to adequately avoid and minimize impacts to state waters to the maximum extent practicable.” The question presented by Section 62.1-44.15:81(F) is how that statute affects the Board’s options.

Given that statutory and regulatory context, at most Section 62.1-44.15:81(F) limits only the Board’s authority to “alter” (read “change” or “modify”). That is, at most, it has an effect only on the Board’s ability to condition the permit under 9 Virginia Administrative Code § 25-210-230(A)–(B). For example, a condition that required the applicant to relocate a

---

221 To be clear, Section 62.1-44.15:81(F) should not be construed to limit the Board’s Section 401 authority in any way, because any state law or regulation purporting to restrict the Board’s ability to apply Virginia’s avoidance and minimization laws would conflict with the Clean Water Act’s federally-set floor. The Fourth Circuit recently held that “EPA’s [antidegradation] regulations specify that States must engage in minimization analysis as part of their antidegradation rules.” Mountain Valley Pipeline, 990 F.3d at 830 (citing 40 C.F.R. § 131.12(a)(2)(ii); emphasis added). And Section 401(d) of the Clean Water Act includes a mandatory requirement that 401 certificates “shall” include conditions to ensure compliance with “appropriate requirements of State law,” including water quality standards like an antidegradation policy. 33 C.F.R. § 1341(d); see also PUD No. 1 of Jefferson Cnty., 511 U.S. at 711–12. If Virginia law were construed to prohibit DEQ and

---
wetland crossing location could have the prohibited effect of “alter[ing]” a FERC siting determination. In contrast, a denial of a 401 certification on the ground that it failed to avoid and minimize impacts would not alter a site determination in any sense of that word. Rather, it would simply reject a project that is incompatible with the substance of Virginia’s Section 401 program and water protection statutes and regulations. Stated otherwise, not allowing a project is different from “altering” a project. This Board’s own regulations recognize that distinction in the definition of “avoidance.” Effects can be avoided either by “[1] not taking [a proposed action] or [2] modifying a proposed action.” And that distinction is also implicit in the plain meaning of the term “alter”: “to make different without changing into something else.” A denial of a 401 certification does not alter or modify a proposed action; it instead prohibits the action. Thus, an agency can reject a proposal for an NGA

the Board from engaging in an alternatives analysis or developing conditions based on that analysis with regard to FERC siting determinations, it would conflict with federal law.

Additionally, any provision of Virginia law that has the effect of modifying Virginia’s water quality standards—including the antidegradation policy—as Va. Code Ann. 62.1-44.15:81 would do if given the interpretation proffered by DEQ, cannot be given effect unless and until it is approved by EPA. 33 U.S.C. § 1313(a); 40 C.F.R. § 131.21.


project based on its substantive alternative requirements, even in the face of a FERC siting determination.\footnote{Mountain Valley Pipeline, 990 F.3d at 830; cf. U.S. Forest Serv., 897 F.3d at 604; Cowpasture River Pres. Ass’n, 911 F.3d at 168–70.}

In sum, the context of statutory and regulatory scheme surrounding Section 62.1-44.15:81(F) establishes that the Board’s option to deny a 401 certification based on available routing alternatives for stream crossings is unaffected by the section’s prohibition on altering siting determinations. Accordingly, the Board must still consider routing alternatives under the applicable statutes and regulations. Because the option of denying Mountain Valley’s 401 certification based on the company’s failure to avoid and minimize adverse impacts remains available to the Board, it would be legal error for the Board to accept DEQ’s invitation not to consider routing alternatives.\footnote{See Va. Code Ann. § 62.1-44.15:21(E) (authorizing the Board to deny applications); Mountain Valley Pipeline, 990 F.3d at 829 (holding that a state has the authority to deny a 401 certification to a pipeline based on alternatives that would minimize adverse impacts on waters); Cowpasture River Pres. Ass’n, 911 F.3d at 170 (holding an agency does not have to accept FERC’s siting determinations when its obligations include evaluating route alternatives); Const. Pipeline Co., LLC v. N.Y. State Dep’t of Envtl. Conservation, 868 F.3d 87, 101 (2d Cir. 2017) (holding that, in the natural gas pipeline context, “[a] state’s consideration of a possible alternative route that would result in less substantial impact on its waterbodies is plainly within the state’s authority”).}
b. Neither Mountain Valley’s Application, Nor the Draft Permit, Addresses Routing Alternatives that Would Avoid and Minimize Adverse Impacts to State Waters.

As a threshold matter, Mountain Valley has impermissibly narrowed its project purpose by limiting it to the pipeline route as approved by FERC.\textsuperscript{226} Although minor alignment changes may require FERC approval, that alone is insufficient to render them “impracticable” for purposes of an alternatives analysis or LEDPA review. Mountain Valley can reasonably obtain FERC approval for alignment changes, as demonstrated by the frequency with which it has done so since it obtained its Certificate of Public Convenience and Necessity in October 2017.\textsuperscript{227}

Moreover, and as noted elsewhere in these comments, Mountain Valley’s alignment-alternatives analysis is premature because of the potential effect on its route selection of litigation over Mountain Valley’s authorizations from the

\textsuperscript{226} Compare 404 Application at 10 (“[T]he overall Project purpose is to complete construction of a natural gas pipeline and associated infrastructure approved by FERC . . . .” (emphasis added)), with Audubon Soc’y of Greater Denver v. U.S. Army Corps of Eng’rs, 908 F.3d 593, 607 (10th Cir. 2018) (“[A]n applicant cannot define a project in order to preclude the existence of any alternative sites and thus make what is practicable appear impracticable.”), and Sylvester v. U.S. Army Corps of Eng’rs, 882 F.2d 407, 409 (9th Cir. 1989) (same).

United States Forest Service. The disposal locations that Mountain Valley has asked the Board to certify are contingent on the current proposed route of the pipeline, but the Forest Service’s approval of the pipeline’s route through the Jefferson National Forest is in doubt as a result of the petition for review in *Wild Virginia v. U.S. Forest Service*, No. 21-1039(L) (4th Cir.). At issue in that petition for review is, *inter alia*, whether route alignments that avoid crossing national forest lands are practicable, as well as whether the Forest Service lawfully amended its forest plan to allow the MVP to cross the Jefferson National Forest.\(^{228}\) If the Fourth Circuit grants the petition for review and vacates the Forest Service’s decision, the MVP’s route could change. Accordingly, Mountain Valley’s route-alternatives analysis is subject to revision, and the Board’s consideration of Mountain Valley’s application is premature.

In any event, Mountain Valley’s very general discussion of routing alternatives does not provide the requisite level of detail for an alternatives analysis. Mountain Valley must examine whether there are routing alternatives that will allow it to avoid certain resources, including by crossing waterbodies at locations that would have fewer impacts.\(^{229}\)


\(^{229}\) See, e.g., Va. Code Ann. § 62.1-44.15:21(J)(2) (requiring that “[a]ll pipelines shall be constructed in a manner that minimizes temporary and permanent impacts to state waters and protects water quality to the maximum extent practicable); 9 Va. Admin. Code § 25-210-80(B)(1)(g) (requiring “review of
Mountain Valley must evaluate routing alternatives that would avoid stream reaches with sensitive plant and animal species, special aquatic sites, and other sensitive resources. And it must do so on a crossing-by-crossing basis. That is, it must look at each crossing and determine whether modest alignment changes would allow it to select a crossing location with fewer environmental impacts. It has not done so.

Instead, at most Mountain Valley only considered minor realignments “within the [approved] route,” and even then, it only gave close consideration to 15 crossings.\textsuperscript{230} That is not enough. Mountain Valley did not, as it is required to, consider off-route realignment options to avoid sensitive aquatic resources, or establish that such realignments are impracticable. Instead, Mountain Valley contends that data on locations outside the current right-of-way “are not readily available.”\textsuperscript{231} Avoiding the question in that manner (essentially saying that its homework assignment was too hard) violates Virginia law, which requires the presentation of off-site configurations that avoid and minimize adverse impacts in a 401 certification application.\textsuperscript{232}

\footnotesize{alternative sites where required for the project, which would avoid or result in less adverse impact to surface waters”).

\textsuperscript{230} Attachment 6 at 41 & Attachment 6-6 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213 (emphasis added). Mountain Valley contends, without explanation, that it was able to identify and scrutinize only 15 potential in-route modifications. It must explain why in-route modifications are not practicable at the hundreds of other crossings.

\textsuperscript{231} Id.

\textsuperscript{232} 9 Va. Admin. Code § 25-210-80(B)(1)(g).}
Mountain Valley avoids grappling with the necessary details by focusing instead on alignment decisions it made years ago. The question today, however, is whether there are practicable alternative crossing locations with fewer environmental impacts. Because that requires analyzing alternatives using a different standard (\textit{i.e.}, whether each crossing method and location is the least environmentally damaging practicable alternative) from the standard applied by FERC (\textit{i.e.}, whether an alternative confers a significant environmental advantage), Mountain Valley cannot point to FERC’s analysis to excuse the Board from performing its duties.\footnote{See \textit{Cowpasture River Pres. Ass’n}, 911 F.3d at 168 ("In the EIS, FERC considered only whether a route alternative ‘confers a significant environmental advantage over the proposed route.’ This is a significantly different standard than [the governing standard for the Forest Service].")} Because Mountain Valley does not grapple with the proper questions, its application fails to provide sufficient detail to determine whether there are practicable routing alternatives.

Mountain Valley’s proposed Blackwater River crossing perfectly illustrates the flaws in Mountain Valley’s application. The Blackwater River is a Section 10 River that Mountain Valley intends to trench through using an

\begin{flushright}
\null
\end{flushright}
open-cut, dry-ditch crossing method.\textsuperscript{234} In the October 2021 Revision to Table 15, Mountain Valley attempts to explain its choice of crossing method this way:

The Blackwater River’s banks at the crossing location are rapidly eroding due to natural conditions unrelated to pipeline construction. Instream work will be necessary to permanently restore and stabilize the banks, which will provide greater protection for the pipeline and have the benefit of reducing long-term sediment loads in the stream. That work can be done efficiently and effectively after completion of an open-cut crossing. Therefore, temporary stream impacts are unavoidable at this location. A trenchless crossing at this location also faces significant constructability constraints. The bore pits for this crossing would be just short of 40-feet deep. Site conditions do not allow sufficient space to stockpile spoils from bore pits of that size.\textsuperscript{235}

A trenchless crossing of the Blackwater River would only exceed the cost of an open-cut, dry-ditch crossing by a factor of 2.612—well below Mountain Valley’s newly declared 5:1 threshold for selecting a trenchless crossing.\textsuperscript{236}

EPA objected to Mountain Valley’s selection of an open-cut, dry-ditch crossing for the Blackwater River in it May 2021 comments to the Corps. EPA stated that

[w]hile EPA appreciates the relocation of the Blackwater River crossing to downstream of the Rocky Mount water intake, EPA also recommends that the applicant use one of the new or established trenchless methods to cross Blackwater River instead of open cut methods to further avoid or minimize impacts. If not practicable, then additional rationale for crossing the river by a trench method should be provided.\textsuperscript{237}

\textsuperscript{234} Table 15 (October 2021 Revision) at 39 (attached as Ex. 11).
\textsuperscript{235} Id.
\textsuperscript{236} Id.
\textsuperscript{237} Lapp Letter at 5.
EPA reiterated its objections to the use of an open-cut, dry-ditch crossing for the Blackwater River in its September 2021 comments on FERC’s Environmental Assessment of Mountain Valley’s plans to bore under numerous streams.\(^{238}\) Specifically, EPA stated:

EPA continues to have concerns with the crossing on the Blackwater River. The Blackwater River is proposed to be crossed by an open-cut method. The amendment states, “At the Blackwater River crossing, Mountain Valley stated that site conditions do not provide adequate space to stockpile spoil from bore pits that would be almost 40-feet-deep. We reviewed the Blackwater River crossing location and confirmed that there may not be space for spoil storage within the limits of disturbance and the slope on one side of the stream may not be conducive to a trenchless crossing.

EPA recommends that the applicant clarify the specific constraints of the slope at the Blackwater River crossing, citing the slope measurements that may not be conducive to a trenchless method. In addition, should the slope prove to be favorable for a trenchless method, then EPA recommends further analysis of an offsite or upland alternative for the stockpiled spoil associated with the bore hole pits. Should a practicable alternative be available, EPA recommends the Blackwater River be crossed via a trenchless method.\(^{239}\)

In response to comments on the Blackwater River crossing, Mountain Valley provided an expanded (though still inadequate) “Summary of


\(^{239}\) Id. (emphasis added).
Impracticability of Using a Trenchless Crossing for the Blackwater River.”

As a threshold matter, Mountain Valley’s submission of additional information regarding the Blackwater River crossing is essentially a concession that the rationale summaries in Table 15 are insufficient on their own to establish that the LEDPA will be implemented at each crossing location. Mountain Valley has supplemental information available to it for each crossing, and must submit that information to the regulatory agencies in order to carry its burden to establish that it has selected the LEDPA at each crossing.

But even Mountain Valley’s supplemental information falls short for the Blackwater River crossing. Much of Mountain Valley’s complaints about the Blackwater River crossing center on the requirements of a 39-foot-deep bore pit. But Mountain Valley is going to use deeper bore pits at other locations, establishing that the depth is not impracticable. Mountain Valley also complains that it would have to transport spoil approximately 750 feet (2.5 football fields), but does not explain why that makes trenchless crossing

---

240 Attachment 6-3 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213.

241 Id.

242 See Table 15 (October 2021 Revision) at 6 (using 49-foot-deep bore pits at Elk River bore), 12 (using 57 foot-deep bore pits at Gauley River bore), 29 (using 39 foot-deep bore pits for crossing H-017), 42 (using 39 foot-deep bore pits for crossing I-060B) (attached as Ex. 11).
impracticable. Accordingly, the supplemental information provided by Mountain Valley fails to establish that a trenchless crossing at the Blackwater River is impracticable.

Mountain Valley attempts to justify its selection of an open-cut, dry-ditch crossing at the Blackwater River because it will have to do in-stream work in the Blackwater to restore the streambanks to protect its buried pipeline. But “we’re going to be in the stream anyway” categorically does not establish that an open-cut, dry-ditch crossing is the least environmentally damaging practicable alternative. Bank restoration is a fundamentally different activity from blasting a 10-foot trench in a streambed. Mountain Valley’s argument is one of convenience, not practicability.

But even assuming that Mountain Valley establishes that a trenchless crossing is technically impracticable at the current Blackwater River crossing location, it still must show that a trenchless crossing would be impracticable at an alternate crossing location. It has not done so.

The Board must understand this: DEQ agrees that Mountain Valley should consider a routing realignment that would allow Mountain Valley to use a trenchless crossing method for the Blackwater River. Because of the

---

243 Attachment 6-3 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213.

244 Table 15 (October 2021 Revision) at 39 (attached as Ex. 11).

Blackwater River’s status as a tributary of an important recreational reservoir, and because that river is subject to a total maximum daily load for sediment under Section 303 of the Clean Water Act, DEQ submitted comments to FERC recommending that Mountain Valley “[r]eevaluate the location of the Blackwater River crossing and move it to a location that permits the trenchless crossing technique.” Yet DEQ tells the Board that it cannot consider routing alternatives.

Those facts also demonstrate that the environmental impacts that would be avoided by a trenchless crossing justify any excess cost or inconvenience that such a crossing would entail.

Moreover, the Board cannot certify the Blackwater River crossing as the least environmentally damaging practicable alternative without thorough consideration of the documented deterioration of baseline conditions at that location since construction began. DEQ’s water quality monitoring team authored several reports on elevated turbidity between June 2018 and August 2019, and concluded that the fact that the downstream station was detecting higher turbidity levels than the upstream indicates that the source of the turbidity was disturbance within the watershed (i.e., upland pipeline construction). See Andrew L. Garey, PhD., DEQ Water Quality Monitoring Team Leader, “High turbidity events at Blackwater Rìiver Near MVP Pipeline Corridor” (Aug. 12, 2019) (attached Ex. 21); Andrew L. Garey, PhD., DEQ Water Quality Monitoring Team Leader, “High turbidity events at Ramsey’s Draft, near proposed ACP Corridor and Blackwater River, Near Proposed MVP Corridor” (Aug. 3, 2018) (attached as Ex. 22); Andrew L. Garey, PhD., DEQ Water Quality Monitoring Team Leader, “High turbidity events at Ramsey’s Draft, near proposed ACP Corridor and Blackwater River, Near Proposed MVP Corridor” (June 2018) (attached as Ex. 23).

Examining routing alternatives for the Blackwater River crossing—as well as the rest of Mountain Valley’s proposed crossings—is required under Virginia law. But DEQ has not done that, despite its own acknowledgement that relocating the Blackwater River crossing would be environmentally preferable. That analytical failure would render the Board’s adoption of the draft permit on this record arbitrary and capricious.

5. MOUNTAIN VALLEY’S APPLICATION IS INCOMPLETE BECAUSE IT FAILS TO ENGAGE IN AN ALTERNATIVES ANALYSIS FOR ROAD CROSSINGS.

The preceding discussion focuses on alternative pipeline crossing methods and locations, because that is where Mountain Valley focused its analysis. But that myopic focus created another fatal deficiency in the application: Mountain Valley’s application presents no crossing-by-crossing determination of whether the proposed temporary and permanent road crossings use the least environmentally degrading practicable alternative. Silvis (2021) concludes that “[t]he preferred temporary access road method for avoidance of environmental impacts is spanning from dry ground beyond the existing top-of-bank on both sides of stream.” Mountain Valley provides no alternatives analysis of the practicability of spanning each of its proposed road crossings. As Silvis observes, “there are no details provided on how each temporary road crossing will be accomplished or how the non-bridging options

---


248 Silvis (2021), supra n.1, at 10–11.
will be designed to reduce the likelihood of permanent impacts.”²⁴⁹ Silvis further identifies the advantages and disadvantages of a series of road crossing alternatives.²⁵⁰ Without explaining what technique it will use at each road crossing, and justifying that selection as the least environmentally degrading practicable alternative at each crossing, Mountain Valley cannot carry its burden to provide sufficient information to establish that the proposed discharges associated with its road crossings are the LEDPAs under Virginia law.²⁵¹

6. THE BOARD MUST NOT ALLOW MOUNTAIN VALLEY’S GAMBLING TO PREJUDICE THE ALTERNATIVES ANALYSIS OR THE DETERMINATION OF THE LEDPA.

The Board cannot allow Mountain Valley’s sunk costs to prejudice the agency’s alternatives analysis or its determination of the least environmentally damaging practicable alternatives at each crossing location. One persistent theme in Mountain Valley’s permit application is the company’s desire for its preferences to be ratified as the least environmentally degrading practicable alternative in light of how much pipe Mountain Valley says is already in the ground. For example, Mountain Valley asserts that “[a]ny

²⁴⁹ Id. at 16.
²⁵⁰ Id. at 11 n.4.
²⁵¹ In correspondence with the Corps, Mountain Valley provides a generic, high-level discussion of how it designed its road crossings of aquatic features, but without the crossing-by-crossing specifics required under Virginia law or by the Section 404(b)(1) guidelines. Attachment 6 at 42–43 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213.
decision to substantially modify the proposed alternative route would result in impacts to previously undisturbed areas in addition to the impacts that have already occurred constructing the proposed Project as it was previously authorized.”

Mountain Valley concludes that the project, “as proposed by Mountain Valley and certified by FERC, should be considered the LEDPA.”

In other words, Mountain Valley paints with a broad brush, suggesting that it has come this far and the only way is forward.

The Board should not allow project proponents like Mountain Valley to manipulate the agency’s decision-making. Project proponents proceed with partial approval at their own peril, and they should not reap the benefit of a bureaucratic steamroller. A contrary rule would allow a pipeline developer like Mountain Valley to build its pipeline up to the banks of jurisdictional waters, such that “the construction and the concomitant expenditure of funds would create so much pressure that the completed portions of the pipeline would ‘stand like [a] gun barrel[]’ aimed at” the waters of the United States in its path.

---

252 404 Application at 11.

253 Id. at 13.

254 Then-Judge Breyer used the term “bureaucratic steamroller” to describe the phenomenon of overwhelming bureaucratic momentum and pressure that a regulatory agency may face to approve a project for which construction of some portions has already begun. Sierra Club v. Marsh, 872 F.2d 497, 504 (1st Cir. 1989).

Notwithstanding those principles, Mountain Valley repeatedly invokes work it has already done—at its own peril with the full knowledge that it may one day need an individual Section 404 permit and the attendant state 401 certifications—to influence the agency’s analysis. Make no mistake: Mountain Valley has been on notice since at least 2018 that “an individual permit will likely be necessary.”256 The company has forged ahead with abandon anyway, with the pipeline’s operator at one point telling shareholders that the company planned to trench through “critical” streams “as quickly as possible before anything is challenged.”257

Mountain Valley cites its work thus far to try tilting the alternatives analysis towards its preferences in two primary ways—neither of which should be credited. First, Mountain Valley asserts that route changes “would result in impacts to previously undisturbed areas in addition to the impacts that have already occurred constructing the proposed Project as it was previously authorized.”258 As an initial matter, the total amount of disturbed acreage is a non-sequitur in the context of an antidegradation alternatives analysis because that is not the legal standard the Board must apply, even if it colored

256 Sierra Club v. U.S. Army Corps of Eng’rs, 909 F.3d 635, 655 (4th Cir. 2018).
258 404 Application §3.0.
FERC’s analysis.\textsuperscript{259} It may be generally true that less disturbance is environmentally preferable, but it does not go without saying that this generality, even if valid writ large, will hold true with respect to aquatic impacts and on a crossing-by-crossing basis, which is the level of detail at which the Board must analyze Mountain Valley’s application.\textsuperscript{260}

Additionally, Mountain Valley takes issue with substantial modifications to the proposed route, but the Board must analyze whether smaller deviations at each crossing would be practicable and less environmentally damaging. For instance, where Mountain Valley proposes to cross a stream within a riffle and pool complex, the Board must consider whether crossing at a downstream location would be practicable.\textsuperscript{261} To the extent such minor variations in crossing locations would require additional expense, the Board cannot let Mountain Valley’s sunk costs influence its analysis of whether those minor variations in location would be practicable. In all events, the pipeline route is not as set-in-stone as Mountain Valley makes it out to be; among other uncertainties, the United States Forest Service’s approval of the pipeline’s route through the Jefferson National Forest is in

\textsuperscript{259} See Cowpasture River Pres. Ass’n, 911 F.3d at 168 (“In the EIS, FERC considered only whether a route alternative ‘confers a significant environmental advantage over the proposed route.’ This is a significantly different standard than [the governing standard for the Forest Service].”).

\textsuperscript{260} See Section I.A, \textit{supra}.

\textsuperscript{261} 40 C.F.R. § 230.10(a)(1)(ii).
doubt as a result of the petition for review in *Wild Virginia v. U.S. Forest Service*, No. 21-1039(L) (4th Cir.).

Second, Mountain Valley asserts in Table 15 that pipe already in the ground makes trenchless crossings impracticable at some sites.\(^{262}\) This is a prime example of the proverbial “gun barrels” that the Board should not allow to sway its analysis. Moreover, Mountain Valley’s determinations of each crossing in Table 15 are not credible for reasons explained above, and that infirmity in its application extends to how it treats pipe in the ground. For example, Mountain Valley’s February 2021 application says that a trenchless method at Crossing C-001 would not be practicable because of pipe that has already been laid,\(^{263}\) but Mountain Valley proposed a trenchless method for this same crossing just three months earlier,\(^{264}\) and construction in Spread C advanced very little between the time Mountain Valley initially proposed a trenchless crossing here and the time Mountain Valley submitted its permit applications to the Corps and DEQ\(^{265}\)—strongly indicating that nothing has changed.

\(^{262}\) See Table 15 (October 2021 Revision) (Crossings C-001, F-019, H-048B, I-022, i-032, and I-111) (attached as Ex. 11).

\(^{263}\) See 404 Application, tbl. 15 at 4.

\(^{264}\) See Ex. 12, app. A.

\(^{265}\) Compare Weekly Report No. 159 app. A at 3, FERC Accession No. 20201203-5160 (Spread C Backfilling and Tying-In in progress and 91.6% complete), with Weekly Report No. 176 app. A at 3, FERC Accession No. 20210322-5223 (Spread C Backfilling and Tying-In in progress and 91.75% complete).
It is understandable that Mountain Valley wishes to forge ahead with the work it has already done, but the Board is not in the same position as the company and has an obligation to apply Virginia’s alternatives analysis requirements without undue deference to Mountain Valley’s convenience. Insofar as Mountain Valley claims trenchless crossings or minor route variations would be too expensive or logistically difficult in light of construction that has already occurred, the Board cannot credit such an argument to dismiss any alternatives as impracticable. A contrary approach would incentivize developers to pursue upland construction before obtaining dredge-and-fill permits and the attendant 401 certifications, creating the gun barrels the Fourth Circuit warned of in Gilchrist. It is true that the Board ordinarily may take into account cost and logistics when determining whether an alternative is practicable, but many of the supposed costs and logistical complexities associated with trenchless crossings—which, it bears repeating, Mountain Valley interchangeably characterizes as difficult or not to suit its purposes in the moment (see Section I.A.3, supra)—are burdens of Mountain Valley’s own creation. Mountain Valley repeatedly rolled the dice even when it was on a losing streak with Nationwide Permit 12. The streams and wetlands along the pipeline route, and the citizens who cherish them, are not responsible for settling Mountain Valley’s gambling debts.

B. THE BOARD MUST DENY MOUNTAIN VALLEY’S APPLICATION BECAUSE THE PROPOSED DISCHARGES WILL CAUSE OR CONTRIBUTE TO WATER QUALITY STANDARDS VIOLATIONS AND SIGNIFICANT DEGRADATION OF VIRGINIA’S WATERS.

To issue a Section 401 certification, the State must determine that discharges from a proposed project will comply with water quality standards.\(^{267}\) The applicable water standards at issue here include the designated use of all Virginia’s waters for the propagation of aquatic life, Virginia’s narrative water quality criteria to protect aquatic life, and Virginia’s antidegradation policy.\(^{268}\) The Corps’ 404(b)(1) Guidelines provide that

\(^{267}\) 40 C.F.R. § 121.7; 9 Va. Admin. Code § 25-210-230(A)(1) (stating that a VWP permit application should be denied where, \textit{inter alia}, the “project will result in violations of water quality standards or will impair the beneficial uses of state waters” or the “effect of project impacts, together with other existing or proposed impacts to wetlands, will cause or contribute to a significant impairment of state waters or fish and wildlife resources”).

\(^{268}\) Specifically, and as discussed further below, those water quality standards include:

- Virginia’s designation of all waters of the State for “the propagation and growth of a balanced, indigenous population of aquatic life, including game fish, which might reasonably be expected to inhabit them” (9 Va. Admin. Code § 25-260-10(A));

- Virginia’s narrative water quality criteria prohibiting “waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of [state] water or which are inimical or harmful to human, animal, plant, or aquatic life.” 9 Va. Admin. Code § 25-260-20(A)West Virginia’s antidegradation policy (id. § 47-2-4.1) and its attendant implementation policy (id. § 60-5-1 et seq.);

- Virginia’s antidegradation policy (9 Va. Admin. Code § 25-260-30) and its attendant implementation policy (Va. Dep’t of Envtl. Quality,
“significant degradation” includes significant adverse effects on fish; shellfish; life stages of aquatic life and other wildlife; and aquatic ecosystem diversity, productivity, and stability.\textsuperscript{269} Accordingly, the Corps’ significant degradation standard is an appropriate proxy for whether there will be interference with Virginia’s aquatic-life use or violations of its narrative water quality criteria protecting that use.

As explained below, because Mountain Valley’s discharges will cause or contribute to both water quality standards violations and impermissible significant degradation to waters of the United States, the Board cannot conclude that the proposed discharges associated with the MVP will comply with Virginia’s water quality standards.\textsuperscript{270} Accordingly, the Board cannot issue a Section 401 certification for the MVP.

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

In its application to the Corps, Mountain Valley cherry-picks conclusions by industry consultants in the available literature to downplay the effects that its proposed dry-ditch, open-cut crossings will have on the streams and wetlands in the MVP’s path. Relying on a 2008 article by S.M. Reid—who

\begin{footnotesize}

\begin{itemize}
  \item Guidance Memo No. 00-2011, Guidance on Preparing VPDES Permit Limits (Aug. 24, 2000), at 6–14) (attached as Ex. 5)).
  \item 40 C.F.R. § 230.10(c)(1)–(3).
  \item Id. § 121.7.
\end{itemize}
\end{footnotesize}
was with the consulting firm of Golder Associates Ltd. when he conducted the research on which that article is based\textsuperscript{271}—Mountain Valley contends that “[s]tream impacts within the pipeline [limits of disturbance] using the dry-ditch, open-cut method would be temporary and occur during pipeline construction activities only.” \textsuperscript{272} But, that categorical conclusion is not

\textsuperscript{271} S. M. Reid, S. Metikosh & J. M. Evans, \textit{Overview of the River and Stream Crossings Study}, in Proceedings of the Symposium at the 8th International Symposium of Environmental Concerns in Rights-of-Way Management 721 (Elsevier 2008). Reid’s coauthors were also industry consultants. \textit{Id.} Indeed, one published article observes that the published studies of pipeline crossings “exist primarily in the form of conference proceedings and agency or consultant reports.” J. M. Castro et al., \textit{Risk-Based Approach to Designing and Reviewing Pipeline Stream Crossings to Minimize Impacts to Aquatic Habitats and Species}, \textit{RIVER RSCH. \\& APPLICATIONS} 31, at 768 (2015) (attached as Ex. 24).

Importantly, however, even Reid has found no significant difference in peak total suspended solids concentrations between flumed dry-ditch, open-cut crossings (which Mountain Valley proposes in its pending application) and open-cut wet crossings (which both FERC and the Corps have prohibited Mountain Valley from using because of the significant sedimentation they cause). S. M. Reid et al., \textit{Sediment Entrainment During Pipeline Water Crossing Construction: Predictive Models and Crossing Method Comparison}, 3 \textit{J. ENVIRON. ENG. \\& SCI.} 81, 86 (2004) (attached as Ex. 25); \textit{Sierra Club v. U.S. Army Corps of Eng’rs}, 909 F.3d 635, 642 (4th Cir. 2018) (describing FERC and Corps prohibitions on wet crossings for the MVP).

Moreover, although Mountain Valley omits it from its summary of potential effects, Reid has recognized that “some residual increases [in sedimentation] due to scour of the trench, erosion of exposed surfaces at the crossing site and the resuspension of settled material may occur.” Scott M. Reid & Paul G. Anderson, \textit{Effects of Sediment Released During Open-Cut Pipeline Water Crossings}, 24 \textit{CANADIAN WATER RES. J.} 235, 240 (1999) (attached as Ex. 26).

\textsuperscript{272} Application at 51 (citing S. M. Reid, S. Metikosh & J. M. Evans, \textit{Overview of the River and Stream Crossings Study}, in Proceedings of the Symposium at the 8th International Symposium of Environmental Concerns in Rights-of-Way Management 711–721 (Elsevier 2008)).
supported by either Mountain Valley’s own application or the rest of the literature on the ecological effects of dry-ditch, open-cut stream crossings. EPA has stated that, in the context of anti-degradation review, “EPA’s view of temporary is weeks and months, not years. ... If a construction activity is involved, for example, temporary is defined as the length of time necessary to construct the facility and make it operational.” Commenting specifically on the MVP’s proposed waterbody crossings, EPA stated that “[w]hile many of the discharges of fill associated with the proposed construction activity may be considered temporary, the impacts from those discharges may have lasting effects, particularly due to the sensitivity of the aquatic resources and the repetitive nature of impacts to some of the tributaries.” Contrary to

---

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

274 As one journal article that examined pipeline crossing effects concluded, “before authoritative statements concerning environmental impact can be made it is essential to have knowledge of the natural variation associated to be expected in streams of differing characteristics.” P. D. Armitage & R. J. M. Gunn, Differential Response of Benthos to Natural and Anthropogenic Disturbances in 3 Lowland Streams, 81 INT’L REV. HYDROBIOLOGY 161 (1996) (attached as Ex. 27).


276 Lapp Letter at 4.
Mountain Valley’s repetition of the common industry refrain, the adverse environmental effects of dry-ditch, open-cut crossings are measured in years, not in days.

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

277 Application at 62.

278 See, e.g., U.S. Fish and Wildlife Serv., Mountain Valley Pipeline, LLC; Revised Biological Opinion 96 (Sept. 4, 2020) [hereinafter “BiOp”] (attached as Ex. 28) (assuming sedimentation effects on benthics to persist for up to four years). Even Reid has found adverse effects that persist “2-4 years after the construction of water crossings in areas with open forest canopies.” Reid & Anderson (1999) at 243. And Silvis concludes that the impacts associated with sediment deposits from dry-ditch, open-cut crossings can be permanent. Silvis (2021), supra n.1, at 2.

279 BiOp at 96.

280 Application at 38. For FERC projects like the MVP, “[t]emporary impacts generally occur during construction with the resource returning to pre-construction condition almost immediately afterward.” FEIS at 4-1. Impacts from FERC projects that “require more than 3 years to recover” are considered “long-term.” Id. Accordingly, a four-year impact from Mountain Valley’s proposed crossings would be long-term.
A West Virginia-based FWS biologist examining the MVP once grew so frustrated by the industry refrain that “crossings have only temporary impacts to the stream” that she felt it necessary to develop her own literature review to push back against that refrain.\textsuperscript{281} She shared that literature review with the signatory of the MVP BiOp, among others.\textsuperscript{282} The following is her summary of the literature:

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


\textsuperscript{282} Id.
of vegetation from the banks can change temperature regimes, and increase sediment and nutrient loads (Penkal & Phillips 2011, pp. 6-7).

These instream changes not only directly affect the suitability of fish habitat, they also affect the availability and quality of fish forage altering the composition and reducing the density of benthic invertebrate communities within and downstream of the construction area (Levesque & Dube 2007, pp. 396-399; Penkal & Phillips 2011, pp. 6-7; Reid & Anderson 1999, pp. 235, 244).

Various studies have documented adverse effects to the benthic community that have been apparent for between six months and four years post-construction (Levesque & Dube 2007, pp. 399-400; Reid & Anderson 1999, pp. 235, 244). Stream crossings have also been shown to affect fish physiology, survival, growth, and reproductive success (Levesque & Dube 2007, p. 399). Studies have found decreased abundance of fish downstream of crossings, as well as signs of physiological stress such as increased oxygen consumption and loss of equilibrium in remaining fish downstream of crossings (Levesque & Dube 2007, pp. 399-401; Reid & Anderson 1999, pp. 244-245). Increased sediment deposition and substrate compaction from pipeline crossings can degrade spawning habitat, result in the production of fewer and smaller fish eggs, impair egg and larvae development, limit food availability for young-of-year fish, and increase stress and reduce disease resistance of fish, (Levesque & Dube 2007, pp. 401-402; Reid & Anderson 1999, pp. 244-245).

The duration and severity of these effects depends on factors such as the duration of disturbance, the length of stream segment directly impacted by construction, and whether there were repeated disturbances (Yount & Niemi 1999, p. 557). Most studies documented recovery of the affected stream reach within one to three years after construction (Reid & Anderson 1999, p. 247; Yount & Niemi 1999, pp. 557-558, 562). However caution should be used when interpreting results of short-term studies. Yount & Niemi (1999, p. 558) cite an example of one study that made a preliminary determination of stream recovery within one year, but when the site was re-
examined six years later, fish biomass, fish populations, macroinvertebrate densities, and species composition were still changing. It was suspected that shifts in sediment and nutrient inputs to the site as a result of construction in and around the stream contributed to the long-term lack of recovery. In another study, alterations in channel morphology, such as increased channel width and reduced water depth, were evident two to four years post-construction at sites that lacked an intact forest canopy (Reid & Anderson 1999, p. 243). There is also the potential for cumulative effects. While a single crossing may have only short-term or minor effects, multiple crossings or multiple sources of disturbance and sedimentation in a watershed can have cumulative effects on fish survival and reproduction that exceed the recovery capacity of the river, resulting in permanent detrimental effects (Levesque & Dube 2007, pp. 406-407). Whether or how quickly a stream population recovers depends on factors such as the life history characteristics of the species, and the availability of unaffected populations upstream and downstream as a source of organisms for recolonization (Yount & Niemi 1999, p. 547). Species such as the diamond darter that are particularly susceptible to the effects of sedimentation and substrate embeddedness, and that have limited distribution and population numbers are likely to be more severely affected by instream disturbances than other more common and resilient species.\textsuperscript{283}

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

\textsuperscript{283} Id. (emphasis added).
potential for both short and long-term negative impacts on aquatic habitat and
species is substantial.”

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

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

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

---

284 Castro et al. (2015) at 767.

285 Id.

286 Id.
safeguards must be adopted to protect these important resources.” They further state,

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

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

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

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

---


288 Id.

289 Id. at 8.
(abundance, species composition, diversity, standing crop), and fish behavior and physiology (hierarchy, feeding, respiration rate, loss of equilibrium, blood hematocrit and leukocrit levels, heart rate and stroke volume).”

- “Construction activities alter river and stream channel beds and banks, directly and indirectly affecting fish and fish habitat.”

- “[Dry-ditch, open-cut methods] may impact watercourse ecosystems both during, and for potentially some time after, construction. All in-stream construction activities, particularly trench excavation and pipeline installation and backfill, result in disturbance of channel bed and banks, and have the potential to alter suspended sediment concentration and sedimentation.”

- “[A]ny in-stream construction activity has the potential to impact aquatic ecosystems through alteration of stream and river bed and banks and, therefore, may result in direct effects such as physical alteration of channel morphology and habitat, and indirect effects such as alteration of water quality and sediment dynamics, on aquatic ecosystems (e.g., Alberta Environment 2001; Alberta Transportation and Utilities 2000).”

- Even with dry-ditch, open-cut methods, “[m]ean TSS concentrations increased by between 4 and 100 mg l\(^{-1}\) above background. Installation of dams and flumes for water diversion generated TSS concentrations on average less than 76 mg l\(^{-1}\) greater than background over periods of 2 to 16.5 h (with one crossing experiencing an increase of 520 mg l\(^{-1}\) for 3 h). Removal of dams and flumes resulted in TSS increases of between 1 and 703 mg l\(^{-1}\) downstream of construction over periods of 20 min to 6.5 hrs. Other stages of construction were associated with average TSS increases of less than 8 mg l\(^{-1}\), with the exception of

---

290 Lévesque & Dubé, Review of the Effects of In-stream Pipeline Crossing Construction on Aquatic Ecosystems and Examination of Canadian Methodologies for Impact Assessment, 132 ENVTL. MONITORING & ASSESSMENT 395 (2007) (attached as Ex. 31).

291 Id.

292 Id. at 396.

293 Id.
accidental leaks from construction infrastructure (e.g., 820 mg l\(^{-1}\) over 5.5 h). Plumes of highly turbid water were observed downstream of construction. . . .”\(^{294}\)

- “Armitage and Gunn (1996) noted that pipeline crossing construction in a stream in England resulted in a shift in invertebrate species due to an increased proportion of silt in stream substrates. This effect persisted for 4 years until a high magnitude flow event scoured the stream channel bed, promoting re-establishment of pre-construction invertebrate species. Tsui and McCart (1981) found that crossing construction of Archibald Creek, British Columbia, caused short-term increases in silt and sand accumulations and decreases in invertebrate standing crop and diversity, which lasted 1 to 2 years.”\(^{295}\) and

- “The potential for cumulative effects associated with pipeline crossing construction should be taken into consideration in assessing the impacts of these activities on rivers and streams. Construction of a single crossing on a stream or river, or within a watershed, may not have significant effects on fish and fish habitat in that system. Construction of multiple crossings on a stream or river, or within a watershed, however, has the potential for cumulative effects on that system. In such cases, the capacity of the system to recover from impact may be exceeded, and the detrimental effects of crossing construction permanent. The same may be said for the frequency of crossing construction within a given system; rivers and streams will have limited capacities to recover from multiple impacts. As well, recurrent stresses on fish, such as those that originate from elevated suspended sediment concentrations, may have cumulative effects on fish health, survival and reproduction. The long-term effects of such impacts are not well known at this time (Reid et al. 2003).”\(^{296}\)

\(^{294}\) Id. at 398.

\(^{295}\) Id. at 399.

\(^{296}\) Id. at 406–07 (emphasis added).
Following their reviews of the literature, Hansen and Betcher (2021) and Silvis (2021) concur that the effects of dry-ditch, open-cut crossings are substantial and long-term. Hansen and Betcher (2021) recognize that data on those effects are “sparse” in the literature, but that the available data in the literature does substantiate long-term effects. And Silvis (2021) describes those effects this way:

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

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

---

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

298 Silvis (2021), supra n.1, at 3.
there are significant permanent impacts associated with trenched methods of stream and wetland crossings.”

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

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

299 Id. at 2.

crossings require longer periods of instream activity and the control of larger volumes of both streamflow and trench water. Both characteristics increase the risk of sediment being released into the watercourse (Reid et al. 2002b, 2002c).\textsuperscript{301}

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

[Mountain Valley’s] sweeping assurance about minimal, short-term water quality impacts must also be judged by taking into account its documented record of sediment-related violations. A review of agency inspection reports and violations received by [Mountain Valley] during its first 2.5 years of construction demonstrates that the company has a proven track record of carelessness in constructing erosion and sediment control devices. During an eight-month period in 2018, [Mountain Valley] was issued 25 notices of violation by the West Virginia Department of Environmental Protection. Each of these violations resulted in releases of sediment to the environment. Many of these releases occurred due to improper installation of commonly utilized sediment control measures such as water bars and perimeter fences. Other releases resulted from failures to adequately maintain and properly operate sediment control devices and incorrect calculations resulting incorrectly sized controls.\textsuperscript{302}

Per Reid, there are a multitude of ways that dry-ditch, open-cut crossings can go wrong, and given Mountain Valley’s track record, the Board cannot rationally assume that Mountain Valley will flawlessly construct hundreds of such crossings.\textsuperscript{303} Rather, the Board should expect multiple

\textsuperscript{301} Reid et al. (2004) at 87.

\textsuperscript{302} Hansen & Betcher (2021), supra n.1, at 5.

\textsuperscript{303} See, e.g., Animal Legal Def. Fund v. Perdue, 872 F.3d 602, 620 (D.C. Cir. 2017) (holding it to be arbitrary and capricious for an agency to accept company’s certification of compliance and ignore its history of violations).
incidents with impermissible adverse effects, individually and cumulatively, on water quality and aquatic life.\textsuperscript{304}

To counter similar comments made to the Corps, Mountain Valley doubled down on its reliance on Reid and its assertions that water quality impacts from open-cut, dry-ditch crossings will be temporary.\textsuperscript{305} Mountain Valley continues to ignore that Reid acknowledges that the effects of open-cut, dry-ditch crossings can persist for years.\textsuperscript{306} For FERC projects like the MVP, “[t]emporary impacts generally occur during construction with the resource returning to pre-construction condition almost immediately afterward. Short-term impacts could continue for up to 3 years following construction. This could include the time it takes for herbaceous/shrub vegetation to grow on the right-of-way after restoration. Impacts were considered long-term if the resource would require more than 3 years to recover.”\textsuperscript{307} Accordingly, a four-year impact from Mountain Valley’s proposed crossings—like those reported on in Lévesque and Dubé (2007)—would be long-term. Reid quite simply does not establish “temporary” impacts.

\textsuperscript{304} See Hansen & Betcher (2021), supra n.1, at 6 (“Due to the importance of proper installation and maintenance of isolation structures while constructing dry-ditch crossings and MVP’s record of sediment-related violations, sediment impacts due to dry-ditch stream crossings are likely.”).

\textsuperscript{305} Attachment 6 at 48–57, to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213.

\textsuperscript{306} Reid & Anderson (1999) at 243.

\textsuperscript{307} FEIS at 4-1.
Moreover, even Reid admits that the state-of-the-science is not developed enough to predict the consequences of open-cut, dry-ditch crossings with accuracy. In a piece published in 2008, Reid and his co-authors lamented that “[a] lack of suspended sediment and associated biological effect monitoring during open cut and isolated water crossing has prevented defensible statements to be made regarding the level of environmental protection provided by [open-cut, dry-ditch] crossing methods.”\textsuperscript{308} That remains so today, as reflected in a 2019 publication by Courtice and Naser. That article observes that, as late as 2019, “there is a paucity of research related to in-stream construction activities and their effects on aquatic ecosystems.”\textsuperscript{309} Accordingly, in Reid’s own words, Mountain Valley’s characterizations of open-cut, dry-ditch crossings as having minimal adverse effects on water quality are not

\textsuperscript{308} S. M. Reid, S. Metikosh and J. M. Evans, \textit{Overview of the River and Stream Crossings Study}, \textit{in} Proceedings of the Symposium at the 8th International Symposium of Environmental Concerns in Rights-of-Way Management 714 (Elsevier 2008) (attached as Ex. 33). That statement is based in part on the limited number of reported case studies, and the fact that even in those case studies, stream crossings could not be implemented as planned by the pipeline company. For example, in a 2002 Reid article examined two planned open-cut, dry-ditch crossings in Ohio, one of which had to be converted to a wet crossing after an aqua barrier failed and the other of which had multiple problems with the implementation of the dam-and-flume structures. S. Reid et al., \textit{Effects of Natural Gas Pipeline Water Crossing Replacement on the Benthic Invertebrate and Fish Communities of Big Darby Creek, Ohio}, in Environmental Concerns in Rights-of-Way Management: Seventh International Symposium (2002) (attached as Ex. 34).

\textsuperscript{309} Gregory Courtice & Gholamreza Naser, \textit{In-stream Construction-induced Suspended Sediment in Riverine Ecosystems} 36 \textit{RIVER RES. APPLIC.} 327 (2019) (attached as Ex. 35).
“defensible.”

Mountain Valley’s mischaracterization of the science is important because the Board cannot certify a project under Section 401 where the record cannot support a determination that the discharges from the project will comply with all water quality standards. As explained below, given that a complete review of the literature reveals that dry-ditch, open-cut crossings have substantial and long-term adverse impacts on waterbodies and aquatic life, the Board cannot certify the MVP under Section 401.

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

As discussed above, the relevant water quality standards here are the designated use of all Virginia’s waters for the propagation of aquatic life, Virginia’s narrative standard that protect the biological integrity of its waters, and Virginia’s antidegradation policy. The scientific literature discussed above establishes that Mountain Valley will cause or contribute to violations of those standards.

   a. Mountain Valley’s Stream Crossings Will Cause or Contribute to Violations of Virginia’s Narrative Standard.

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

---

310 40 C.F.R. § 121.7.
life.”311 “Specific substances to be controlled include ... substances that produce ... turbidity ... or settle to form sludge deposits.”312

Violations of that standard can be measured through, among other things, biological assessments of particular waters, including benthic monitoring.313 Once a violation of the biological component of the narrative standards is found, its cause must be identified; sedimentation is frequently the stressor causing the impairment.314

Here, sedimentation from Mountain Valley’s dry-ditch, open-cut crossings will contribute to violations of Virginia’s narrative water quality criterion. Virginia’s narrative criterion prohibits harmful levels of turbidity causing pollutants and materials that settle to form sludge deposits.315 The literature establishes that dry-ditch, open-cut crossings cause sediment deposits and visible turbidity plumes downstream from the crossing


312 Id.

313 See S. Appalachian Mountain Stewards v. Red River Coal Co., Inc., 420 F. Supp. 3d 481, 489 (W.D. Va. 2019) (explaining that Virginia’s “narrative standards include a biological component that is assessed by, among other things, monitoring benthic invertebrates”); Ohio Valley Envtl. Coal., Inc. v. U.S. Army Corps of Eng’rs, 716 F.3d 119, 124 (4th Cir. 2013) (explaining the use of benthic community metrics to determine that streams are biologically impaired).


location. For example, Reid and Anderson (1999) find that “large depositions in slow velocity areas such as shallow side pools, behind boulders and instream debris have been observed to require longer periods or higher flows for removal,” and note that 30 cm deep deposits have been observed within 100 m of crossings. And Lévesque and Dubé (2007) found that “[p]lumes of highly turbid water [have been] observed downstream of construction.”

The literature establishes that dry-ditch, open-cut crossings such as those proposed by Mountain Valley cause turbidity and sedimentation at levels that harm fish and macroinvertebrates. As Hansen and Betcher (2021) conclude, sedimentation from pipeline construction affects benthic macroinvertebrates in several ways: Sediment accumulation fills interstitial spaces used for refuge, decreases oxygen availability, and inhibits food sources (Harrison et al. 2007, Leitner et al. 2015). Some species are more susceptible to

---


318 Lévesque & Dubé (2007) at 398.

319 Lévesque & Dubé (2007) at 395–96; X. Yu et al., *Effects of Pipeline Construction on Wetland Ecosystems: Russia-China Oil Pipeline Project (Mohe-Daqing Section)*, 39 AMBIO 449 (2010) (attached as Ex. 36) (“[P]ipeline crossing construction is shown to not only compromise with the integrity of the physical and chemical nature of fish habitat, but also to affect biological habitat and fish behavior and physiology (Lévesque, L.M., Dubé 2007), which will result in the avoidance movement of fish, altered distribution of populations (Newcombe and Jensen 1996) and reduce population size.”); Penkal & Phillips (1984) at 7 (noting that blasting attendant to crossing construction kills fish); *id.* at 8 (“Construction and operation of pipelines can cause significant damage to aquatic habitats and fishery resources.”); Reid & Anderson (1999) at 244 (finding extirpation of benthic insects and reduced benthic diversity downstream of pipeline crossings).
sediment impacts, which leads to a decrease in benthic biodiversity. Macroinvertebrates of the *Ephemeroptera*, *Plecoptera*, and *Trichoptera* orders are most impacted by sedimentation and are also important food sources for stream fish (Harrison et al. 2007).

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

Finally, discharges cannot interfere with designated uses. All Virginia waters, including wetlands, are designated for use for “the propagation and growth of a balanced, indigenous population of aquatic life, including game fish, which might reasonably be expected to inhabit them[]” The literature review set forth above establishes that dry-ditch, open-cut crossings will contribute to interference with the aquatic life use of Virginia’s waters.

The effects described above are more than theoretical. Such violations of state water quality standards caused by open-cut, dry-ditch pipeline crossings

---

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

321 Lévesque & Dubé (2007) at 406–07. As discussed in Section I.C.2, *infra*, Mountain Valley proposes to cut several streams multiple times, and there are scores of crossings in the same watershed in multiple important systems.


323 *Id.* § 25-260-10.

324 See Section I.B.1, *supra*; see also, e.g., Penkal & Phillips (1984) at 8 (“Construction and operation of pipelines can cause significant damage to aquatic habitats and fisheries); Castro et al. (2015) at 767 (“Based on past experience at pipeline crossings, the potential for both short and long-term negative impacts on aquatic habitat and species is substantial.”).
crossings have been observed in recent years in West Virginia and Virginia. For example, in 2019, the West Virginia Department of Environmental Protection entered a consent order to Columbia Gas Transmission, LLC, regarding water quality standards violations that occurred when that pipeline company allowed an upstream dam to fail on a dry-ditch, open-cut crossing of a trout stream in Pendleton County, West Virginia. That particular crossing was using the dam-and-pump crossing method, which is supposed to be less likely to fail than the flume crossing method. WVDEP expressly found that the pipeline company had “cause[d] conditions not allowable [i.e., a violation of West Virginia’s narrative water quality criteria] by creating distinctly visible settleable solids in the North Fork of the South Branch of the Potomac River... which is a trout stream.” The violation persisted through a 19-mile-long reach of the trout stream.

Two MVP crossings completed before the 2018 vacatur of Mountain Valley’s Nationwide Permit 12 authorization also contributed to water quality

325 Consent Order Issued Under the West Virginial Water Pollution Control Act to Columbia Gas Transmission, LLC (Jan. 28, 2019) (attached as Ex. 37).
326 Id.
327 Reid & Anderson (2004) at 87.
328 Ex. 37 at 2.
329 Id.; see also Hansen & Betcher (2021), supra n.1 at 5 (concluding that “The 19-mile sediment impact from a failed dry ditch open-cut crossing during construction of the WB Express Pipeline... provides a vivid illustration of the scale of problems that can be caused.”).
standards violations, one in Virginia and one in West Virginia. In Virginia, Mountain Valley constructed its dry-ditch, open-cut crossing of S-G36—the North Fork of the Roanoke River—on July 19, 2018. Mountain Valley’s inspectors reported problems with sedimentation and turbidity from the pump around outlet. Citizen inspectors, trained by Trout Unlimited in turbidity monitoring, documented sediment deposits and consistent turbidity increases downstream from the crossing location throughout their sampling period from July 19, 2018 through September 9, 2018. Because sediment deposits and turbidity are harmful to aquatic life and interfere with the aquatic life use by smothering benthic macroinvertebrates, what the citizen inspectors observed constitutes violations of Virginia narrative water quality criteria.

In West Virginia, Mountain Valley constructed a pipeline right-of-way crossing through stream S-IJ64 (an unnamed tributary of Little Stony Creek

---

330 As discussed further in Section I.C.1, infra, Mountain Valley’s compliance history generally, and particularly at completed crossings, is especially germane to the Board’s review of this pending application because it is arbitrary and capricious for an agency to ignore a party’s past history of noncompliance. E.g., Animal Legal Def. Fund, 872 F.3d at 620.

331 Mountain Valley Pipeline, Visual Site Inspection Report #4841 (July 19, 2018) (attached as Ex. 38).

332 Id.

in Monroe County), and its attendant right-of-way bridge, in May 2018. In an inspection on May 9, 2018, a WVDEP inspector documented “conditions not allowable” (that is, a narrative water quality standards violation) that resulted from MVP’s neglect of “[b]ridge matting [that] failed contributing sediment laden water at the right-of-way crossing at S-IJ64.” The inspector concluded that the resulting sediment deposits caused the “conditions not allowable.”

In sum, there is overwhelming evidence that Mountain Valley’s proposed dry-ditch, open-cut crossings will contribute to violations Virginia’s narrative water criterion, and that those violations will be both substantial and long-term, if not permanent. Accordingly, the Board cannot make the requisite determination that the proposed discharges from this project will comply with all water quality standards.

b. Mountain Valley’s Stream Crossings Will Cause or Contribute to Violations of Virginia’s Antidegradation Policy.

Section 303 of the CWA establishes an antidegradation policy, “requiring that state standards be sufficient to maintain existing beneficial

---


335 Id.

336 Id.

337 40 C.F.R. § 121.7.
uses of navigable waters, preventing their further degradation.” 338 Such policies are fundamental elements of a state’s water quality standards.339 As EPA has said that, “[q]uite simply, antidegradation policies are part of water quality standards.” 340 Virginia’s antidegradation policy mandates that the policy “shall be applied whenever any activity is proposed that has the potential to affect existing surface water quality.” 341 Likewise, EPA has explained that “at a minimum, States . . . must apply antidegradation requirements to . . . any activity requiring a CWA § 401 certification[.]” 342

State antidegradation policies must be consistent with 40 C.F.R. § 131.12(a), and states must develop implementation methods consistent with that provision.343 The federal regulations require that antidegradation policies protect existing uses, maintain the existing quality of high-quality waters


343 40 C.F.R. § 131.12(b).
unless degradation is justified by socioeconomic development, and prohibit degradation of outstanding national resource waters.\textsuperscript{344}

Virginia’s antidegradation policy has been approved by EPA and is set out in 9 Virginia Administrative Code § 25-260-30. It assigns three tiers of protection to Virginia’s waters, depending on their existing quality and national significance: Tier 1, Tier 2, and Tier 3.\textsuperscript{345} Existing uses and the level of water quality necessary to protect the existing uses must be maintained in Tier 1 waters; the existing high-quality of Tier 2 waters must be protected absent a finding “that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located,”\textsuperscript{346} and the long-term degradation of exceptional state waters in Tier 3 streams is prohibited.\textsuperscript{347}

Virginia’s antidegradation implementation procedures are found in Guidance Memo No. 00-2011, titled “Guidance on Preparing VPDES Permit Limits.”\textsuperscript{348} That guidance requires the reviewer to (1) “[e]stablish the tier category of the waters concerned[,]” (2) “[e]stablish wasteload allocations

\begin{itemize}
\item \textsuperscript{344} \textit{Id.} § 131.12(a).
\item \textsuperscript{345} 9 Va. Admin. Code § 25-260-30(A).
\item \textsuperscript{346} Such a finding may only be made “after full satisfaction of the intergovernmental coordination and public participation provisions of the Commonwealth's continuing planning process. \textit{Id.} § 25-260-30(A)(2).
\item \textsuperscript{347} \textit{Id.} § 25-260-30(A).
\item \textsuperscript{348} That document is attached as Ex. 5.
\end{itemize}
consistent with the tier category[,]” and (3) “[d]ocument the findings for future reference.”

For Virginia’s Tier 1 waters, “there is no additional capacity” for the parameters related to the impairment, such that no additional discharges are allowed. For Tier 2 waters, where “the quality of the waters exceeds water quality standards, that quality shall be maintained and protected.” Moreover, baselines must be established for Tier 2 waters, which determine the unused assimilative capacity of the stream for the pollutant at issue. “A baseline needs to be established for all criteria that apply to the stream in question.” Degradation of a Tier 2 water is permissible only if the Board finds, after “full satisfaction of intergovernmental coordination and public participation provisions,” that “allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.”

Because its antidegradation policy is a part of Virginia’s water quality standards, the Board must consider whether Mountain Valley’s proposed

---

349 Id. at 7.

350 Id. at 13.


352 Ex. 5 at 9–10.

353 Id. at 10.

activities comply with that policy as part of its review of the pending application for a Section 401 certification.\footnote{355}{40 C.F.R. § 121.27; see also \textit{Arkansas v. Oklahoma}, 503 U.S. 91, 109 (1992) (holding that “state water quality standards . . . are part of the federal law of water pollution control”).}

In short, the Board must conduct a full antidegradation review. That review must determine the existing uses of the hundreds of waterbodies that would receive discharges from the proposed activities. That review must determine the baseline water quality of those waterbodies for parameters of concern.\footnote{356}{The only water quality data in Mountain Valley’s application is limited to three parameters and one biological assessment performed for mitigation calculation purposes on a limited subset of the streams that would be affected by the pipeline’s construction and operation. Application, attachment M. Mountain Valley has since committed to collecting baseline data in the future, but, as explained in greater detail in Section I.B.2.b.ii, \textit{infra}, this information must be collected \textit{before} the Board can act on Mountain Valley’s application to allow for antidegradation review.} That review must determine the assimilative capacity of the numerous Tier 2 streams that would receive discharges under the pending application. And that review must determine whether discharges associated with stream and wetland crossings would impermissibly degrade Tier 2 waters. As explained below, that review must conclude that Mountain Valley’s proposed activities are impermissible under Virginia’s antidegradation policy.

Mountain Valley acts as if an antidegradation review begins and ends with Tier 3 streams.\footnote{357}{Application at 35.} But Tier 1 and Tier 2 streams must also be protected.
As explained below, the Board should deny Mountain Valley’s application for a 401 certification on the basis of Tier 1 and Tier 2 streams.

   i. *Tier 1 Antidegradation Rules Protect Already Impaired Streams.*

The Board must consider the effects of Mountain Valley’s proposed activities on Virginia’s streams that are not currently meeting their designated uses. Under Virginia’s antidegradation procedures, “[a]t minimum, existing instream water uses shall be maintained and protected.”\(^{358}\) Discharge limits are determined through wasteload allocations that will attain and/or maintain water quality standards, including narrative criteria.\(^{359}\) Where new discharges are proposed to Tier 1 waters “there is no additional capacity for [the] parameters [causing impairment]. Since there is no additional capacity available for these parameters the permit limits for the new discharge must be established to equal the standards in the effluent prior to discharge.”\(^{360}\) That is, new discharges such as those proposed by Mountain Valley may not increase the concentration of pollutants that are causing impairment.

Mountain Valley’s application does not identify the tier category for Virginia streams. FERC’s FEIS states that the MVP would cross 13 Tier 1


\(^{359}\) Ex. 5 at 9.

\(^{360}\) Id. at 13.
streams in Virginia.\textsuperscript{361} Hansen et al. (2018) reviewed Virginia’s Section 303(d) lists and determined that at least two of the streams that the MVP will cross—Little Creek and Teels Creek—are biologically impaired, and that those impairments are caused by excess sediment.\textsuperscript{362} Further review of Mountain Valley’s individual permit application and Virginia’s most recent list of impaired waters show that the MVP will cross numerous waterbodies that have been classified as impaired due to “Benthic Macroinvertebrates Bioassessments,” with sediment being listed as a source of impairment, such as the Blackwater River, North Fork of the Blackwater River, North Fork of the Roanoke River, and Maggodee Creek.\textsuperscript{363} Additionally, the MVP will cross numerous tributaries of those impaired waters.\textsuperscript{364} All of those streams are within the watershed of the Roanoke River, which is subject to a Total Maximum Daily Load (TMDL) for sediment as a result of aquatic life impairment.\textsuperscript{365}

\textsuperscript{361} FEIS at 4-125.

\textsuperscript{362} Evan Hansen, Jason Clingerman & Meghan Betcher, Threats to Water Quality from Mountain Valley Pipeline and Atlantic Coast Pipeline Water Crossings in Virginia 9 (2018) (attached as Ex. 41).


\textsuperscript{364} Id.

\textsuperscript{365} See 9 Va. Admin Code 25-720-80 (Roanoke River Basin TMDLs).
As discussed elsewhere in these comments, Mountain Valley’s stream crossings will result in increased sedimentation in streams. For the sediment-impaired waters identified above, at a minimum, that means that additional sedimentation would not allow those streams to attain or maintain their existing uses. Because of the persistent nature of sedimentation, additional sedimentation in those streams from Mountain Valley’s proposed activities is prohibited by Virginia’s water quality standards. Accordingly, the Board should deny Mountain Valley’s application.

**ii. Tier 2 Antidegradation Rules Protect High-Quality Streams.**

Absent contrary information, Virginia assumes that all streams are Tier 2, such that all crossings other than those in the impaired waters identified above will be in Tier 2 waters. Virginia’s antidegradation policy requires that the quality of such waters be “maintained and protected” and prohibits “significant degradation” of Tier 2 streams absent a demonstration of socioeconomic importance. “Guidance developed by U.S. Environmental Protections Agency (EPA) Region 4 states that ‘it is generally accepted that a

---

366 See, e.g., Section I.B.1, supra.

367 Ex. 5 at 8.


369 Ex. 5 at 9; 40 C.F.R. § 131.12
new or increased volume of discharge will result in the lowering of water quality for a Tier [2] water body.” Likewise, EPA’s Water Quality Standards Handbook states that “new discharges or expansion of existing facilities would presumably lower water quality and would not be permissible unless the State conducts” a full Tier 2 socioeconomic review.

Whether significant degradation will occur cannot be determined without two important quantifications that are absent from Mountain Valley’s application: (1) baseline water quality for parameters of concern and (2) the amount of additional loads of parameters of concern that will result from the proposed activities. Those data are necessary to determine the effect of discharges on the assimilative capacity of a high-quality Tier 2 water.

Mountain Valley has not provided baseline water quality data for sedimentation, turbidity, or other parameters of concern for the streams that will be affected by its proposed activities. Nor has Mountain Valley made any effort to quantify the increased sediments that would be discharged as a result of its proposed activities. Such a quantification is possible through the use

---


371 Id. (quoting 1994 Water Quality Standards Handbook, Ch. 4.5, at 4–7 (2d ed. 1994)).

372 Ex. 5 at 9–10.

373 Hansen & Betcher (2021), supra n.1, at 5 (“Detailed, site-specific and stream-specific information and modeling would be needed to predict the scale of impacts and the amount of time required to return to pre-construction...”)
of modeling techniques to predict the turbidity and suspended solids concentrations that would result from pipeline construction.\footnote{\textit{See}, \textit{e.g.}, FEIS at 4-139 (describing quantitative modeling performed on open-cut crossings of the Elk, Gauley, and Greenbrier Rivers).}

Without baseline water quality data for sedimentation and turbidity, and without quantification of increased sedimentation and turbidity from Mountain Valley’s proposed activities, the Board cannot perform an antidegradation review for the numerous impacted Tier 2 streams. Accordingly, the Board must deny Mountain Valley’s application as incomplete because the current record cannot support the issuance of a Section 401 certification.\footnote{40 C.F.R. § 121.7(e)(iii).}

Finally, the Board may not rely on the existence of Mountain Valley’s Annual Standards and Specifications (“AS&S”) to satisfy its Tier 2 antidegradation review obligations, as it did for the MVP upland certification.\footnote{\textit{See} Melanie Davenport, DEQ, Proposed 401 Water Quality Certification Mountain Valley Pipeline, LLC Certification No. 17-001 (Nov. 9, 2017), Attachment C: Response to Comments (the entire proposed certification, including Attachment C, included as Attachment D to Mountain Valley’s Certification Request).} There, DEQ “determined that compliance with the Annual Standards and Specifications approval generally is sufficient to satisfy Tier 2 and Tier 3 antidegradation requirements because the controls will not result

conditions. This type of information and modeling is absent from MVP’s application.”).
in a lowering of water quality, making individualized Tier 2 or Tier 3 review unnecessary."\textsuperscript{377} Regardless of whether that determination was correct as to impacts from upland activities,\textsuperscript{378} it is certainly inapplicable to the proposed impacts from the MVP’s waterbody crossings, for several reasons.

First, DEQ made clear in that response to comments that the it was only relying on the AS&Ss to satisfy antidegradation review requirements with respect to impacts from upland activities; its review of waterbody crossing impacts was limited to its certification of NWP 12.\textsuperscript{379} Because Mountain Valley is now seeking an individual permit, the Board may not rely on its previous certification of NWP 12, which did not involve any project-specific review.

Second, DEQ’s reliance on the AS&S’s was primarily founded on the fact that the AS&S’s were equally as protective as the measures to control stormwater pollution found in the General Permit for Discharges of Stormwater from Construction Activities, which the Richmond Circuit Court determined was sufficiently protective to satisfy antidegradation

\textsuperscript{377} \textit{Id.} at C13.

\textsuperscript{378} The widespread failures of Mountain Valley’s erosion and sediment control efforts and attendant impacts to water quality suggest that DEQ’s reliance on Mountain Valley’s AS&Ss was not well-founded.

\textsuperscript{379} \textit{Id.} at C10 (“DEQ has already established reasonable assurance that activities in streams and wetlands (April 7, 2017 DEQ 401 Water Quality Certification of Corps NWP 12), and land disturbing activities (June 20, 2017 DEQ approval of Annual Standards and Specifications) will be conducted in a manner that will not violate applicable water quality standards.”).
requirements.\textsuperscript{380} That permit, however, is focused entirely on stormwater from land disturbance, \textit{i.e.}, the type of impacts associated with upland construction activities.\textsuperscript{381} There is no connection between the protections in the Stormwater General Permit and the impacts of Mountain valley’s proposed dredge and fill activities within waterbodies.\textsuperscript{382} The Board thus may not rely on any parallels between the AS&Ss and that permit to avoid its antidegradation review responsibilities here.

Third, the AS&Ss on their face provide no assurance that Mountain Valley’s proposed waterbody crossings will not cause significant degradation to Tier 2 waters. Mountain Valley claims that the AS&Ss “outline procedures and practices that will be implemented for stream and wetland crossings,” citing specifically to Sections 4.1, 4.2.6, 4.2.7, and 5.2.2.\textsuperscript{383} Section 4.1 consists of very general statements as to how Mountain Valley will cross waterbodies, such as “MOUNTAIN VALLEY intends to employ one of the Utility Stream Crossing (VESCH STD & SPEC 3.25) methods to complete open water crossings. The method selected during planning and surveying may need to be

\begin{itemize}
\item \textsuperscript{380} \textit{Id.} at C11.
\item \textsuperscript{381} \textit{Id.} at C11–12.
\item \textsuperscript{382} \textit{Id.} at C12 (listing relevant elements of the General permit, none of which relate to in-stream activities).
\item \textsuperscript{383} Certification Request at 5.
\end{itemize}
altered based on field conditions at the time of construction.”\textsuperscript{384} They say nothing about how sediment from the trench through the waterbody, as opposed to sediment from upland areas, will be controlled. There is no analysis whatsoever showing that the measures Mountain Valley intends to use, to the extent that they are even specified, will prevent a significant degradation of water quality in the numerous streams to be Tier 2 streams crossed by the MVP. In the face of the robust body of scientific literature discussed in these comments showing that dry, open-cut waterbody crossings have a high likelihood of causing significant degradation of waterbodies, it would be arbitrary for the Board to rely on Mountain Valley’s AS&Ss to dismiss its Tier 2 antidegradation review responsibilities.

3. THE MVP WILL CAUSE OR CONTRIBUTE TO SIGNIFICANT DEGRADATION OF THE WATERS OF THE UNITED STATES, LEADING TO NONATTAINMENT OF THE AQUATIC-LIFE USE.

The 404(b)(1) Guidelines prohibit the issuance of a permit where the proposed discharges “will cause or contribute to significant degradation of the waters of the United States.”\textsuperscript{385} “Significant degradation” includes significant adverse effects on fish; shellfish; life stages of aquatic life and other wildlife;

\textsuperscript{384} Mountain Valley, Annual Standards and Specifications for Projects in Virginia April 2017 (rev. Mar. 2021), available at https://www.mountainvalleypipeline.info/news-info. The other sections cited are even more general and provide no assurance that Mountain valley’s activities will not lower water quality.

\textsuperscript{385} Id. § 230.10(c).
and aquatic ecosystem diversity, productivity, and stability.\textsuperscript{386} As explained below, the discharges proposed by Mountain Valley will cause or contribute to such degradation. And such degradation is a reasonable proxy for compliance with Virginia’s designated aquatic-life use and narrative water quality criterion that protects biological integrity. Consequently, the Board must deny the pending application.

\textbf{a. Mountain Valley’s Stream Crossings Threaten Significant Adverse Effects to Fish and Shellfish.}

The 404(b)(1) Guidelines prohibit significant degradation in the form of significant adverse effects on fish and shellfish.\textsuperscript{387} Such effects interfere with Virginia’s designated aquatic-life use.\textsuperscript{388} The pipeline crossing literature discussed in Section I.B.1, \textit{supra}, establishes that dry-ditch, open-cut crossings like those proposed by Mountain Valley, contribute to significant adverse effects on fish. Those impacts include, \textit{inter alia}, adverse effects on fishery habitat from sedimentation;\textsuperscript{389} lethal effects from blasting;\textsuperscript{390} and effects on “fish behavior and physiology (hierarchy, feeding, respiration rate, loss of

\begin{footnotesize}
\begin{itemize}
\item[\textsuperscript{386}] \textit{Id.} § 230.10(c)(1)–(4).
\item[\textsuperscript{387}] \textit{Id.} § 230.10(c)(1).
\item[\textsuperscript{388}] 9 Va. Admin. Code § 25-260-10(A).
\item[\textsuperscript{389}] Penkal & Phillips (1984) at 6; Reid & Anderson (1999) at 242.
\item[\textsuperscript{390}] Penkal & Phillips (1984) at 7.
\end{itemize}
\end{footnotesize}
equilibrium, blood hematocrit and leukocrit levels, heart rate and stroke volume).”

With regard to shellfish, the MVP would cross numerous waters that support freshwater mussels. But Mountain Valley provides insufficient information for the Board to conclude that there will not be significant adverse effects on those shellfish and makes hollow commitments regarding timing its crossings to protect mussels.

Mountain Valley states that it “will adhere to recommended [time-of-year restrictions] and mussel relocations,” but only “as required.” As discussed further in Section I.D.2, infra, Mountain Valley expressly reserves the right to seek waivers of time-of-year restrictions (“TOYRs”), and has a demonstrated history of doing so for the convenience of adhering to its preferred construction schedule. Adherence to such restrictions is important in order to avoid significant degradation because the physical changes caused by sediment deposits can have protracted effects on benthic habitats.

---


392 Application at 37. Mountain Valley plans to conduct conventional bores at most locations that support the endangered James Spiny mussel. However, crossing 54 identified in Appendix 2 to DEQ’s draft permit, associated with a temporary access road over Craig Creek, could potentially impact that sensitive species.

393 Application at 37.

394 See also id. at 36, 39, 65, 65 n.69.

Troublingly, DEQ’s draft permit appears to allow for future waiver or alteration to the TOYRs that have been recommended by the Virginia Department of Wildlife Resources as necessary to protect aquatic life.\textsuperscript{396} In order for the Board rely on the TOYRs to support a finding that water quality standards will not be violated, those protections must be firm and not subject to future waiver or alteration.

\textit{b. Mountain Valley’s Crossings Threaten Significant Adverse Effects to Life Stages of Aquatic Life and Other Wildlife.}

The 404(b)(1) guidelines prohibit significant degradation in the form of serious adverse effects on the life stages of aquatic life and other wildlife.\textsuperscript{397} Again, such effects prevent the attainment of Virginia’s designated use for the propagation of aquatic life.\textsuperscript{398} The literature establishes that “silt or sand deposition can fill interstices in gravel,” and that “[e]quipment operating in the stream . . . can eliminate spawning habitat.”\textsuperscript{399} As a result, stream crossings have been shown to affect fish reproductive success.\textsuperscript{400} Specifically,

\begin{quote}
[i]ncreased sediment deposition and substrate compaction from pipeline crossings can degrade spawning habitat, result in the production of fewer and smaller fish eggs, impair egg and larvae
\end{quote}

\textsuperscript{396} Draft Permit at 5; Fact Sheet at 19.

\textsuperscript{397} 40 C.F.R. § 230.10(c)(2).


\textsuperscript{400} Lévesque & Dubé (2007) at 399.
development, [and] limit food availability for young-of-year fish[.]

The Fish and Wildlife Service’s September 2020 BiOp reaches the same conclusion, stating that sedimentation from pipeline construction, including dry-ditch, open-cut crossings, can be expected to cause multiple adverse effects on all life stages of benthic fish, including loss of stream habitat essential for sheltering, foraging, and spawning; increased mortality of eggs, YOY, juveniles, and adults; increased predation on eggs by sediment-dwelling invertebrates; avoidance of previously occupied habitat; increased vulnerability of adults to predation; [and] reduced reproductive success.

Such effects are particularly problematic for fish species—such as the candy darter (*Etheostoma osburni*)—that have short life cycles. As discussed above, sedimentation deposits attendant to pipeline stream crossings have been documented to persist for up to four years. Consequently, the sedimentation effects from Mountain Valley’s dry-ditch, open-cut crossings cannot be dismissed as temporary because they will last longer than the lifespan of some of the fish species in its path, interfering with each stage of

---

401 Ex. 29 at 3.

402 BiOp at 95.


404 Lévesque & Dubé (2007) at 299.
those fishes lifecycles. The Board must take a hard look at those significant adverse impacts on the life stages of the aquatic life in the MVP’s path.

Mountain Valley’s routine use of waivers of TOYRs, discussed more fully in Section I.D.2, infra, rears its head here as well. The literature concludes that adherence to such restrictions is essential given the protracted effect of sediment deposits on habitat. But, Mountain Valley expressly reserves the right to seek waivers of time-of-year restrictions, and has a demonstrated history of doing so for the convenience of adhering to its preferred construction schedule. Mountain Valley’s disregard for the life cycles of the aquatic life in its path underscores the need to protect that aquatic life from significant adverse impacts to its life stages.

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

The prohibition of significant degradation also includes a prohibition of significant adverse effects on “aquatic ecosystem diversity, productivity, and stability.” Such effects prevent the attainment of Virginia’s designated use.

---

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


407 See Section I.D.2, infra; see also Application at 36, 39, 65, 65 n.69.

408 40 C.F.R. § 203.10(c)(3).
for the propagation of aquatic life and lead to biological impairment, i.e., violations of Virginia narrative water quality criterion. The available stream-crossing literature establishes that such effects should be expected from Mountain Valley’s proposed dry-ditch, open-cut crossings. For example, Reid and Anderson (1999) found:

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

And Lévesque and Dubé (2007) observed that Armitage and Gunn (1996) noted that pipeline crossing construction in a stream in England resulted in a shift in invertebrate species due to an increased proportion of silt in stream substrates. This effect persisted for 4 years until a high magnitude flow event scoured the stream channel bed, promoting re-establishment of pre-construction invertebrate species. Tsui and McCart (1981) found that crossing construction of Archibald Creek, British Columbia, caused short-term increases in silt and sand accumulation and decreases in invertebrate standing crop and diversity, which lasted 1 to 2 years.

---


410 Reid & Anderson (1999) at 244.

411 Lévesque & Dubé (2007) at 399 (emphasis added).
Moreover, “[p]ipeline crossing construction is shown to not only compromise with the integrity of the physical and chemical nature of fish habitat, but also to affect biological habitat and fish behavior and physiology (Lévesque and Dube 2007), which will result in avoidance movement of fish, altered distribution of populations (Newcombe and Jensen 1996) and reduce population size and species.”412 And “[t]he integrity and background of wetland ecosystems may be destroyed.”413 Those significant adverse effects on the aquatic ecosystems, diversity, productive, and stability require the Board to deny Mountain Valley’s pending application because the discharges will interfere with the aquatic-life use and lead to violations of West Virginia’s narrative water quality criteria in W. Va. C.S.R. § 47-2-3.2.

4. THE DRAFTS PERMIT’S “STRUCTURAL STABILITY” DISCLAIMER COULD LEAD THE BOARD TO IGNORE POTENTIALLY SIGNIFICANT WATER QUALITY IMPACTS.

The Board may not disclaim responsibility for evaluating potential impacts to water quality arising from Mountain Valley’s proposed crossings. The first paragraph of the draft permit notes: “In issuing this VWP permit, the board has not taken into consideration the structural stability of any proposed activities.” As no further explanation is included, the precise meaning of this disclaimer is unclear. The statement may merely signify that the Board, in issuing the permit, would not be certifying the engineering involved in the

412 Yu et al. (2010) at 449.

413 Id.
crossings. However, as written, the statement appears to suggest that the Board could issue a VWP permit without evaluating the water quality impacts associated with Mountain Valley’s proposed crossing methods, plans, and practices to the extent that “structural stability” is implicated, *i.e.*, that the Board would ignore the potential for impacts associated with possible failure of Mountain Valley’s crossing structures. But, in issuing the permit, the Board must necessarily certify that discharges into state waters, including any discharges likely to result from structural failures, will not violate the state’s water quality standards. Accordingly, if the permit is issued, it should either not include a “structural stability” disclaimer or the statement in the draft permit should be revised to clarify the extent of the Board’s evaluation of Mountain Valley’s proposed activities.

**C. MOUNTAIN VALLEY HAS NOT PROVIDED SUFFICIENT INFORMATION TO ALLOW THE BOARD TO DETERMINE THAT THE PROPOSED ACTIVITY WILL COMPLY WITH WATER QUALITY STANDARDS.**

Mountain Valley’s permit application is far too summary about its proposed discharges and disposal sites to support a determination by the Board about compliance with water quality standards.⁴¹⁴ It is as if the applicant is relying on the sheer scope of its proposed permit to overwhelm the process and allow it to skirt the information requirements. Mountain Valley attempts to push through an application for hundreds of crossings that would readily be

---

⁴¹⁴ *See, e.g.*, Application at 37–41 (providing high-level, general summaries with little, if any, site-specific discussion).
found insufficient if it were submitted for any single one of its proposed crossings. But Section 401 does not allow Mountain Valley to generalize about its crossing locations simply because it decided to build a project with hundreds of proposed discharges at hundreds of proposed locations. If it were otherwise, the biggest, most destructive projects would face fewer requirements than a project affecting just one stream or wetland.

Virginia’s water quality standards apply at each disposal site; thus detailed information must be provided about each discharge location. Mountain Valley simply has not met that requirement. To make all its required determinations under Section 401 of the Clean Water Act and its implementing regulations, the Board needs far more site-specific information than Mountain Valley has provided.

For example, to make determinations about sedimentation and turbidity, the Board needs site-specific information about the current water quality at each and every stream, as well as modeling data to determine how much sediment and turbidity each specific crossing will add to the affected streams. And to make determinations about compliance with Virginia’s narrative water quality criterion, the Board needs benthic assessments from each and every affected stream—not just the random subset related to

---

415 Hansen & Betcher (2021), supra n.1, at 5 (“Detailed, site-specific and stream-specific information and modeling would be needed to predict the scale of impacts and the amount of time required to return to pre-construction conditions. This type of information and modeling is absent from MVP’s application.”).
mitigation provided in Attachment M—and confirmation of the fish species present in each and every affected stream.\textsuperscript{416}

The Fourth Circuit’s opinion in \textit{Ohio Valley Environmental Coalition, Inc. v. U.S. Army Corps of Engineers}, 716 F.3d 119 (4th Cir. 2013), provides examples of the kinds of information that the Board would need in order to survive a judicial challenge to Mountain Valley’s proposed permit on the basis of insufficient baseline data. In that case, the environmental plaintiffs challenged whether the Corps had misapprehended the baseline conditions at the disposal sites at issue.\textsuperscript{417} To determine whether the plaintiffs’ claims had

\textsuperscript{416}In the fall of 2017, DEQ conducted benthic assessments—ostensibly to use as baseline data—at six planned crossing sites in Virginia. Email from Ann Regn, Virginia Department of Envtl. Quality, to Cleo Baker, VDEQ, et al., Re: MVP data is live (Aug. 19, 2021) (attached as Ex. 42). Those crossings are the Blackwater River crossing, the Little Stony Creek crossing, the Sinking Creek crossing, the Roanoke River crossing, the Lower Bottom Creek crossing, and the Upper Bottom crossing; tables and a chart depicting the results of the fall 2017 benthic assessments are attached as Ex. 43.

That random sampling of six crossing locations is insufficient. Benthic assessment data is required for every crossed waterbody in order to understand the current function and biological status of each affected waterbody. DEQ’s water quality monitoring team knows that more data is needed, and has asked to gather it, but it has been unable to do so because DEQ “leadership has said no.” Ex. 42 at 3. Moreover, the value of that small sample set is even further reduced now that Mountain Valley intends to bore under—rather than trench through—most of the six sampled crossings. See Table 15 (October 2021 Revision) at 24 (Little Stony Creek (S-Z14) to be crossed using guided conventional bore), 25 (Sinking Creek (S-NN17) to be crossed using conventional bore), 29 (Roanoke River (S-NN16) to be crossed using Microtunneling), 31 (Bottom Creek (S-IJ88) to be crossed using conventional bore) (attached as Exhibit 11).

\textsuperscript{417}\textit{Ohio Valley Envtl. Coal., Inc. v. U.S. Army Corps of Eng’rs}, 716 F.3d 119, 124 (4th Cir. 2013). Under Fourth Circuit precedent, accurate information about baseline conditions is essential because “[a] material misapprehension
merit, the Court examined how the Corps examined the baseline conditions of
the watershed at issue.\textsuperscript{418} Among the factors the Corps considered were: (1)
“the conditions at the [proposed] fill site itself,”\textsuperscript{419} and (2) an analysis of the
impaired conditions of the streams in the relevant watershed.”\textsuperscript{420}

The Corps’ review of the conditions at the disposal site included a review
of the flow regime, rapid bioassessment protocols, stream condition index
scores, benthic macroinvertebrate analyses, the condition and functions of the
receiving streams, and the existing stream quality.\textsuperscript{421} From there, the Court
noted that the Corps “followed up this summary by detailing the supporting
data collected with respect to ‘physical habitat,’ ‘water quality,’ ‘benthics,’ and
‘stream functioning.’”\textsuperscript{422}

When it turned to the impaired status of the watershed at issue, the
Corps examined baseline water-quality testing data from eight sites in the
watershed, including the stream to be filled and nearby streams, as well as the

\textsuperscript{418} \textit{Ohio Valley Envtl. Coal., Inc.}, 716 F.3d at 124.

\textsuperscript{419} \textit{Id.} at 125.

\textsuperscript{420} \textit{Id.}

\textsuperscript{421} \textit{Id.}

\textsuperscript{422} \textit{Id.} at 125–26.
forest coverage in the watershed at issue and its ability to absorb the impacts.\textsuperscript{423}

Based on what it described as the Corps’ “contextual judgment made after considering all relevant data,” the Fourth Circuit rejected the environmental plaintiffs’ contention that the Corps misapprehended the baseline conditions.\textsuperscript{424}

In contrast, Mountain Valley has not provided the amount of data held to be sufficient in \textit{Ohio Valley Environmental Coalition} for \textbf{any single disposal site}, let alone the hundreds of such sites it seeks to permit.\textsuperscript{425} For example, Mountain Valley provides only limited water quality data, including benthic assessment scores, for only a handful of streams.\textsuperscript{426} A robust dataset like that upheld in \textit{Ohio Valley Environmental Coalition} is necessary for every waterbody at issue in order for the Board to make a determination about compliance with all water quality standards that would survive judicial review.

The need for baseline data is not just required by Section 401, its implementing regulations, and federal court caselaw, it is also required by the scientific literature examining pipeline crossings. The authors of the article documenting benthic effects for four years after a pipeline crossing was

\textsuperscript{423} \textit{Id.} at 126–27.

\textsuperscript{424} \textit{Id.} at 127.

\textsuperscript{425} \textit{See} Silvis (2021), \textit{supra} n.1, at 9 (noting lack of site-specific information).

\textsuperscript{426} Application, attachment M.
completed concluded that, “the study has shown . . . that before authoritative statements concerning environmental impact can be made it is essential to have knowledge of the natural variation to be expected in streams of differing characteristics.” In order to predict the potential effects of dry-ditch, open-cut trenches on specific streams,

[monitoring prior to construction should include both habitat and biological surveys upstream and downstream of the proposed crossing location. . . Other important habitat measures pertain to . . . water quality (e.g., TSS, turbidity, DO, water temperature, pH, conductivity). Biotic measures provide information on fish and invertebrate communities specific to the river or stream, and/or habitat types, of interest.]

And because of the existence of multi-year impacts from stream crossings, robust baseline data is needed “to identify site-specific sensitivities and responses to disturbance.” That sort of information is scarce in Mountain Valley’s application, yet it is required for each and every waterbody.

---

427 Armitage & Gunn (1996) at 161 (emphasis added).

428 Lévesque & Dubé (2007) at 405–06 (emphasis added).

429 Id. at 406.

430 Application, attachment M; see also Hansen & Betcher (2021), supra n.1, at 6 ("Individual stream characteristics are important for predicting recovery; therefore, it is important to evaluate the potential for risk on a stream-by-stream basis. MVP’s application does not include this type of detailed information.").
Silvis (2021) predicts dire consequences from that scarcity.\footnote{Silvis (2021), supra n.1, at 9–10.} She notes that Mountain Valley has identified three types of dry-ditch, open-cut crossings that it might employ—dam-and-pump, flume, and cofferdam—but does not specify which method would be used at which site.\footnote{Id.}

Each of these methods requires prior crossing-specific knowledge of velocity, flow rate, soil conditions, contributing watershed area, seasonal rainfall data, stream plan, profile, and longitudinal surveys, channel cross-section, depth of flow, bank stability, etc.—because these methods are not fungible and their suitability and the extent of their impacts will vary site-by-site.\footnote{Id. (emphasis added).} None of this information, or the specific method and design details to be used at each site, was provided for sites recommending dry-ditch open-cut methods.\footnote{Id. at 10.}

The dearth of information and lack of planning will allow Mountain Valley’s field personnel to make decisions “on the fly” with no ability for regulatory agencies . . . to evaluate the efficacy of the proposed crossing for environmental protection. As someone who has evaluated many stream crossing proposals, Mountain Valley’s application does not meet minimum industry standards; I would never approve an application missing such vital information. The possibility of serious negative environmental impacts is increased exponentially by omission of site-specific design.\footnote{Id. at 10. Silvis identified similar information gaps regarding Mountain Valley’s proposed waterbody crossings for its roads that would lead to ill-informed “on the fly” decision making. Id. at 11. Silvis concluded, “if left to field personnel to install without design documents, there will be excessive impacts and failures which will cause long-term damage to aquatic ecosystems . . . .” Id. at 10–11.}

—131—
In response to comments by EPA and others, Mountain Valley purports to be gathering additional baseline data for the streams and wetlands it will impact. Specifically, Mountain Valley claims to have devised a “Baseline Assessment Plan” under which it will gather pre-crossing data at each stream and wetland impact, “including all data necessary to calculate the West Virginia Stream Wetland Valuation Metric.” Among the data necessary to complete the West Virginia Stream Wetland Valuation Metric are benthic stream condition index data to “[i]ndicate the biological condition of the stream” such as West Virginia Stream Condition Index or Virginia Stream Condition Index scores. To our knowledge, Mountain Valley has not yet provided the data gathered under its Baseline Assessment Plan to DEQ, but says it intends to do so at some indefinite time after October 12, 2021.

Because the baseline data Mountain Valley touts is not available to the public at this time, it is impossible for the Commenters to determine whether it is sufficient. Accordingly, DEQ and the Board should solicit public comment

435 Attachment 6 at 8 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213.


437 Attachment 6 at 9 n.3 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213.
on those supplemental data.\textsuperscript{438} In no event, however, can the Board make a decision on Mountain Valley’s application before it has an opportunity to review the baseline data with an eye towards compliance with water quality standards. And if that data does not include benthic stream conditions index scores for each waterbody, then it would remain incomplete and insufficient to allow the Board to make any predictive judgment about compliance with water quality standards.\textsuperscript{439}

Information deficits infect every aspect of Mountain Valley’s application. For example, as flagged elsewhere, such data gaps affect the alternatives analysis, the determination of whether the project will cause water quality standards violations, and the determination of whether the project will cause significant degradation. Below we describe three additional examples where the lack of information makes permit issuance unlawful: (1) the lack of information in Mountain Valley’s application about its completed crossings, (2) the lack of information about cumulative effects, and (3) the lack of complete information about affected aquatic resources.


\textsuperscript{439} Ohio Valley Envtl. Coal., Inc., 716 F.3d at 124–27.
1. POST-CONSTRUCTION INSPECTION AND MONITORING DATA IS REQUIRED FOR EACH OF MOUNTAIN VALLEY’S COMPLETED CROSSINGS.

In Table 10 of its application, Mountain Valley identifies 24 crossings that it has completed across Virginia, in addition to 131 crossings that have been completed in West Virginia. But Mountain Valley provides absolutely no information about the current conditions at those streams. And we have reason to believe that the Corps has inspected only one of those crossings after it was constructed.

This data gap exists, contrary to the literature-recommended best practices, which provide that

[m]onitoring upon the completion of construction should include habitat and biological surveys much like those completed prior to construction, and should continue, lessening in intensity with time, until recovery of the system to pre-construction conditions. This information may then be used to assess the nature and significance of the effects of pipeline crossing construction over time and space.

Post-construction inspections of all of Mountain Valley’s completed crossings should be conducted because they are necessary to allow the Board to make its determination about whether Mountain Valley will comply with all water quality standards. Such inspections should include benthic biological

---

440 Application, tbl. 10. As discussed below, Mountain Valley failed to include at least one completed crossing (S-G36) in table 10. See note 297, infra.

441 Lévesque & Dubé (2007) at 405.
assessments (i.e., stream condition indices), and data of the sort the Fourth Circuit held sufficient in Ohio Valley Environmental Coalition in order to allow the Board to make its necessary determinations. If Mountain Valley does not timely provide credible and detailed information about its already completed stream crossings, the Board must deny the permit.442

As discussed above, there are numerous ways in which improper implementation of sediment controls at dry-ditch, open-cut construction sites can fail and lead to additional adverse effects from sedimentation.443 Accordingly, understanding the post-construction status at Mountain Valley’s completed stream and wetland crossings is crucial. That is particularly true because available documents establish excessive sedimentation and other problems at a minimum of four completed crossings.

In Virginia, Mountain Valley constructed its dry-ditch, open-cut crossing of S-G36—the North Fork of the Roanoke River—on July 19, 2018.444 Mountain Valley’s inspectors reported problems with sedimentation and turbidity from the pump-around outlet.445 Citizen inspectors, trained by Trout

442 40 C.F.R. § 121.7(e)(iii).

443 Reid at al. (2004) at 87.

444 Ex. 38. Mountain Valley failed to include its crossing of S-G36 in its table of completed crossings. Application, tbl. 10.

445 Id.
Unlimited in turbidity monitoring, documented sediment deposits and consistent turbidity increases downstream from the crossing location throughout their sampling period from July 19, 2018, through September 9, 2018. Because sediment deposits and turbidity are harmful to aquatic life and interfere with the aquatic life use by smothering benthic macroinvertebrates, what the citizen inspectors observed constitutes violations of Virginia’s narrative water quality criterion.

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

---

446 Ex. 39 (Malbon 2018). DEQ’s water quality monitoring team received the Malbon report on the North Fork Roanoke, and wanted to examine it for “discernible patterns of increase,” but was frustrated in doing so because it did not have access to the dates of specific construction activities in the watershed. Email from Andrew Geary, VDEQ, to Sandra Mueller, VDEQ, et al., Re: Turbidity and pipelines (Sep. 14, 2018) (attached as Ex. 44). Because the Board can discern from Ex. 38 that the crossing was completed on July 19, 2018, it can associate the increased turbidity observed by Malbon with the crossing activity.

447 Ex.40.

448 Id.
concluded that the resulting sediment deposits caused the “conditions not allowable.”

Also in West Virginia, a September 30, 2018 FERC inspection of the completed crossing of S-N8A in Nicholas County—a crossing that required blasting—revealed that the dam for the dam-and-pump was installed outside the permitted area and contributed silt-laden water to the stream. On October 5, 2018, an inspection of the completed trench crossing through W-B51 in Lewis County, West Virginia, revealed that Mountain Valley’s initial topsoil restoration efforts had failed. Preconstruction contours were not successfully restored—as required by FERC’s wetland procedures—resulting in an alteration to the hydraulic flow in W-B51 and its hydraulic connections to stream S-B70.

In sum, not only does the scientific literature and common sense support the need for a robust assessment of Mountain Valley’s completed stream crossings, but Mountain Valley’s documented difficulties and failures do as well. Because it is arbitrary and capricious for an agency to ignore a company’s history of prior violations, the Board must require a robust and credible

---

449 Id.

450 FERC, Environmental Compliance Monitoring Program Weekly Summary Report for the Period September 30 through October 6, 2018, at 4 (attached as Ex. 45).

451 Id. at 14.

452 Id. See also id. at 19 (compiling photos of the hydraulic problems at W-B51).
investigation of the current conditions at Mountain Valley's completed crossings, or it cannot make the requisite findings of compliance necessary under Section 401 and its implementing regulations to issue the requested certification.\textsuperscript{453}

Mountain Valley has apparently performed a limited investigation to assess the physical condition of its completed crossings and submitted that information to the Corps.\textsuperscript{454} However, that information falls woefully short of the biological and chemical assessments necessary to monitor for impacts from crossings.\textsuperscript{455} For example, Mountain Valley did not perform any benthic sampling to quantify the present biological conditions at already-crossed streams.\textsuperscript{456} Photographs of stream crossings documenting their form cannot establish whether those streams continue to serve their prior functions—such as the propagation of aquatic life. Moreover, even the physical assessments fall short of what should be done to determine crossing impacts because they did

\textsuperscript{453} Animal Legal Def. Fund, 872 F.3d at 620 (holding it to be arbitrary and capricious for an agency to accept company’s certification of compliance and ignore its history of violations).

\textsuperscript{454} See generally Attachment 2 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213.

\textsuperscript{455} Lévesque & Dubé (2007) at 405.

\textsuperscript{456} See generally Attachment 2 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213.
not include any quantification or evaluation of embeddedness or sediment deposits downstream of crossing locations.\footnote{Id.}

2. ADDITIONAL INFORMATION IS NEEDED TO DETERMINE THE CUMULATIVE EFFECTS OF THE HUNDREDS OF CROSSINGS PROPOSED BY MOUNTAIN VALLEY.

As the Corps’ 404(b)(1) Guidelines recognize that, “[a]lthough the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems.” \footnote{Id. § 230.11(g).} That description of cumulative effects remarkably tracks the conclusions of the scientific literature on the significant cumulative effects of dry-ditch, open-cut crossings:

The potential for cumulative effects associated with pipeline crossing construction should be taken into consideration in assessing the impacts of these activities on rivers and streams. Construction of a single crossing on a stream or river, or within a watershed, may not have significant effects on fish and fish habitat in that system. \textit{Construction of multiple crossings on a stream or river, or within a watershed, however, has the potential for cumulative effects on that system. In such cases, the capacity of the system to recover from impact may be exceeded, and the detrimental effects of crossing construction permanent. The same may be said for the frequency of crossing construction within a given system; rivers and streams will have limited capacities to recover from multiple impacts.}\footnote{Lévesque & Dubé (2007) at 406–07 (emphasis added).}
Despite the 404(b)(1) Guidelines’ requirements for factual findings regarding cumulative effects, and despite the scientific literature’s clear predictions of significant effects, Mountain Valley’s application is devoid of any useful analysis of the cumulative effects of its proposed crossings. Indeed, it does not even call the Board’s attention to, or otherwise quantify, the streams and watersheds that it would cut multiple times with its proposed open-cut trenches. There are many.

Teels Creek presents an example of a stream poised to suffer permanent adverse effects if the Board grants Mountain Valley’s requested 401 certification. Mountain Valley proposes to cross Teels Creek in Franklin County, Virginia, with at least six open-cuts for the MVP’s right-of-way, and a seventh time for a timber mat crossing.\textsuperscript{460} Teels Creek already suffers from biological impairment caused by sedimentation.\textsuperscript{461} Mountain Valley presents no analysis of Teels Creek’s capacity to recover from multiple impacts of the scale threatened by the multiple proposed crossings.

Substantial and permanent adverse effects are not limited to multiple open-cuts on the same stream, however; they are also implicated by multiple

\textsuperscript{460} VA 401 Application, tbl. B-1. For unknown reasons, Mountain Valley assigns five different stream identifiers to Teels Creek of the Blackwater River (S-E28, S-EF12, S-D23, S-C14, and S-C17), but mapping reviews of the MVP’s alignment reveal that all of those stream identifiers are assigned to the same, blue-lined Teels Creek of Little Creek of the Blackwater River.

\textsuperscript{461} Evan Hansen, Jason Clingerman, & Meghan Betcher, Threats to Water Quality from Mountain Valley Pipeline and Atlantic Coast Pipeline Water Crossings in Virginia 9 (2018) (attached as Ex. 41).
crossings in the same watershed.\textsuperscript{462} At this level of analysis, numerous river and stream systems face a high-risk of substantial and permanent cumulative effects from open-cut trenches, yet Mountain Valley does not discuss those risks. For example, EPA notes that \textit{more than 200} of Mountain Valley's crossings are in the Upper Roanoke watershed, which “includes Natural and Stockable Trout Waters, as well as habitat for Roanoke logperch (\textit{Percina rex}), an endangered species.”\textsuperscript{463} Likewise, Hansen et al. (2018) determined that Mountain Valley would open-cut 34 streams in the HUC-12 watershed within the Upper Roanoke HUC-8 watershed in which Little Creek of the Blackwater River is located.\textsuperscript{464} Additionally, a review of Mountain Valley's individual permit application shows that the MVP would cross Sinking Creek and its tributaries in Craig and Giles Counties 32 times.\textsuperscript{465} And, in addition to the 6 direct crossings of Teels Creek discussed above, the MVP would involve an additional 13 crossings of that streams' tributaries.\textsuperscript{466} Mountain Valley’s application does not present any information about the capacity of those watersheds (or any others) to recover from the multiple open-cuts that Mountain Valley’s proposed route would trench through those watersheds.

\textsuperscript{462} Lévesque & Dubé (2007) at 406–07.

\textsuperscript{463} Lapp Letter at 2.

\textsuperscript{464} Hansen et al. (2018) at 9.

\textsuperscript{465} Application, tbl. 2 at 8–9.

\textsuperscript{466} \textit{Id.}, tbl. 2 at 10.
In response to comments by EPA and others on the potential for permanent effects on streams and watersheds cut multiple times by the MVP, Mountain Valley provided some quantifications of those impacts, but little qualitative analysis, let alone enough to rebut the science establishing the potential for permanent effects. Mountain Valley asserts that, even if all the impacts to streams like Teels Creek and added together, those effects would be less than the 0.5 acre threshold for approval under Nationwide Permit 12. Mountain Valley has not identified the correct question, let alone answered it. Instead, it raises a red herring.

Whether the aggregated impacts on an individual stream exceed or comply with the threshold for the use of Nationwide Permit 12 is not a proxy for the question of the stream’s capacity to recover from multiple crossings in close proximity, for many reasons. For example, meeting the 0.5 acre threshold is not sufficient for Nationwide Permit 12 approval. Rather, a district engineer has to examine a preconstruction notice to ensure that the proposed activity will not “result in more than minimal individual or cumulative adverse

---

467 Attachments 4 and 6-2 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213.


469 Attachment 6 at 3 to Letter from Todd Normane, Mountain Valley Pipeline, LLC, to Adam Fannin, U.S. Army Corps of Eng’rs (Oct. 11, 2021), FERC Accession No. 20211015-5213.
environmental effects[.]” 470 In making that determination, the district engineer must consider the direct and indirect effects of the authorized activity, as well as

site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects . . . , the importance of the aquatic resource functions to the region . . . , and mitigation required by the district engineer.471

In other words, to be eligible for Nationwide Permit 12, an activity must do more than meet certain thresholds; it must avoid causing more-than-minimal adverse impacts, and whether an activity does so is resolved based on site-specific factors. As a result, Mountain Valley is right back where it started: it has not presented information that would allow the Board to conclude that the streams and wetlands it will cross multiple times can withstand those multiple crossings and avoid the permanent impacts predicted by the literature.472

In sum, based on the scientific literature establishing potentially permanent impacts to watersheds from multiple trenched crosses in the same

watershed, and the silence of Mountain Valley’s application on those issues, the Board must deny the pending application.\footnote{473}{40 C.F.R. § 121.7(e)(iii). Also missing from Mountain Valley’s application is any discussion of the cumulative impacts that would result from the combination of Mountain Valley’s upland activities and proposed stream crossings. Mountain Valley’s upland activities have already led to substantial sediment deposits along streams in its path. See generally, e.g., Ex. 32; Hansen & Betcher (2021), supra n.1, at 5. Silvis predicts these impacts from upland disturbances:}

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

Silvis (2021), supra n.1, at 4. And, as Hansen & Betcher (2021) conclude, given that Mountain Valley “has been contributing sediment to streams along the pipeline’s route during upland construction[, c]onstruction of stream crossings would only compound the sediment inputs to streams along the pipeline’s route.” Hansen & Betcher (2021), supra n.1, at 5. One example of an affected stream is the Blackwater River. DEQ has documented deterioration of baseline conditions at that location since construction began. Specifically, DEQ’s water quality monitoring team authored several reports on elevated turbidity between June 2018 and August 2019, and concluded that the fact that the downstream station was detecting higher turbidity levels than the upstream indicates that the source of the turbidity was disturbance within the watershed (i.e., upland pipeline construction). See Andrew L. Garey, PhD., DEQ Water Quality Monitoring Team Leader, “High turbidity events at Blackwater River Near MVP Pipeline Corridor” (Aug. 12, 2019) (attached Ex. 21); Andrew L. Garey, PhD., DEQ Water Quality Monitoring Team Leader, “High turbidity events at Ramsey’s Draft, near proposed ACP Corridor and Blackwater River,
3. MOUNTAIN VALLEY'S PERMIT APPLICATION OMITS LIKELY AFFECTED WATERBODIES.

An additional aspect of the failure of Mountain Valley’s application to provide critical information the Board’s evaluation of whether the project will comply with water quality standards is that the company’s application appears to omit waterbodies that are likely to be affected by discharges of dredge or fill material.

Field surveys identified multiple waterbodies within a short section of the pipeline route that appear to be missing from Mountain Valley’s application and the trenchless crossing materials it submitted to FERC. In particular, a volunteer from Blue Ridge Environmental Defense League surveyed and spot-checked the pipeline route in Virginia for omitted waterbodies, with landowner permission, roughly between mileposts 241–45 and in the vicinity of milepost 259. Those efforts revealed two waterbodies that appear to be within the pipeline right-of-way or a permanent access road, yet

Near Proposed MVP Corridor” (Aug. 3, 2018) (attached as Ex. 22); Andrew L. Garey, PhD., DEQ Water Quality Monitoring Team Leader, “High turbidity events at Ramsey’s Draft, near proposed ACP Corridor and Blackwater River, Near Proposed MVP Corridor” (June 2018) (attached as Ex. 23).

As a result, the Board must consider whether the locations that would be affected by sedimentation from Mountain Valley’s proposed open-cut stream crossings have also been affected by sedimentation and runoff from Mountain Valley’s upland activities and determine the cumulative effects of those discharges on water quality standards, including biological impairment or violations of Virginia’s narrative water quality criterion.
do not appear on the corresponding detail maps submitted with Mountain Valley’s application.

<table>
<thead>
<tr>
<th>Latitude</th>
<th>Longitude</th>
<th>Relevant Detail Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.08840493</td>
<td>-79.94998823</td>
<td>Fig. 4-689</td>
</tr>
<tr>
<td>37.16838739</td>
<td>-80.13675776</td>
<td>Figs. 4-649 and/or 4-650</td>
</tr>
</tbody>
</table>

The first waterbody is a spring-fed pond just east of S-E29, which is proposed for dry-ditch open-cut crossing H-002. However, the relevant detail map, Fig. 4-689, does not depict this pond or the spring that feeds it. The second waterbody is a spring that appears to be within or adjacent to permanent access road MVP-RO-283. This spring likewise does not appear on the relevant detail map, Fig. 4-649 and/or Fig. 4-650.

The Board must ensure that Mountain Valley presents a complete accounting of its proposed impacts to waterbodies and has not omitted any waterbodies from its applications to the Corps, FERC, and DEQ. EPA’s Section 401 implementing regulations require the applicant to identify all potential discharge locations.\(^\text{474}\) Notably, the two potentially missing waterbodies identified above are likely not the extent of the missing information. Citizen surveys discovered two missing waterbodies in less than five miles of the pipeline route. If the rate of missed waterbodies per mile is extrapolated out along the entire pipeline route in Virginia, it is likely that over one forty are unaccounted for. The Board must account for those potential oversights, not

\(^{474}\) 40 C.F.R. § 121.5(b)(4).
least because EPA’s Section 401 implementing regulations require the applicant to identify all discharge locations.475

D. THE BOARD CANNOT CERTIFY THE MVP BECAUSE ALL APPROPRIATE AND PRACTICABLE STEPS HAVE NOT BEEN TAKEN TO MINIMIZE POTENTIAL ADVERSE IMPACTS TO THE AQUATIC ECOSYSTEM.

The Board cannot certify the proposed activity without first ensuring that Mountain Valley has taken all practicable steps to minimize its effects on water quality. Virginia’s antidegradation policy requires the implementation of best management practices to minimize water quality impacts on Tier 2 streams.476 And, as discussed above, the VWP permit program regulations incorporate the 404(b)(1) Guidelines, including the requirement that an applicant demonstrate that impacts to surface waters have been minimized “to the maximum extent practicable.”477 The Fourth Circuit has construed the Corps’ corresponding regulation to “specify that States must engage in minimization analysis as part of their antidegradation rules.”478 Moreover, the Fourth Circuit has recognized the similarities between the minimization requirements of state antidegradation policies and the 404(b)(1) Guidelines’

475 Id.

476 9 Va. Admin Code § 25-260-30(A)(2) (“[T]he board shall assure that there shall be achieved the highest statutory and regulatory requirements applicable to all new or existing point source discharges of effluent and all cost-effective and reasonable best management practices for nonpoint source control.”).


478 Mountain Valley Pipeline, 990 F.3d at 830.
prohibition on the issuance of a Section 404 permit “unless appropriate and practicable steps have been taken which will minimize potential adverse impacts on the aquatic ecosystem.” Accordingly, to determine whether Mountain Valley has appropriately minimized its proposed discharges and their effects for purposes of Virginia’s antidegradation policies and VWP permit program, it is appropriate to consider the minimization requirements of the 404(b)(1) Guidelines.

The 404(b)(1) Guideline’s “Subpart H identifies such possible [appropriate and practicable] steps” to minimize the effects of discharges. Indeed, the Corps has emphasized to Mountain Valley that the company should pay special attention to Subpart H. Mountain Valley has not.

Mountain Valley cursorily runs through the provisions of Subpart H in just over one full page of text spread across two pages of its individual permit application. This is yet another instance where Mountain Valley has failed to carry its burden to provide sufficient information to determine compliance.

479 40 C.F.R. § 230.10(d). See Mountain Valley Pipeline, 990 F.3d at 830.
480 Id.; see also id. §§ 230.70–230.77 (Subpart H).
481 Email from Adam Fannin, U.S. Army Corps of Eng’rs, to Matt Hoover, Mountain Valley Pipeline, LLC (Jan. 21, 2021, 1:23 PM) (“With respect to the 404(b)(1) guidelines, I think it may be beneficial to review Subpart H.”) (attached as Ex. 46).
482 Application at 40–41.
with water quality standards.\textsuperscript{483} Moreover, given the deficiencies in Mountain Valley’s alternatives analysis discussed \textit{supra}, Mountain Valley has not implemented all the actions related to technology that would minimize the impacts on its discharges.

Mountain Valley’s Subpart H analysis also demonstrates a fundamental misunderstanding of exactly what Mountain Valley seeks to permit. It characterizes “all” of its proposed discharges of fill material as its “return” of “wetland soils and stream subsoil substrates removed during” trenching.\textsuperscript{484} But the fill material for which Mountain Valley needs a Section 404 permit includes the various cofferdams, dams, flumes, and other devices that it will place on the streambeds to create dry workspaces.\textsuperscript{485}

In short, Mountain Valley’s discussion of Subpart H’s requirements suffers from multiple flaws. This section of the comments next focuses with more detail on three of them: (1) Mountain Valley’s dubious claims that its use of segregated stream substrates and wetland topsoil in restoration will

\begin{footnotesize}
\begin{enumerate}[\textsuperscript{483}]
\item Silvis (2021), \textit{supra} n.1, at 16 (concluding that, for dry-ditch, open-cut crossings, Mountain Valley’s “application contains \textbf{grossly inadequate information} on site specific methods that are industry standard best practices for minimizing impacts for these types of activities” (emphasis added)).
\item Application at 40.
\item 33 C.F.R. § 323.3(f) (defining “discharge of fill material” to include “dams and dikes”).
\end{enumerate}
\end{footnotesize}
minimize adverse effects on aquatic ecosystems, 486 (2) the company’s contradictory statements that time-of-year restrictions will minimize its adverse effects on aquatic life, 487 and (3) its misplaced reliance on FERC’s waterbody and wetland construction manual to minimize the adverse effects of its open-cut crossings. 488 Following that discussion, the comments turn to proposing a risk-based assessment as an appropriate and practicable step to minimize the effects of Mountain Valley’s discharges (if those discharges were otherwise permissible). 489

1. MOUNTAIN VALLEY’S RESTORATION PLANS ARE INADEQUATE BECAUSE THEY DO NOT INCLUDE APPROPRIATE AND PRACTICABLE STEPS TO MINIMIZE ADVERSE IMPACTS TO WETLANDS AND STREAMS.

The Board must deny Mountain Valley’s application because it does not ensure that Mountain Valley will apply practices to minimize water quality

486 Application at 40 (§4.3.23).

487 See, e.g., id. at 41 (§4.3.26).

488 See, e.g., id. (§4.3.25).

489 The Commenters also note that, among the conditions the draft permit would impose (ostensibly to mitigate the effects of stream crossings) is a requirement that Mountain Valley provide “[f]orty-eight hour advance notice to DEQ before any stream or wetland crossing activity.” Draft Permit at 11. Of the approximately 33 stream crossings that Mountain Valley has already constructed in Virginia, the company failed to provide advance notice of the crossing activity 9 times. Ex. 47. Accordingly, the Board cannot expect Mountain Valley’s compliance with the draft permit condition as a mitigation measure. Animal Legal Def. Fund, 872 F.3d at 620 (holding it arbitrary and capricious for an agency to ignore a permittee’s history of violations in developing permit conditions).
impacts, as required by Virginia’s VWP permit program and antidegradation policy. Subpart H of the 404(b)(1) Guidelines “identifies [] possible steps” to minimize impacts. Mountain Valley’s restoration plans for wetlands and streams do not take the relevant steps listed in Subpart H, nor does the company take other appropriate and practicable steps that would minimize adverse impacts.

a. Mountain Valley’s Restoration Plans Would Not Minimize Adverse Impacts to Streams and Wetlands.

i. Mountain Valley’s existing plans are bare-bones and one-size-fits-all.

Whereas under Subpart H “[d]ischarge technology should be adapted to the needs of each site[,]” Mountain Valley’s restoration plans submitted to the Corps employ a one-size-fits-all approach, with no site-specific distinctions beyond the broad categories of “wetland” or “stream.” Scientific literature on restoration emphasizes that “[e]very [restoration] project has unique features” and that, as a result, “[s]urprise is a common element in restoration[.]”

9 Va. Admin Code § 25-210-80(B)(1)(g); id. § 25-260-30(A). See also Mountain Valley Pipeline, 990 F.3d at 830.

Id.

Application §5.2.8 (wetlands) & §5.2.9 (streams).

40 C.F.R. § 230.74; see also id. § 230.75(d) (“Use [habitat development and restoration techniques that have been demonstrated to be effective in circumstances similar to those under consideration wherever possible.”).

However, Mountain Valley does not address how any site-specific features might affect its restoration efforts or provide any plans for addressing common challenges, such as the invasion and domination of non-native species in the disturbed area. 495

Within its restoration plans, Mountain Valley pays no attention to site-specific features or ecological functions, even for Special Aquatic Sites, including riffle and pool complexes and wetlands. 496 Mountain Valley’s restoration plan for riffle and pool complexes merely repeats, in a single sentence, the general requirement that it must “replace the stream substrate and restore the streambed as close as practicable to preexisting contours.” 497 But, in an apparent contradiction, Mountain Valley plans to gauge its restoration success only by comparing the restored streambed to “adjacent undisturbed areas,” 498 which suggests the area is more likely to be “restored” to uniformity more characteristic of a meandering stream than the dynamic, undulating character of a riffle and pool complex. Such a restoration would not,

495 Disturbed wetlands are particularly prone to invasive species. Id. at 41.

496 See 40 C.F.R. § 203.45 (riffles and pools); id. § 230.41 (wetlands).

497 Application at 39 (§4.3.14).

498 Id. at 66 (§5.2.9).
as required, “avoid[] changes in water current and circulation patterns . . . .”

Though “restored,” the area would have lost its special characteristics and, as a result, its special ecological functions. It is clear Mountain Valley has not considered the needs of each site in its simplistic, one-size-fits-all approach and thereby will fail to minimize losses in ecosystem function. Of course, the Board is required to consider the lack of minimization of those losses.

That inadequacy is no less glaring in Mountain Valley’s wetland restoration plans. In the section of its application addressing wetlands as special aquatic sites, Mountain Valley merely asserts that “[t]he destruction and loss of wetlands has been avoided and minimized to the maximum extent practicable in accordance with the 404(b)(1) Guidelines.” Like Mountain Valley’s statement on its plans for protecting riffle and pool complexes, its statement on wetlands contains no information, just an assertion that it will comply with applicable legal requirements. Of course, Mountain Valley’s general references to requirements, with no specific explanation as to how they apply to its restoration efforts and how they will minimize adverse impacts, do

---

499 40 C.F.R. § 230.75.

500 9 Va. Admin. Code § 25-210-80(B)(1)(g); id. § 25-260-30(A). See also Mountain Valley Pipeline, 990 F.3d at 830.

501 Application at 39 (§4.3.11).
not suffice to establish that it has minimized adverse impacts through restoration.\footnote{502}{In its restoration discussions, Mountain Valley purports to rely on site-specific erosion and sediment control plans approved by DEQ, but Mountain Valley does not suggest that such site-specific information will be used to tailor its restoration efforts. \textit{Id.} at 65–67 (§§5.2.4, 5.2.8, & 5.2.9).}

\textit{ii. The Draft Permit’s Conditions Related to Restoration Are Inadequate to Ensure Successful Restoration}

The conditions in DEQ’s draft permit related to restoration do not remedy the deficiencies in Mountain Valley’s existing plans and do not allow the Board to determine, \textit{prior to issuance} of the VWP permit and Section 401 certification, whether the proposed restoration activities are likely to be successful. The Draft Permit’s Special Condition D.9 requires that “All temporarily impacted streams and stream banks shall be restored to their original elevations and contours,” in accordance with a restoration plan that is to be developed by Mountain Valley and approved by DEQ at some unspecified later date.\footnote{503}{Draft Permit at 5.} Special Condition D.10 states that such a plan must include a physical assessment of pre-construction conditions at the crossings sites and must “establish site-specific methodologies and requirements sufficient to demonstrate successful restoration of temporarily impacted streams and wetlands to pre-construction conditions.”\footnote{504}{\textit{Id.}}
The conditions do not explain what constitutes “successful restoration,” but rather leave it up to Mountain Valley to come up with its own “criteria for successful restoration.” Though seemingly well-intentioned, the conditions ultimately leave Commenters and the Board guessing as to what physical restoration efforts will be required and whether those efforts have any chance of success. In the absence of these plans, the Board cannot rationally conclude that successful restoration is likely to occur or is even possible.

Trusting Mountain Valley to develop and carry out successful restoration plans is particularly inappropriate given the company’s past failures at restoration on the MVP. For example, in one wetland, after installing the pipe and replacing the topsoil, Mountain Valley failed to restore the preconstruction contours to maintain the original wetland hydrology, as required by FERC procedures. Instead of flowing from east to west and eventually into a stream, water was flowing onto the upland right-of-way. If a compliance monitor had not observed the violation, not only the wetland may have ceased to be a wetland and lost the ecological functions that distinguish it from non-wetlands. Zedler & Kercher (2005) at 41 (“Because hydrologic conditions define wetlands, any alteration of water volume (increases, decreases, or timing of high and low waters) threatens the area and integrity of wetlands.”).

505 Id. (Special Condition D.10.d).

506 Ex. 45 at 14, 19.

507 Id.

508 With the water diverted in the wrong direction, much of the impacted area may have ceased to be a wetland and lost the ecological functions that distinguish it from non-wetlands. Zedler & Kercher (2005) at 41 (“Because hydrologic conditions define wetlands, any alteration of water volume (increases, decreases, or timing of high and low waters) threatens the area and integrity of wetlands.”).
but also the stream into which it flowed\textsuperscript{509} would have suffered adverse impacts. In this instance, the problem was visible and affecting the right-of-way. Other examples of unresolved restoration violations likely exist. It is not reasonable to assume that compliance monitors will uncover all of Mountain Valley’s restoration violations, particularly violations that are less noticeable but nonetheless may have significant hydrological and ecological consequences.

Finally, Special Conditions D.9 and D.10 are inadequate because they focus exclusively on physical characterization and restoration. A true baseline assessment would include not only the area’s appearance, but also information about the habitat it provides and its other ecological functions. This is so because, as explained in the following discussion, merely restoring physical characteristics of streambeds is inadequate to restore those streams’ ecological functions.

\textit{b. Mountain Valley Has Not Established that Simply Rebuilding Streambeds Restores Ecological Function.}

Even if Mountain Valley’s future restoration plans ultimately require perfect physical replication of pre-construction conditions, and Mountain Valley was ultimately able to achieve that standard, those plans would

\footnote{\textsuperscript{509} Water supply to the stream may have decreased permanently, without the wetland to feed it. \textit{Id.} at 51. Even if the same water eventually made its way to the same stream by a different route, its quality would be lower without the wetland’s removal of nitrates and phosphorus. \textit{Id.}}
nonetheless be inadequate to demonstrate the likelihood of successful restoration. Mountain Valley and DEQ rely exclusively on a “Field of Dreams” restoration approach to minimize effects on aquatic life—“[Re]build it, and they will come.” That simplistic approach, even if it were to get the structure right, does not ensure a restoration of function, and Mountain Valley’s application is impermissibly silent on the latter.

Given that manipulating physical attributes of streams has a very low success rate in promoting stream recovery biologically (as measured by biodiversity), Mountain Valley cannot assume that function will simply follow form. Indeed, as Palmer et al. (2014) observe, “habitat may be important ecologically, but it is not sufficient for assessing ecological outcomes (Doyle & Shields 2012), and in the vast majority of cases restoration of habitat does not lead to restoration biologically (Jahning et al. 2010).” Accordingly, the Board cannot rely on Mountain Valley’s commitment to restore the form of the stream as a technique to minimize its adverse effects on the aquatic ecosystems through which it will trenched.

---


511 Id.
c. Mountain Valley’s Sole Existing Criterion for Successful Restoration of Streambanks and Wetlands Does Not Minimize Impacts to Ecological Functions.

Although the draft permit does not specify any of the criteria for successful restoration, Mountain Valley’s application to the Corps provides some insight into what the company believes is relevant. Primarily concerned with preventing erosion, the sole criterion for one of Mountain Valley’s restoration efforts to be deemed successful is the percent of herbaceous cover. For streambanks, restoration is to “continue until the vegetation is successfully established.” For wetlands, restoration will be deemed successful when “the cover of herbaceous species is at least 70 percent of the cover of the vegetation in adjacent wetland areas that were not disturbed by construction.” At the end of the requisite monitoring periods, if these ground-cover conditions are met, Mountain Valley’s restoration obligations will be discharged.

Although Mountain Valley will plant “regional native seed mixes,” there is no requirement that the plants will be similar to those previously present or that the plants included in the mixes will support the same wildlife that the

512 See, e.g., Application at 66. Although Mountain Valley has other procedural requirements, this is the only criteria it mentions in its applications for determining whether restoration has been successful and, therefore, for determining whether it may cease restoration efforts.

513 Application at 67 (§5.2.9).

514 Id. at 66 (§5.2.8); see also id. at 70 (“Restoration and monitoring of wetland crossings will be conducted to ensure successful wetland revegetation . . . .”).
area previously supported. There is not even a requirement that the ground cover that eventually persists in the area is native, beneficial, or appropriate for the area’s previous state. Even if invasive plant species are able to outcompete the native seed mixes and dominate the disturbed area, the criterion would still be met as long as those invasive plant species covered the ground, survived, and prevented erosion until the end of the monitoring periods. Thus, Mountain Valley’s restoration plans do not take appropriate and practicable steps to minimize impacts on wildlife by “prevent[ing] or avoid creating habitat conducive to the development of undesirable predators or species which have a competitive edge ecologically over indigenous plants or animals[.]”

Attachment L to Mountain Valley’s application is again helpful, this time in illustrating how Mountain Valley’s sole criterion for success will be applied. Mountain Valley selected two example wetlands where restoration was complete. Although no ground cover data or narrative is included in Attachment L, it appears that each restored crossing has been successful with respect to the ground-cover criteria. But this is a limited kind of success, as it does not guarantee that an area’s ecological functions have been restored, or are even headed in the right direction. Although there is no information on the plant or animal species present in the wetlands or streams, the restored areas appear to have a very different plant composition from their pre-construction

515 40 C.F.R. § 230.75(b).
composition, and they look dissimilar from the areas around them. The success criterion and Mountain Valley's examples of completed restorations show that, as long as there is a certain amount of ground cover, a wetland or streambank will be considered restored, ignoring adverse impacts at or below the surface.

d. **Even Compliant Restoration Efforts Would Not Reverse Expected and Significant Adverse Impacts, Including Cumulative Impacts.**

Because restoration efforts are generally successful only in a limited sense, many of the impacts to wetlands, streams, and streambanks that Mountain Valley deems “temporary” due to restoration efforts are more likely to be long-term or permanent even if Mountain Valley follows through with the restoration plans included in its application. This project’s FEIS optimistically states that, “[b]ased on our restoration monitoring efforts for other natural gas infrastructure projects, we have found that wetland and upland herbaceous and shrub vegetation typically restore to pre-construction conditions in a relatively short time (i.e., between 1 to 5 years).”[^516] But if the term “pre-construction conditions” refers to anything other than the ground area or volume of herbaceous cover, the FEIS’s optimism about restoration is not borne out by the scientific literature. According to Zedler and Kercher (2005), “[r]estoration can reverse some degradation but many damages are not reversible[.]”[^517] Zedler and Kercher add that “[m]any local damages to

[^516]: FEIS at 4-200.

[^517]: See, e.g., Zedler & Kercher (2014) at 49.
ecosystems are [] irreversible, at least in the time frame of most restoration projects (often 3 to 5 years, sometimes 10 to 20 years, rarely 50 years).” 518 Even “[i]f a wetland has survived filling, draining, or diversion, its integrity has not necessarily been preserved, nor is it safe from future degradation.” 519 Employing any criteria related to ecological functions—rather than merely the superficial appearance of herbaceous ground cover—undermines FERC’s overly optimistic timeline. Instead, it is most likely that genuine restoration will still not have occurred long after Mountain Valley has sloughed off its obligations.

Wetlands perform valuable ecosystem services of global significance, including biodiversity support, water purification, flood abatement, and carbon storage, 520 yet restorations can be deemed completed and successful even if a wetland’s ability to perform those functions has been degraded. One expert explains:

Current pipeline construction restoration requirements are very low; they rely primarily on cool grass seeding and erosion blankets and often have poor long term results after the two required maintenance and monitoring seasons for the agencies. Even with such low stabilization standards, the rate of compliance is abysmal. For example, between June 2011 and October 2011, in just two counties in Pennsylvania there were 32 documented sediment discharge violations along the route of the Tennessee Gas Pipe line Company’s 300 Line project. Imagine

518 Id. at 58.
519 Id. at 57.
520 Id. at 39, 50.
how many such violations go unobserved. Pipelines can also
dewater the headwater areas through which they pass and
change the hydrology of wetlands areas along the route. Taken
with the loss of vegetation and soil compaction, these impacts
cause landscape-scale changes to the watershed yet they are
neither acknowledged nor mitigated.\footnote{Leslie Sauer, Achieving Higher Quality Restoration Along Pipeline Rights-

Solely focusing on the presence or absence of herbaceous ground cover is part
of the problem. Sauer explains that, along the pipeline right-of-way, including
at stream and wetland crossings,

[t]he loss of vegetation may be the most apparent impact, but soil
changes are the most pernicious. The single biggest problem is
soil compaction, which may be as high as 98\%, the same as
concrete. Rainwater often runs off the ROW like a stream,
creating gullies in the adjacent landscape, which leads to erosion
and sedimentation locally. Once soil has been disturbed and
compacted, it is very difficult to restore its capacity for water
infiltration. Re-ripping the soil with a chisel plow is a partial
solution to surface compaction, but it leaves behind an
exceedingly erodible surface and does not address the issue of
recharge. Ripping deep enough to effect recharge would
destabilize large areas of the landscape and be almost impossible
to re-stabilize. The damage from soil compaction, loss of
vegetation, increased runoff, erosion, and resulting pollution has
effects well beyond the boundaries of the ROW where it originates
\ldots \footnote{Id. at 5–6.}

Even if restoration efforts are successful enough that soils look the same,
soil properties have nonetheless changed due to the disturbance. Additionally,
as is common practice for wetland restorations, Mountain Valley plans to “segregate the topsoil up to one foot in depth in wetlands.” This helps to ensure successful revegetation; however, that soil disturbance alone would result in a large release of carbon, as the greatest density of soil organic carbon is found in the top 30 centimeters of the soil profile.

Another reason that restoration efforts fall short of restoring ecological functions is that the precise previous topography of a disturbed area cannot be re-established. In wetlands, “[a]n elevation difference as small as 10 cm can eliminate some species and allow others to dominate.” Hydrology can also “be altered by very slight changes in grade,” impacting a wetland’s water supply and purification services.

Because it is extremely unlikely that restoration efforts will be successful at restoring the stream and wetlands’ ecological functions, Mountain Valley’s plans will likely result in very significant cumulative impacts. Just as with Mountain Valley’s lack of concern for cumulative impacts generally, the application downplays the expected damage to streams and wetlands by mislabeling many impacts as “temporary” and claiming that even the admittedly permanent losses are “minimal.”

---

523 Application at 65 (§5.2.8).

524 Zedler & Kercher (2014) at 61.

525 Id.

526 Application at 65 (§5.2.8); 66 (§5.2.9); and 39 (§4.3.11). Mountain Valley’s mischaracterization of the severity of the project’s adverse impacts and
Mountain Valley asserts in its application that, “[n]otwithstanding the size of the Project, it has been carefully designed to cause minimal permanent loss of wetlands; only approximately 7% of wetland crossings would result in any permanent wetland loss, and no permanent wetland impact is greater than 0.06-acre.”\footnote{527} As discussed above, Mountain Valley vastly underestimates the permanent loss or degradation or wetlands by treating “restored” wetlands as suffering only temporary impacts. Furthermore, it does not matter that many affected wetlands are small, as a wetland’s size does not determine its importance; indeed, if there are many small wetlands in an area dominated by drier areas, each wetland may be extremely important to birds and other wildlife.

This problem particularly impacts fauna that move among streams and wetlands. As Zedler and Kercher (2005) have noted, “The entire wetland landscape needs to be restored in order to attract some animal species. Amphibians are a good example because these animals move among ponds and cannot survive where pond-to-pond distances are too great.”\footnote{528}

\footnotetext{527}{\textit{Id.} at 39 (§4.3.11).}

\footnotetext{528}{Zedler \& Kercher (2005) at 63.}
associated salamanders also have low dispersal ability and may not be able to travel between forest gaps.\textsuperscript{529} Lest this example seem trivial or isolated, it bears emphasizing that the proposed route cuts through the salamander biodiversity capital of the world—the Southern Appalachians, where the primary factor in amphibian decline is habitat loss and degradation, and that, because these salamanders are “highly influential in community and ecosystem processes,” their fate has ripple effects on the whole ecosystem.\textsuperscript{530}

The inadequacy of using the sole criterion of percent herbaceous cover for measuring success at each disturbed wetland and riparian area is even clearer when considering that there will be no evaluation of restoration efforts’ cumulative effect on ecological functions, including as wildlife habitat. No data will be collected to determine whether important wetland or riparian plant or animal species have been entirely extirpated from several disturbed areas within the same forest area or watershed. Even if Mountain Valley had no further violations of restoration requirements and complied with all aspects of its to-be-determined restoration plans, this project would still result in very large and adverse impacts to streams and wetlands. Mountain Valley has simply not taken appropriate and practicable steps—such as the steps discussed above—to minimize them.

\textsuperscript{529} Kristen K. Cecala et al., \textit{Multiple drivers, scales, and interactions influence southern Appalachian stream salamander occupancy}, \textit{ECOSPHERE} (Mar 14, 2018), https://doi.org/10.1002/ecs2.2150.

\textsuperscript{530} \textit{Id.}
In sum, the Board should deny the certification application because Mountain Valley’s existing restoration plans—even if the company were to comply with all applicable requirements—do not come close to minimizing the project’s very large adverse impacts on streams and wetlands, as required by Virginia’s VWP permit program and antidegradation policy. The draft permit’s promise of future plans to be developed by Mountain Valley is likewise insufficient to allow the Board to determine, based on the information now before it, whether Mountain Valley’s restoration efforts are likely to satisfy those requirements.

2. THE BOARD CANNOT ALLOW MOUNTAIN VALLEY TO RELY ON TOYRS AS A MINIMIZATION TECHNIQUE AND SIMULTANEOUSLY RESERVE THE RIGHT TO SEEK WAIVERS OF SUCH RESTRICTIONS.

Among the actions Subpart H of the 404(b)(1) Guidelines recommends, as a way to minimize the effects of discharges to comply with 40 C.F.R. § 230.10(d), is “[t]iming discharges to avoid spawning or migration seasons and other biologically critical time periods.”531 One way to implement the action recommended in Section 230.75(e) is through adherence to TOYRs on instream

---

531 40 C.F.R. § 230.75(e).
activities. TOYRs prohibit instream activities during sensitive periods for aquatic species.\textsuperscript{532}

Mountain Valley’s permit application extensively cites TOYRs when describing the environmental impacts of pipeline construction. Mountain Valley relies on those TOYRs when describing how water withdrawals will comply with applicable state guidance;\textsuperscript{533} how it will minimize impacts from construction on sensitive stream resources like trout waters,\textsuperscript{534} spawning areas,\textsuperscript{535} and freshwater mussels;\textsuperscript{536} how its effects on fish, crustaceans, mollusks, and other aquatic organisms in the food web should be evaluated;\textsuperscript{537} how its impacts on recreational and commercial fisheries,\textsuperscript{538} and plant and animal populations should be evaluated;\textsuperscript{539} and how pipeline construction will be consistent with the principle of minimization.\textsuperscript{540} Yet Mountain Valley


\textsuperscript{533} Application §4.1.4.

\textsuperscript{534} Id. §4.2.4.

\textsuperscript{535} Id. §4.2.8.

\textsuperscript{536} Id. §4.2.10.

\textsuperscript{537} Id. §4.3.8.

\textsuperscript{538} Id. §4.3.16.

\textsuperscript{539} Id. §4.3.26.

\textsuperscript{540} Id. §5.2.6.
simultaneously concedes that it will seek waivers of those same TOYRs where they interfere with the company's preferred construction schedule.\textsuperscript{541} And, given Mountain Valley's history of asking for such waivers, the Board should expect it to continue to prioritize its own construction schedule over protection of aquatic resources.\textsuperscript{542}

Unfortunately, although DEQ's draft permit properly mandates that Mountain Valley comply with the TOYRs recommended by the Virginia Department of Wildlife Resources (VDWR), it gives the company an out by allowing it to pursue waivers or alterations of those restriction in the future, which waivers will not be subject to review by the Board.\textsuperscript{543}

\textsuperscript{541} See, e.g., \textit{id.} at 35–36 (“Mountain Valley will request waivers from the relevant resource agencies if the construction schedule warrants instream activities during the restriction period.”); \textit{id.} at 39 (“If necessary, Mountain Valley will request TOYR waivers from the appropriate agency.”); \textit{id.} at 65 (“If necessary, Mountain Valley will coordinate with the State or Federal agency to acquire the appropriate TOYR waivers.”); \textit{id.} at 65 n.69 (“The state and federal agencies referenced above generally have authority to waive TOYRs within their jurisdiction upon sufficient justification. Mountain Valley may request written approval for waivers from the relevant agencies for specific stream crossings.”).

\textsuperscript{542} See, e.g., Letter from Paul W. Diehl, Mountain Valley Pipeline, LLC, to Kimberly D. Bose, Secretary, FERC, Re: Mountain Valley Pipeline, LLLC, Docket No. CP16-10-000, Supplemental Materials (May 24, 2018), FERC Accession No. 20180524-5225 (documenting more than 300 TOYR waivers sought by Mountain Valley in West Virginia).

\textsuperscript{543} Draft Permit at 5 (Special Condition E.1); \textit{id.} at Appx. 2 (stating for numerous crossings that Mountain Valley’s request for modification of TOYRs had been denied but suggesting that such determination may change with certain unspecified “additional information.”). \textit{See also} Fact Sheet at 19 (explaining that Special Condition E.1 “sets the approval process for revisions

—168—
The Board cannot adopt Mountain Valley’s effort to treat TOYRs as optional or subject to future modification. As an initial matter, Silvis (2021) states that TOYRs are “necessary to protect sensitive aquatic species.” And Reid and Anderson (1999) recognize that, because sediment deposits can have protracted effects on fish habitat, “[t]he time-frame for recovery to pre-disturbance conditions is especially relevant to construction timing-related concerns associated with life-history requirements such as spawning of resident species.” In short, TOYRs are crucial to enforce in pipeline construction in order to minimize the impacts of discharges and to protect life stages of resident aquatic life from significant degradation.

For that reason, as Silvis notes, waivers should issue “only . . . in exigency situations.” “Project scheduling does not justify the need to adversely impact sensitive waters during TOYRs.” Accordingly, after reviewing Mountain Valley’s individual Section 404 permit application, Silvis concluded “that Mountain Valley has the ability to schedule construction

to TOYRs and requires the creation of a public webpage to host the latest revisions.”

544 Silvis (2021), supra n.1, at 12.
545 Reid & Anderson (1999) at 242.
546 40 C.F.R. § 230.10(c)(2).
547 Silvis (2021), supra n.1, at 12–13.
548 Id.
outside of TOYRs and that any scheduling the company chooses to implement during TOYRs does not constitute sufficient necessity for a waiver.”

In sum, not only would it be inequitable to let the company simultaneously rely on TOYRs and reserve the right to seek waivers of them, it would be arbitrary and capricious. Because Mountain Valley promises minimization through TOYRs in one breath, and then reserves the right to seek to ignore those restrictions with the next, the Board should deny the draft permit as noncompliant with the minimization requirements of Virginia’s VWP permit program and antidegradation policy. Alternatively, if the Board were to rely on TOYRs as a minimization action, then it must ensure that those TOYRs will not be waived or altered in the future without consideration or approval by the Board. The Board must be clear about what role, if any, TOYRs play in its permitting decision. And if TOYRs factor into the Board’s analysis, the Board must avoid making an arbitrary and capricious decision by ensuring that TOYRs are not the optional measures Mountain Valley would prefer. Finally, at a bare minimum, the Board must recognize that requiring adherence to TOYRs for all of Mountain Valley’s proposed crossings without the possibility of waivers would be a less environmentally degrading practicable alternative to the plan Mountain Valley proposes. Consequently, even though it is not the least environmentally degrading practicable

549 Id.

alternative required under 40 C.F.R. §203.10(a), it is one of many less environmentally damaging practicable alternatives that precludes granting Mountain Valley’s application on the company’s terms.

3. **MOUNTAIN VALLEY’S RELIANCE ON FERC’S WATERBODY AND WETLAND PROCEDURES IS INSUFFICIENT TO MINIMIZE THE IMPACTS OF ITS CROSSINGS.**

Mountain Valley asserts that FERC’s Wetland and Waterbody Construction and Mitigation Procedures (2013) will reduce the potential for sedimentation and turbidity, and commits to implementing those procedures during construction and restoration. But the scientific literature on stream crossings is highly critical of FERC’s procedures. Indeed, a 2015 journal article authored by a FWS biologist stated that

[C]urrent FERC guidance for Wetland and Waterbody Construction and Mitigation procedures (Procedures; FERC 2013) is national in scope and general in nature and therefore does not provide sufficient detailed and specific information at a regional level to adequately protect aquatic ecosystems with numerous species in complex geographic and ecologic settings.

******

While the FERC Procedures do address some predictable pipeline impacts, especially during construction, the guidance does not address the longer term stream response potential, which is highly dependent on characteristics of the stream system rather than the pipeline. Therefore, depending upon the crossing locations, stream and catchment characteristics, timing, extent of

---

551 Application at 37, 64, 65, 66. See Certification Request at 6 (directing DEQ to Section 5.0 of Mountain Valley’s individual permit application for “additional information and details on the monitoring, management, and other mitigation measures that will be implemented for the discharges included in this request”).

—171—
activities, and application of Best Management Practices (BMPs—construction conservation measures intended to reduce impacts to the environment), impacts to aquatic species will vary but may include simplification of habitat, loss of aquatic species passage, removal of spawning gravel, increased sediment and turbidity, loss of side channels, disconnection from the floodplain, or change in hyporheic flow patterns\(^{552}\) (Reid et al., 2002b). These impacts may occur at the project site or may propagate upstream, downstream, or laterally into the floodplain.\(^{553}\)

In other words, adherence to the FERC Procedures is insufficient to ensure compliance with water quality standards or to otherwise minimize impacts from the discharges attendant pipeline stream crossings. The FERC Procedures are far too generalized. Accordingly, site specific review and design is required to protect the aquatic ecosystems. As discussed elsewhere in these comments, such information is sorely lacking from Mountain Valley’s applications. As a result, Mountain Valley cannot rely on the FERC Procedures to comply with Virginia’s minimization requirements.

---

\(^{552}\) That open-cut stream crossings have the potential to change hyporheic flow patterns renders Mountain Valley’s conclusory discussion of water fluctuations in Section 4.3.5 of its application inadequate to establish that its proposed stream crossings will not significantly adversely affect normal water fluctuations in the ways described in 40 C.F.R. § 230.24(b). As Yu et al. (2010) concluded, pipeline crossings “will cut of the hydraulic connection between the surface water and the groundwater to a certain extent, and block the subsurface flows aside.” Yu et al. (2010) at 447–48.

\(^{553}\) Castro et al. (2015) at 769.
4. USE OF A RISK-BASED ASSESSMENT WOULD CONSTITUTE AN APPROPRIATE AND PRACTICABLE STEP TO MINIMIZE THE EFFECTS OF MOUNTAIN VALLEY’S PROPOSED DISCHARGES, IF PERMITTING THOSE DISCHARGES WERE LAWFUL.

As discussed above, Virginia’s VWP permit program and antidegradation policy require DEQ and the Board to develop—and dischargers to implement—practices that minimize water quality impacts. The 404(b)(1) Guidelines prohibit the issuance of a permit “unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem.” Even assuming that the Board could otherwise certify the MVP, the Board should require Mountain Valley to minimize the effects of its proposed discharges through implementation of a risk-based approach.

Such an approach is endorsed by Castro et al. (2015). In that article, the FWS “developed a pipeline crossing framework and risk analysis approach to stratify potential aquatic impacts, based on both stream characteristics and project types.” The approach ranks pipeline crossings “in terms of relative short and long-term risk to aquatic habitat” and then analyzes, designs, and monitors the crossings in ways appropriate to their risk.

554 40 C.F.R. § 230.10(d).

555 Castro et al. (2015) at 767.

556 Id.
To apply this risk based approach, the applicant first gathers a robust dataset to establish baseline data and enable the crossings to be ranked based on their relative risk. That ranking occurs through the application of the Pipeline Screening Risk Matrix to allow a qualitative analysis of risk. The matrix cannot be successful, however, without site-specific, field observations and measurements. The objective of the matrix is “that pipeline crossings should do no long-term harm to aquatic habitat on-site, upstream, or downstream and that short and long-term negative impacts will be avoided where possible, minimized to the greatest extent possible, and mitigated where necessary.” In other words, the matrix is consistent with the minimization requirements of Virginia law.

Although we establish elsewhere in these comments that the Board must deny Mountain Valley’s certification application because the proposed activity cannot comply with Virginia’s water quality standards, even if that were not true Mountain Valley’s adverse impacts would still have to be minimized. The Board should ensure that they are by requiring, as a condition of any certification it issues, that Mountain Valley implement the risk-based approach discussed in Castro et al. (2015).

557 Id. at 771.
558 Id.
559 Id.
560 Id.
E. ANY SOCIAL OR ECONOMIC IMPORTANCE OF THE PROPOSED PROJECT IS NOT SUFFICIENT TO JUSTIFY THE DEGRADATION THAT ITS DISCHARGES WOULD CAUSE IN TIER 2 STREAMS.

Where a proposed activity would cause significant degradation to Tier 2 streams, as the MVP would, the Board can only certify it as compliant with Virginia’s antidegradation policy if it finds, “after full satisfaction of the intergovernmental coordination and public participation provisions of the Commonwealth’s continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.”561 In conducting its review of the socioeconomic importance of a particular activity, the Board must consider, *inter alia*, increase in the number of jobs; increase in personal income or wages; reduction in the unemployment rate or other social service expenses; increase in tax revenues; and provision of necessary social services.562

In such an analysis, the Board may not focus myopically only on direct impacts touted by Mountain Valley, but must also look at the indirect impacts that would occur as a result of the Pipeline’s construction and operation. The proposed pipeline’s effects on climate change, the lack of need for the proposed pipeline from an economic and energy standpoint, and property ownership considerations are three considerations that show that, on balance, issuing

---


562 Guidance Memo No. 00-2011 at 11.
Mountain Valley the permits it seeks is not “necessary to accommodate important economic or social development in the area in which the waters are located.”

1. THE PUBLIC'S INTEREST IN COMBATTING CLIMATE CHANGE PRECLUDES BUILDING THE MVP.

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

The MVP proposal—the largest capacity and longest new gas pipeline project in the Eastern United States\(^{563}\)—directly conflicts with our national energy policy. Building this pipeline would lock in unnecessary natural gas

---

\(^{563}\) Natural Gas, U.S. Energy Info. Admin., https://www.eia.gov/naturalgas/pipelines/EIA-NaturalGasPipelineProjects.xlsx (providing detailed weekly data of natural gas pipeline projects that have been announced or are under construction, rankable by region, cost, capacity, length, and other characteristics). The MVP proposal is an outlier not only regionally, but nationally as well. The only new projects in the country with larger capacity are in Alaska, Texas, and Louisiana. Id.
infrastructure, hampering Biden’s announced government- and economy-wide transition to renewable energy sources. If completed, the MVP would be an obstacle to these objectives for half a century. Each year of its operational life, the MVP would lead to end-use combustion resulting in approximately 40 million metric tons of carbon-dioxide-equivalent greenhouse gas emissions. For context, this volume amounts to an approximately 7% increase in our total national electricity-generation emissions from natural gas as of 2019 and over $2 billion of climate damage each year. These figures leave no doubt

564 FEIS at 2-58 (stating the pipeline would be expected to operate for about fifty years).
565 Id. at 4-620, tbl.4.13.2-2. Although the FEIS indicates that the MVP’s emissions would potentially offset some coal-generated emissions, id. at 4-619, Mountain Valley has offered no information to support this possibility; another possibility is that gas transported by the MVP could displace, or disincentivize the development of, renewable energy sources.
that the MVP would significantly anchor our national energy development objectives to the fossil-fuel era.

And, of course, those figures only cover some of the climate impacts that would result from the project. While emissions from end-use combustion may be easier to quantify than other resulting emissions, such as methane leaks during transport, these additional emissions contribute heavily to the total carbon footprint of the project. Indeed, some have estimated that the operation of the Mountain Valley Pipeline would result in nearly 90 million metric tons of carbon-dioxide-equivalent greenhouse gas emissions per year—the equivalent of 26 coal-fired power plants. On top of that, pipeline

---


569 Oil Change Int’l, The Mountain Valley Pipeline: Greenhouse Gas Emissions Briefing 3 (2017) (attached as Ex. 51). This figure includes end-use combustion, methane leaks across the gas supply chain, emissions from pipeline compression, and emissions from gas extraction and processing. While there is considerable debate in the scientific community about exactly how much methane is leaked from gas supply chains on average and how much variation there is among pipelines, there is no doubt that methane leaks contribute substantially to the total emissions that result from a gas pipeline project. Ramon A. Alvarez et al., Assessment of Methane Emissions from the U.S. Oil and Gas Supply Chain, SCIENCE (Jul. 13, 2018), available at https://science.sciencemag.org/content/361/6398/186 (concluding that gas supply chain methane emissions were equivalent to 2.3% of gross gas production, a value approximately 60% higher than EPA’s Greenhouse Gas Inventory estimate of 1.4%); see also Yuzhong Zhang et al., Quantifying Methane Emissions from the Largest Oil-Producing Basin in the United States from Space, SCIENCE ADVANCES (Apr. 22, 2020), available at https://advances.sciencemag.org/content/6/17/eaa5120 (reporting methane leakage rate in Permian Basin as 3.7% of total gross extracted there).
construction and maintenance have significant climate impacts which have not been fully quantified.\textsuperscript{570} For example, permanent land-use changes and soil disturbances in the pipeline right-of-way, particularly in wetlands, will not only result in an immediate release of carbon but will decrease the carbon sequestration potential of the ecosystems through which the pipeline passes.

As part of its socioeconomic review under Virginia’s antidegradation policy, the Board must fully consider all of the proposed pipeline’s climate impacts and heavily weight them in accordance with our national energy priorities.

\textit{a. Our National Objective is Now to Quickly Shift the National Economy Away from Fossil Fuels.}

Immediately after taking office, President Biden issued two executive orders communicating new national goals related to combating climate change.\textsuperscript{571} Executive Order 14008 (the “Climate Order”) establishes the goal of

\begin{footnotesize}
\textsuperscript{570} Those other impacts include construction emissions, loss of carbon stock due to tree felling and vegetation changes in the corridor, and loss of carbon storage potential due to soil disturbances. \textit{See} Ex. 51 at 3; Spencer Phillips et al., Economic Costs of the Mountain Valley Pipeline: Effects on Property Value, Ecosystem Services, and Economic Development in Virginia and West Virginia i-iii (2016) (attached as Ex. 52) (noting losses to ecosystem services that have not been quantified).

\end{footnotesize}
“net-zero emissions, economy-wide, by no later than 2050.” The Order establishes renewable energy development goals as well, including “increas[ing] renewable energy production” on public lands and “doubling offshore wind by 2030.”

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

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

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

That “Government-wide approach” requires that agencies tasked with permitting decisions fully account for a project’s climate impacts and afford due weight to the public’s interest in combatting climate change. For example,

---

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

573 Id. at 7624.

574 Id. at 7622 (emphasis added).
Section 208 of the Climate Order announces a moratorium on all “new oil and natural gas leases on public lands or in offshore waters[,]” pending a “comprehensive review and reconsideration of Federal oil and gas permitting and leasing practices[.]”575 The order states that the review should analyze the “potential climate and other impacts associated with oil and gas activities on public lands or in offshore waters.”576

Executive Order 13990 (the “Restoring Science Order”) is a complementary order in which President Biden directed all executive departments and agencies to “immediately review” and “take action” to address any Federal “actions during the last 4 years that conflict with . . . important national objectives [including the reduction of greenhouse gas emissions], and to immediately commence work to confront the climate crisis.”577 President Biden left no doubt that these words were not meant as empty aspirations: in the same order, he revoked the presidential permit previously granted by former-President Donald Trump to construct the Keystone XL pipeline that would have transported crude oil from Canada to the United States.578

President Biden explained his reasons for revoking the permit. First, “an exhaustive review” in 2015 had determined that the proposed pipeline

575 Id. at 7624.

576 Id. at 7624–25.


578 Id. at 7041.
“would not serve the U.S. national interest.” The review found that “the significance of the proposed pipeline for our energy security and economy is limited,” while “stress[ing] that the United States must prioritize the development of a clean energy economy” and that approving the proposed pipeline would “undermine U.S. climate leadership by undercutting the credibility and influence of the United States in urging other countries to take ambitious climate action.”

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

Finally, President Biden stresses that the climate crisis must be met with action on a scale and at a speed commensurate with the need to avoid setting the world on a dangerous, potentially catastrophic, climate trajectory. At home, we will combat the crisis with an ambitious plan to build back better, designed to both reduce harmful emissions and create good clean-energy jobs. . . . The United States must be in a position to exercise vigorous climate leadership in order to achieve a significant increase in global climate action and put the world on a sustainable climate pathway. Leaving the Keystone XL pipeline

579 Id.

580 Id.

581 Id.
permit in place would not be consistent with my Administration’s economic and climate imperatives.582

The president thus noted that his climate change policy is also an important aspect of American foreign policy. Indeed, President Biden has taken key steps to solidify American leadership in combatting climate change on the world stage, including by rejoining the Paris Agreement583 and appointing former-Secretary of State John Kerry as his special presidential envoy for climate.584 Most recently, during his Leaders Summit on Climate, President Biden increased our international commitments even further, announcing to “40 world leaders” that the United States would reduce emissions by at least 50% by 2030, as compared with 2005 levels.585

Those national goals are to be applied to decisions about fossil-fuel infrastructure, as President Biden demonstrated by canceling the Keystone XL

582 Id.


pipeline. His reasoning in revoking Keystone XL’s presidential permit provides a helpful and timely example of how our national energy objectives should be brought to bear on current energy infrastructure projects. President Biden has directed that every federal agency take “action on a scale and at a speed commensurate with the need” to reset the global “climate trajectory.” 586  

Similarly, the Board must heavily weigh our national climate trajectory in its socioeconomic review and, in doing so, recognize that allowing the pipeline to be completed would constitute intolerable backsliding on our path to a renewable energy future.

**b. The MVP Proposal Conflicts With Our Nation’s Energy Trajectory.**

The MVP would generate end-use greenhouse gas emissions for its expected lifespan of fifty years,587 in conflict with the national goals and energy trajectory espoused in President Biden’s recent executive orders. All of President Biden’s reasons for revoking Keystone XL’s presidential permit apply equally to the Board’s review of Mountain Valley’s proposed pipeline.

First, just as President Biden emphasized regarding the Keystone XL, the urgency of shifting away from building unnecessary fossil-fuel industry increases every day. The MVP is one of the largest gas pipelines proposed...

---


587 FEIS at 2-58.
anywhere in the country, with a capacity of 2 billion cubic feet per day (Bcf/d), and—by leading to annual emissions of 40 million metric tons of emissions per year—is exactly the kind of gas pipeline project that most seriously jeopardizes the Biden administration’s goal of cutting emissions in half by 2030 and reaching net-zero by 2050.

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

---

588 See footnotes 23 and 563 and accompanying text, supra.

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


goal of achieving a net-zero carbon energy economy by 2050\textsuperscript{592} and has joined the Regional Greenhouse Gas Initiative (“RGGI”) to help reach this target.\textsuperscript{593} Virginia and the other RGGI members aim to collectively reduce power sector carbon dioxide emissions by 30% by 2030.\textsuperscript{594} North Carolina, another downstream state,\textsuperscript{595} 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.\textsuperscript{596} The MVP would not be a boon to the energy economy but rather would undermine these states’ efforts to contribute to the Nation’s energy and economic objectives.

Third, just as with the Keystone XL, building this unnecessary pipeline—and potentially locking in the high-capacity transport of gas for several decades—could severely undermine our national credibility and

\footnotesize

\begin{itemize}
\item \textsuperscript{592}Virginia Clean Economy Act, S.B. 851, 2020 Sess. (Va. 2020); Virginia Clean Economy Act, H.B. 1526, 2020 Sess. (Va. 2020).
\item \textsuperscript{593}Clean Energy and Community Flood Preparedness Act, Va. Code § 10.1-1330 et seq.
\item \textsuperscript{595}If the MVP and the MVP Southgate extension project were both constructed, the MVP Southgate would carry a portion of the MVP’s gas from the terminus of the MVP in Pittsylvania County, Virginia to North Carolina markets.
\end{itemize}
legitimacy as a global climate change leader. Indeed, U.S. Climate Envoy John Kerry told the World Economic Forum in January 2021:

> If we build out a huge infrastructure for gas now and continue to use it as the bridge fuel, we haven’t really exhausted the other possibilities, we’re gonna be stuck with stranded assets in 10 or 20 or 30 years. . . . Gas is primarily methane and we have a huge methane problem, folks.\(^{597}\)

The MVP, like the Keystone XL, “would not be consistent with the Biden Administration’s economic and climate imperatives[,]”\(^{598}\) and, thus, is contrary to the public’s interest regarding energy development.

2. THE LACK OF PUBLIC NEED FOR THE MVP WEIGHS HEAVILY AGAINST FINDING THAT THE PROJECT IS NECESSARY FOR SOCIAL AND ECONOMIC REASONS.

As part of its socioeconomic review of the need for Mountain Valley’s proposed pipeline, the circumstances demand a searching, independent review of the need for the MVP. As discussed above, the project would have substantial and wide-ranging adverse impacts on the aquatic environment. And neither Mountain Valley nor any other party has established that the gas to be carried by the pipeline is needed by the public. Indeed, the facts dictate the contrary conclusion: that the region already has more than enough pipeline capacity to

---


fully serve existing gas demand, and that future demand will remain flat or decline.

That conclusion is in no way undermined by FERC’s grant of a Certificate of Public Convenience and Necessity for the project pursuant to the Natural Gas Act. In conducting its review, FERC expressly disclaimed any market analysis of public need for the gas that the pipeline would carry, instead basing its decision entirely on the fact that Mountain Valley had secured contracts with gas shippers for most of the pipeline’s capacity.\footnote{Mountain Valley Pipeline, LLC, 161 FERC ¶ 61,043, P41 (2017) (“Certificate Order”), (attached as Ex. 53) (“The shippers on the MVP and Equitrans Expansion Projects will supply gas to a variety of end users and those shippers have determined that there is a market for their gas and the MVP and Equitrans Expansion Projects are the preferred means of delivering or receiving that gas. We find that the contracts entered into by the shippers are the best evidence that additional gas will be needed in the markets that the MVP and Equitrans Expansion Projects are intended to serve.”). At the time FERC issued its Certificate, all shippers with whom Mountain Valley secured capacity contracts were corporate affiliates of the company. Id., ¶10.} And to the extent that FERC’s initial determination would have carried any weight in evaluating the public need for the MVP, that weight evaporated when the pipeline’s primary anchor shipper recently disclaimed any continued need for the MVP and announced that it is attempting to get out of its capacity contracts.

Mountain Valley’s application explains that the “overall purpose of the Project is detailed in the Mountain Valley Pipeline Project Final

---

188——
FERC’s FEIS identified the MVP’s stated purpose as “transport[ing] natural gas produced in the Appalachian Basin to markets in the Northeast, Mid-Atlantic, and Southeastern United States” by delivering 2 Bcf/d of gas “to five contracted shippers via a pooling point at Transco Station 165 in Pittsylvania County, Virginia.”\textsuperscript{601} In its FERC application, Mountain Valley asserted that the additional 2 Bcf/d of capacity was necessary to serve growing market demand in the Mid-Atlantic and Southeastern markets, specifically citing the conversion from coal to gas by electric utilities in the Southeast as a primary driver of increased demand.\textsuperscript{602} Additionally, Mountain Valley pointed to an increase in natural gas production from shale formations in the Appalachian Basin and claimed that its pipeline is necessary to “alleviate constraints” on that production by allowing for transport of “lower-priced natural gas from the Appalachian Basin to industrial users and power generators in the Mid-Atlantic and Southeastern United States, as well as to local distribution companies (LDCs).”\textsuperscript{603}

\textsuperscript{600} Application at 10.

\textsuperscript{601} FEIS at 1-8. See also Certificate Order, ¶¶41–42; Mountain Valley Pipeline, LLC, 163 FERC ¶ 61,197, PP 42–47 (June 15, 2018) [hereinafter “Rehearing Order”] (attached as Ex. 54).

\textsuperscript{602} FEIS at 1-8.

\textsuperscript{603} Id.
Valley reiterates these claims of growing gas demand in its application to the Corps.\(^{604}\)

Even if those claims were ever supported in the first place, they bear no resemblance to present reality. As explained below, instead of increasing, gas demand in the markets to be served by the MVP is flat or declining in the long-term. Numerous states have made pledges to transition fully to renewable energy, leading utilities to scrap plans for new gas-fired power plants. Further, in contrast to Mountain Valley’s claims of increasing production and resulting capacity constraints on transportation of gas from the Appalachian Basin, production is down and expected to stay flat or even decrease in the near future, leading MVP’s primary anchor shipper—EQT Corp., whose subsidiary holds contracts for nearly two-thirds of the pipeline’s capacity—to state publicly that it no longer has any need for the project’s capacity. Given the lack of public need for the project, there is no socioeconomic necessity for the project.

\(^{604}\) Application at 10 (“[T]he Project would provide timely, cost-effective access to suppliers to meet the growing demand for natural gas for use by local distribution companies (LDCs), industrial users, and power-generation facilities in the Mid-Atlantic, southeastern, and Appalachian markets.”); id. (“A sizable portion of natural gas production growth is occurring in the Appalachian Basin shale region. According to the United States Energy Information Administration (US EIA), Appalachian Basin shale gas production has increased from 2 Bcf/d in 2010 to over 33 Bcf/d in December 2020 (US EIA, 2020). As described in the FERC FEIS (FERC, 2017), and the FERC Certificate Order, the Project will provide for transportation of these prolific natural gas supplies to Station 165, the pooling point for natural gas in Transco Zone 5, where this natural gas can serve the growing demand for natural gas use by LDCs, industrial users, and power-generation facilities along the Eastern seaboard.”).
that justifies the degradation of high-quality waters attendant to the pipeline's construction.

**a. Mountain Valley’s Claims of Increasing Demand in the Energy Markets Purported to be Served by the MVP are Contradicted by the Available Evidence.**

**i. The Southeast**

The most directly accessible market for the gas to be carried on the MVP is the Southeastern United States, particularly Virginia and North Carolina, which contain the terminus of the MVP as well as the terminus of Mountain Valley’s planned Southgate extension project, which would carry a portion of the MVP’s gas into North Carolina. Transportation of the MVP’s gas to any other region would require additional transmission contracts with added costs. To the extent that the demand for energy in this region may have been increasing when Mountain Valley obtained its FERC Certificate, that is no longer the case. The U.S. Energy Information Administration (“EIA”)

---

605 See Certificate Order, ¶1; N.C. Dep’t of Envtl. Quality, Mountain Valley Pipeline, https://deq.nc.gov/news/key-issues/mountain-valley-pipeline. Mountain Valley has not begun construction of the Southgate project due to the North Carolina Department of Environmental Quality’s denial of the Section 401 water quality certification for the project. Id.

606 The same general trend of movement away from increased gas usage towards renewable energy sources is true nationwide. See Allison Good, ConEd may sell pipeline stakes as it reconsiders gas transmission investments, S&P Global Market Intelligence (August 26, 2020), https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/coned-may-sell-pipeline-stakes-as-it-reconsiders-gas-transmission-investments-60093361 (discussing the “cracks appearing in the role of natural gas as a bridge fuel between hydrocarbons and cleaner forms of energy” and explaining that “[a]s of mid-July, 13 of the 30 largest U.S. publicly traded electric and gas utilities had set goals to achieve either zero or net-zero greenhouse gas emissions by
recently projected that total demand for natural gas in the South Atlantic will decline from 2022 to 2031 and will not return to 2022 levels until 2045. Likewise, in the South Atlantic Region, the EIA projects that demand for natural gas specifically for electricity generation will decline from 2021 to 2030 and will not return to 2021 levels until the late 2040s. Major electric utilities in the region, including Dominion Energy and Duke Energy, have revised downward their demand forecasts, a trend that will only accelerate in light of Virginia and North Carolina’s recent clean energy policies.

2050 or earlier or have set a goal of 100% clean electricity.”); see also Rocky Mountain Institute, The Growing Market for Clean Energy Portfolios: Economic Opportunities for a Shift from New Gas-Fired Generation to Clean Energy Across the United States Electricity Industry at 6 (2019) (attached as Ex. 55) (explaining that “due to dramatic price declines of wind, solar, and storage (WSS) technologies, clean energy portfolios (CEPs)—optimized combinations of WSS and demand-side management—are now similar in cost to new gas-fired power plants. Further, recent CEP projects prove that these clean technologies can reliably meet grid needs. As a result, new gas investments have slowed.”).


608 Id.
(a) With No New Gas-Fired Power Plants on the Horizon and Sufficient Pipeline Capacity to Meet the Generation Demands of Existing Plants, Any Purported Need for the MVP to Serve Electrical Utilities in Virginia Has Evaporated.

In its 2015 application to FERC for the now-cancelled Atlantic Coast Pipeline (“ACP”), the project developer claimed that the regulated utility subsidiary of Dominion Energy, Virginia Electric and Power Company d/b/a/ Dominion Energy Virginia (“Dominion”), would use its contracted capacity on the Atlantic Coast Pipeline to support Virginia’s growing demand for electricity generation at new gas-fired power plants and at its existing gas-fired plants. In August 2018, the Virginia State Corporation Commission (“SCC”), in rejecting Dominion’s 2018 integrated resource plan (“IRP”) filing as not reasonable or in the public interest, found that the utility’s load forecasts “have been consistently overstated . . . with high growth expectations despite generally flat actual results each year . . . .” The basis for the SCC’s finding was the stark divergence between Dominion’s year-after-year demand

---


610 Atlantic Coast Pipeline Project Application at 5-7, Dkt. No. CP15-554-000 (Sept. 18, 2015) (FERC eLibrary No. 20150918-5212).

forecasts and actual demand, a disconnect that continued to affect the utility’s forecast in 2019, and is likely to continue in 2020.⁶¹²

Even aside from this new finding casting doubt on its original demand projections, Dominion’s plans for gas-fired power generation have shrunk dramatically since 2017 due to Virginia’s recent enactment of landmark energy legislation. In March 2020, the Virginia General Assembly passed a comprehensive package of clean energy and climate bills—the Clean Energy and Community Flood Preparedness Act and the Virginia Clean Economy Act (“VCEA”)—which will eliminate carbon emissions from Virginia’s power sector by 2050. The Clean Energy and Community Flood Preparedness Act enshrines Virginia’s carbon emission reduction regulations in law, requiring Virginia electricity generators to reduce emissions by 30% by 2030,⁶¹³ and also authorizes Virginia Department of Environmental Quality to join the Regional

---


Greenhouse Gas Initiative.\textsuperscript{614} The VCEA builds upon this and requires that “[b]y December 31, 2045, [Dominion] shall retire all other electric generating units located in the Commonwealth that emit carbon as a by-product of combusting fuel to generate electricity.”\textsuperscript{615}

In light of Virginia’s shift to carbon-free generation, Dominion has told regulators that the “significant build-out of natural gas generation facilities is not currently viable, with the passage by the General Assembly of the Virginia Clean Economy Act of 2020 . . . .”\textsuperscript{616} Dominion’s latest IRP, filed in May 2020, does not contain a single scenario in which Dominion constructs a new combined-cycle generating unit.\textsuperscript{617} Each scenario in the plan does include a small amount—a mere 970 megawatts (“MW”)—of combustion turbine generation, but only as placeholder for some yet-to-be-determined resource.\textsuperscript{618}

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{617} 2020 IRP 28–29.
\item \textsuperscript{618} \textit{Id.} at 5.
\end{itemize}
\end{footnotesize}
Dominion acknowledges that it would not require any additional pipeline transportation capacity to serve combustion turbine generation.\footnote{Id. at 75; Report of Staff Witness Bernadette Johnson at 44, Va. Elec. & Power Co.- To revise its fuel factor pursuant to Va. Code § 56-249.6 (“2020 Fuel Factor Proceeding”), Case No PUR-2020-00031 (Va. SCC May 27, 2020), https://bit.ly/2AlBqpD (“The ongoing cost of firm transportation to accommodate the rare absolute maximum day would likely be higher than procuring in the daily market.”) (attached as Ex. 61).}

Dominion’s energy demand forecasts, but in 2015 and 2017 the utility aggressively pushed its plans for new gas-fired power plants. With the passage of the VCEA, that is no longer the case.

Recent analysis by the energy consulting firm Synapse Energy Economics (“Synapse”) confirms that the VCEA will dramatically shift the profile of Dominion’s generation resources away from gas. Synapse applied conservative assumptions based on the VCEA and the 2020 IRP to model the maximum peak-day generation scenario that could be experienced by the utility over the next 10 years. In this unlikely “worst-case” scenario, Synapse concluded that Dominion would experience only a minimal amount of increased gas consumption—0.014 Bcf/d, an amount equivalent to a mere 0.7% of the MVP’s total capacity—from the two “placeholder” combustion turbines identified in the 2020 IRP. This potential increased consumption would

---


623 Id. at 17–19.

624 Id. at 18–19. As noted above, Dominion does not fuel combustion turbines with firm pipeline capacity like the MVP would provide, and according to the IRP itself, new technology may make the plan for these plants obsolete. See 2020 IRP 75; Report of Staff Witness Bernadette Johnson at 50, 2020 Fuel Factor Proceeding.
occur between the years 2024 to 2028; after 2028, the model showed that consumption declined for the new plants.625

Now that the VCEA has forced Dominion to abandon its gas build-out plans, the utility’s only generating units that could potentially use gas from the MVP are those already in existence. Those existing units, however, do not need gas from the MVP to operate now or in the future. In each of the past three years, the Virginia SCC has found that Dominion’s existing pipeline capacity portfolio is adequate for its existing generation fleet.626 Analysis from SkippingStone, a global energy firm, confirmed Virginia regulators’ conclusions, finding that the utility’s existing pipeline capacity is sufficient to meet the peak demands of its combined-cycle power plants with a 7% to 10% reserve margin.627 In addition, the Synapse model showed that Dominion’s

625 Synapse Report at 18–19.


existing plants will run less frequently by 2030,\textsuperscript{628} and data provided in the 2020 IRP about one of the plan’s scenarios shows that usage rates for Dominion’s existing Bear Garden, Brunswick, Greensville, and Warren gas plants would decline significantly by 2030.\textsuperscript{629} In short, just as they did not need the ACP, Dominion’s existing plants do not need the MVP now or in the future, and Dominion has no plans to build new plants that might need it.

(b) Demand for Natural Gas for Power Generation Has Also Declined in North Carolina, a Trend That Will Continue Under the State’s New Clean Energy Plan.

Like Dominion in Virginia, North Carolina’s largest utility, Duke Energy, has consistently inflated forecasted load growth. Moreover, its prior plans for significant build-out of gas-fired electric generation are inconsistent with both North Carolina’s newly proposed energy policy and Duke Energy’s own corporate carbon reduction targets.

In a 2017 Order approving Duke Energy’s 2016 IRPs, the North Carolina Utilities Commission (“NCUC”) shared concerns raised by the Public Staff about Duke Energy’s load forecasting methods and agreed that Duke Energy’s forecasts “may be higher than reasonably justified.”\textsuperscript{630} Indeed, Duke Energy Carolinas’ forecasts for the most recent four years—2017, 2018, 2019,

\textsuperscript{628} Synapse Report at 18–19 (“all gas generation in Dominion’s service territory falls in the last three years of the analysis period.”).

\textsuperscript{629} 2020 IRP, App. 5D, Schedule 9.

and 2020—sit well below the forecasts for 2012, 2014, 2015, and 2016.\textsuperscript{631} And both Duke Energy Progress and Duke Energy Carolinas have consistently lowered the starting point of their load forecasts each year.\textsuperscript{632} Duke Energy’s most recent estimate of energy needed in 2025 is more than 14% lower than its estimate from 2012.\textsuperscript{633} Likewise, the summer peak loads for both Duke Energy Carolinas and Duke Energy Progress remain well below what was projected by the utilities.\textsuperscript{634} The 2012 peak summer forecast—the planning horizon that both Duke Energy utilities were operating under when they first asserted a need for increased pipeline capacity in the context of the ACP—was the highest


\textsuperscript{634} Synapse Report at 7, fig. 3. “Summer peak load” refers to the summer afternoon hour when the highest amount of electricity is consumed across the utility.
of all. The “2012 forecast for 2027 is more than 4,000 MW higher than the 2019 forecast for that same year.”

Although Duke Energy’s most recent demand forecasts remain inflated, Duke Energy’s 2020 IRP includes scenarios in response to North Carolina’s Clean Energy Plan, a recent, significant change to the energy landscape in North Carolina that is incompatible with a major expansion of natural gas electric generation. The North Carolina Clean Energy Plan, proposed in 2019 by North Carolina’s Department of Environmental Quality, was developed with input from more than 160 stakeholder groups, including Duke Energy. The Plan establishes the goal to reduce emissions from the electric sector by 70% below 2005 levels by 2030 and achieve carbon neutrality by 2050. Electric sector modeling performed during the development of the Plan shows that Duke Energy’s 2019 IRP-proposed gas capacity additions are incompatible with the targets set by the Clean Energy Plan. In 2020, Duke Energy set its own corporate-wide carbon reduction goals, which call for a 50% reduction in

---

635 Id. at 7.


637 Id. at 12.

638 Id. at 25, 59.
carbon pollution (relative to 2005 levels) by 2030 and net-zero emissions by 2050.\textsuperscript{639}

The NCUC has ordered North Carolina utilities to model pathways for achieving the goals set by Executive Order No. 80 (the impetus for the Clean Energy Plan).\textsuperscript{640} Prior to the release of Duke Energy Carolinas’ and Duke Energy Progress’s 2020 IRPs on September 4, 2020, Synapse modeled a plan incorporating the Clean Energy Plan for units in North Carolina and incorporating Duke Energy’s corporate goals for units in South Carolina.\textsuperscript{641} Synapse’s modeling showed that the ACP would provide far more capacity, and at a much higher cost, than the utilities could reasonably justify for meeting any incremental needs for new gas capacity. Specially, Synapse concluded that at most, Duke Energy would need gas equivalent to approximately 9% of the ACP’s 1.5 Bcf/d capacity to supply any new gas-fired electric generation.\textsuperscript{642} This amounts to less than 7% of the MVP’s 2 Bcf/d of capacity. Put simply, to the extent the MVP’s proposed capacity appeared to serve any need for the


\textsuperscript{640} 2018 IRP Order.

\textsuperscript{641} Synapse Report at 19.

\textsuperscript{642} Id. at 19–20.
state when it was approved, the significant shifts in the policy landscape since 2017 render MVP’s massive new capacity obsolete for North Carolina.

(c) Newly Proposed and Recently Completed Projects Further Diversify the Region’s Gas Supply.

In addition to decreasing demand for and build-out of gas-fired electricity generation, there are recently completed natural gas projects that are in the vicinity of the MVP and serve to further undermine the region’s need for the Pipeline. For example, the Southeastern Trail project recently came online to supply an additional 0.3 Bcf/d to the Southeast, including Virginia. Additionally, the new Robeson Liquefied Natural Gas plant in North Carolina is a one billion-cubic-foot peaking and storage facility. Each of these projects is proposed to be completed within a timeframe similar to the MVP’s. These

---

643 Our citation to these projects is not an endorsement of their need nor their acceptability. As a factual matter, however, they are relevant to the Board’s socio-economic review.


646 See Transcontinental, 169 FERC ¶ 61,051, Ordering Paragraph (A)(1) (setting in-service deadline of October 2021); Piedmont Nat. Gas (estimating summer 2021 completion).
projects are in addition to recently completed projects that have further increased the region’s access to low-cost supply hubs well beyond what was available when Mountain Valley obtained its FERC Certificate.  

The current availability of excess capacity is demonstrated by recent statements from the developer of the ACP, which, prior to its cancellation, was proposed to connect the very same supply area as the MVP to a point on Transco’s system very near MVP’s terminus. In a letter to the Commission, the ACP’s developer admitted that it could readily obtain more than 0.885 Bcf/d of gas from the existing Transco and Columbia pipeline systems. And in a brief filed before the Public Service Commission of South Carolina, Transco confirmed that the ACP would represent “duplicative infrastructure and pipeline that Transco already has in place and in operation,” and that “[f]actually, Transco has the infrastructure and pipeline in place to serve the

---


Southeast . . . for many years.”

For the same reasons that the ACP would have been duplicative of the existing capacity that is sufficient to meet the region’s future needs, the MVP serves no actual market demand in the region.

**ii. Mid-Atlantic and Northeast**

As with the Southeast, gas demand in the Northeast and Mid-Atlantic will decrease in the long term. The EIA predicts that demand for gas in the mid-Atlantic region, which encompasses New York, Pennsylvania, and New Jersey, will increase slightly in 2020 and 2021 before steadily declining and will not return to 2019 levels within the EIA’s 30-year projection period.

Likewise, the EIA predicts that demand for gas specifically for electrical


650 Neither FERC nor Mountain Valley made clear what particular states or service areas they intended to reference when using the terms “mid-Atlantic” and “Northeast” in their descriptions of the need for the project. Because neither Mountain Valley nor its contracted shippers have provided evidence that gas from the Pipeline would be delivered to New England markets, commenters do not address in detail demand issues in the EIA New England region that encompasses Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut. Commenters note, however, that the EIA predicts total demand for gas in that region will begin declining in 2020 and remain well below 2019 levels through 2050. U.S. Energy Info. Admin., Annual Energy Outlook 2020, https://www.eia.gov/outlooks/aeo/data/browser/#/?id=2-AEO2020&region=1-1&cases=ref2020.

generation in the region will increase slightly in 2021 before declining without returning to 2019 levels within the EIA’s 30-year projection period.\textsuperscript{652}

These general trends were recently summed up by John McAvoy, Chairman, President, and CEO of Consolidated Edison, Inc. (“ConEd”), which holds both a small ownership stake in the MVP as well as contracts for a small portion of the MVP’s capacity.\textsuperscript{653} In discussing ConEd’s desire to get rid of its ownership stake in the MVP and other gas pipelines, McAvoy explained that, “We made those investments [in gas pipelines] five to seven years ago, and at that time we — and frankly many others — viewed natural gas as having a fairly large role in the transition to the clean energy economy. That view has largely changed, and natural gas, while it can provide emissions reductions, is no longer . . . part of the longer-term view.”\textsuperscript{654}

Indeed, ConEd’s utility subsidiaries Consolidated Edison Company of New York, Inc. (CECONY) and Orange and Rockland Utilities, Inc. (O&R) recently decreased their five-year forecast of average annual growth of peak

\textsuperscript{652} \textit{Id.}

\textsuperscript{653} Certificate Order at ¶10.

gas demand in their service areas. ConEd noted that the decrease was due in part to “customers’ energy efficiency measures and electrification of space heating.” Recent analysis mandated by the State of New York Public Service Commission found that O&R had no service areas that were subject to gas supply constraints. In that same filing, ConEd explained that “New York State is on the path to a clean energy future” and that “use of natural gas in the service territories of both Con Edison and Orange and Rockland is in transition.”

In a related filing, ConEd explained that “[p]rior to 2016, the Companies’ planning process focused on the establishment of new pipeline capacity contracts to meet growing peak demand.” However, in part because

---


656 Id. At the same time, ConEd’s subsidiary Clean Energy Businesses, Inc. has 620 Megawatts of utility scale and behind-the-meter renewable energy projects under construction. Id. at 33.

657 Consolidated Edison Company Of New York, Inc., Orange and Rockland Utilities, Inc. Supply and Demand Analysis For Regions Not Vulnerable To Supply Constraints at 5, Proceeding on Motion of the Commission in Regard to Gas Planning Procedures, Case No. 20-G-0131 (NYPSC July 31, 2020) (attached as Ex. 76) (“We determined that the entire Orange and Rockland service territory was not subject to supply constraints due to lack of interstate pipeline capacity.”); Id. at 16 (explaining that because of the planned Queens Transmission project, “the ability to receive supply from Lower Manhattan with deliveries from Texas Eastern and flow it north into Region 4 has increased and will continue to over the 10-year study period,” such that ConEd has sufficient capacity that it is cancelling its planned Manhattan Transmission project).

658 Id. at 23.

659 Consolidated Edison Company Of New York, Inc., Orange and Rockland Utilities, Inc. Supply and Demand Analysis For Regions Vulnerable To Supply
continued increases in gas consumption were contrary to governmentally established goals for greenhouse gas reductions,\textsuperscript{660} it has moved away from that approach and explored and implemented “alternative demand-side and alternative supply-side solutions to meeting customers’ energy needs.”\textsuperscript{661} Demand-side programs included “doubling the size of Con Edison’s gas energy efficiency programs, developing a gas demand response pilot, and issuing a non-pipeline solution request for proposals seeking new solution types from the marketplace.”\textsuperscript{662} ConEd predicted that by 2030 these demand-side reductions

\textsuperscript{660} See, e.g., Con Edison and Orange & Rockland Status Report and Proposals for the Use of Demand-Reducing Programs to Address Supply and Demand Imbalances at 1–2, \textit{Proceeding on Motion of the Commission in Regard to Gas Planning Procedures}, Case No. 20-G-0131 (NYPSC August 17, 2020) (attached as Ex. 78) (discussing New York’s Climate Leadership and Community Protection Act (CLCPA)). \textit{Id.} at 2 (“For many decades, New York has experienced consistent growth in natural gas demand. . . . Generally, this growth has been met with capital investment and supply procurement. . . . However, in recent years energy efficiency and other demand management programs have advanced in sophistication and viability to contribute as alternative solutions to infrastructure investment and/or procurement, potentially providing the LDCs with new tools to meet peak day gas demand and to manage overall gas usage.”).

\textsuperscript{661} \textit{Id.} at 10–11.

\textsuperscript{662} \textit{Id.} at 11; see also \textit{id.} at 12 (“Orange and Rockland has also begun to implement programs similar to Smart Solutions as a result of its most recent gas rate agreement, including the development of a gas demand response pilot and significantly increasing the size of its gas energy efficiency programs.”). ConEd also signed precedent agreements for capacity on the proposed Tennessee Gas 300L East project in April 2019, and on the Iroquois pipeline in
could eliminate the need for over 200 million Dth/d of gas—more than 800 times the 250,000 Dth/d for which ConEd has contracted on the MVP—in its three service regions that are supplied by the Transco system into which the MVP would feed. ConEd “expect[s] that accelerating the use of non-pipeline alternatives will advance the deployment of new, sustainable technologies critical to meeting New York’s long-term decarbonization goals.” The MVP’s capacity is thus not necessary to meet the future energy needs in the region served by Mountain Valley’s lone customer in the Mid-Atlantic or Northeast region.

May 2019, which would increase delivered gas volumes by increasing compression on existing pipelines. *Id.* at 14–15.

663 *Id.* at 43.

664 Con Edison and Orange & Rockland Status Report and Proposals for the Use of Demand-Reducing Programs to Address Supply and Demand Imbalances at 3, *Proceeding on Motion of the Commission in Regard to Gas Planning Procedures*, Case No. 20-G-0131 (NYPSC August 17, 2020). In addition to demand-reducing efforts, ConEd is also developing supply-side non-pipeline measures such as gas injection and storage facilities that will allow it to meet peak demands. *Id.* at 3–4. See also *id.* at 14 (“With its Smart Solutions for Natural Gas Customers proposal in 2017, Con Edison became one of the first LDCs in the nation to explore relying on energy efficiency and demand management programs, and non-pipeline alternatives solutions to meet winter demand for natural gas.”); *id.* at 18 (Non-pipeline alternatives “represent opportunities to defer or avoid certain traditional investments, potentially resulting in cost savings and/or environmental benefits while maintaining the highest standards for safety and reliability.”).
b. The MVP’s Capacity Contracts are not Reliable Indicators of Need for the Project in Light of the Anchor Shipper’s Statements that it no Longer Needs or Desires Capacity on the MVP.

When it granted Mountain Valley’s Certificate in 2017, FERC did not conduct an analysis of need for the pipeline’s capacity in the markets to be served. Rather, it relied entirely on the existence of capacity contracts with five shippers for the full volume of the MVP to support its finding that there was a public demand for the pipeline such that it was required by the public convenience and necessity.⁶⁶⁵ FERC wrote that

Mountain Valley has entered into long-term, firm precedent agreements with five shippers for 2,000,000 Dth per day of firm transportation service – the project’s full design capacity . . . . The shippers on the MVP . . . will supply gas to a variety of end users and those shippers have determined that there is a market for their gas and the MVP . . . [is] the preferred means of delivering or receiving that gas. We find that the contracts entered into by the shippers are the best evidence that additional gas will be needed in the markets that the MVP . . . [is] intended to serve. We find that Mountain Valley has sufficiently demonstrated that there is market demand for its project.⁶⁶⁶

⁶⁶⁵ See Certificate Order at ¶¶9–10, 41–43. See also Rehearing Order at ¶¶42–44; EIS at 1-8.

⁶⁶⁶ Certificate Order at ¶41; see also id. at ¶42 (“We disagree with commenters’ assertion that the Commission should examine the need for pipeline infrastructure on a region-wide basis.”). Because Mountain Valley is not required to make public its capacity contracts, Commenters are not certain if the same contracts are still in place or if they have been renegotiated or transferred to other customers since issuance of the Certificate.
One shipper—EQT Energy, LLC, a gas marketing subsidiary of EQT Corp. (collectively, “EQT”)—held contracts for 1,290,000 of the 2,000,000 Dth/d of firm transportation service, or roughly 65% of the MVP’s capacity.\footnote{Id. at ¶10.}

That anchor shipper, which is the largest gas producer in the Appalachian Basin, has now disclaimed any need for the MVP’s capacity to move its gas to market. On a July 27, 2020, conference call with investors, EQT explained that currently there exists a “pretty big gap between capacity and supply in the [Appalachian] basin.”\footnote{EQT Corp Q2 2020 Earnings Call Transcript, July 27 2020 (“EQT Transcript”) (attached as Ex. 79).} The gap is not, however, between excess production and limited takeaway capacity leading to the “constraints on . . . production” that FERC described in its FEIS.\footnote{EIS at 1-8.} Rather, there is currently a 3 Bcf/d \textit{surplus} of takeaway capacity from the Appalachian basin, which would only be exacerbated by addition of the MVP’s 2 Bcf/d.\footnote{EQT Transcript at 25.} Due to flat or declining future production from the basin, this capacity surplus is not going away.\footnote{See, e.g., Duke Energy Progress Integrated Resource Plan 2020 Biennial Report at 301 (“The U.S. Energy Information Administration (EIA) is forecasting a decrease this year from a reported 93.1 BCF/day in April, to 85.4

\[\text{EQT's President and CEO Toby Rice explained:} \]

\[\text{[T]he dynamics that are set up right now is Appalachia is producing around 32 Bcf a day. We've got about call it 35 Bcf a}\]
day of local takeaway – of takeaway and local demand. So, there is a 3 Bcf a day gap between what we are producing and what we are able to take away. Adding MVP that takes – that takes you up to call it 37 Bcf a day. So, you’ve got a pretty big gap between capacity and supply in the basin. I think you couple that with the fact that the basin is going to struggle to grow. I mean, you’ve got all operators saying they’re hanging in a maintenance mode. We’re also seeing activity levels today, which suggest that this basin is going to decline. All of that is going to widen the gap of takeaway.

And then I think the last point you look at is just sustaining 32 Bcf a day, just looking at the amount of core inventory that’s remaining to sustain that, I think that is also going to be a headwind for a lot of peers. Indeed, EQT announced that on September 1, 2020, it began shutting in an additional 425 million cubic feet of gas production.673

Indeed, EQT announced that on September 1, 2020, it began shutting in an additional 425 million cubic feet of gas production.673

672 EQT Transcript at 25. On the call, EQT repeatedly expressed to investors that production from the Appalachian basin has been substantially reduced and is likely to remain flat or decline further in the foreseeable future. Id. at 5 (“[W]e saw about 4 Bcf a day of demand destruction from COVID-19 in the industrial, LNG, and residential commercial markets.”); id. at 8 (“It is abundantly clear that shareholders desire a new approach in shale. One in which overall production growth is muted and efficiencies are amplified. Our approach is aligned with our shareholders ….”); id. at 15 (“[T]he economics still look like shutting in production, could be worthwhile and that’s something we’ll look at and see if we decide we want to shut in more production.”); id. at 21 (“[I]s [curtailment of production] something we’ll want to do in the future? Probably. We’ll continue to do it when it makes sense to do it.”); id. at 22 (“I mean our shut-in while – 1.4 Bcf a day of gross gas is pretty large, represents around 25% of our production base. I think, look at some of our other peers. I mean the shut-ins they’re talking about are around 25% as well.”).

Moreover, existing pipeline takeaway capacity is available at a significantly lower cost than that charged by Mountain Valley. As a result, EQT is seeking to “lay off,” i.e., sell, its contracts for capacity on the MVP in order to save money and increase returns for shareholders.\textsuperscript{674} EQT does not see any threat of future production increases in the basin leading to Mountain Valley’s alleged capacity constraints.\textsuperscript{675}

Because all evidence shows that demand for gas in the markets to be served by MVP is declining and because the holder of contracts for nearly two-thirds of the MVP’s capacity has stated explicitly that it no longer needs or wants that capacity due to the surplus of less-expensive transportation options, Mountain Valley’s claim that its pipeline is needed to supply “growing

\textsuperscript{674} EQT Transcript at 7 (“One of the more meaningful rationalizations will be our ability to sell down some or all of our MVP capacity. This continues to present the biggest potential for long-term cost reduction improvement . . .”); id. at 9 (“As far as the likelihood of being able to lay off capacity, it could be up all of our – all of our capacity.”); id. at 10 (“I think as far as the impact to EQT, if you look at Slide 20 [of the investor presentation] where we show our [firm transportation] portfolio, you look at the change in our net realization from ’20 to ’21 you’re seeing about, almost $0.10 of pricing realization difference in those years. I mean that’s largely due to the effect of MVP. So that’s the sort of price that we’re looking at, if we can be successful in laying off for MVP capacity.”); id. at 11 (“I’d just say our goal would be to really sell it, so that there is no – at least no out of pocket costs for us.”).

\textsuperscript{675} Indeed, the response quoted above was to an investor analyst question about balancing the immediate cost savings of laying off the MVP capacity with the risk that future increases in production from the basin could lead EQT to have difficulty finding access to markets for its gas. Id. at 25 (“[H]ow do you balance the near-term benefits of offloading all that [firm transportation] relative to the longer-term risk of widening in basin – basis in the future should commodity prices increase in the future and producers start growing again?”).
demand” for gas and alleviate takeaway constraints in the Appalachian shale basin cannot be taken seriously. The unequivocal statements by MVP’s anchor shipper completely undermine FERC’s conclusion in the Certificate Order that “the contracts entered into by the shippers are the best evidence that additional gas will be needed in the markets that the MVP . . . [is] intended to serve” such that “Mountain Valley has sufficiently demonstrated that there is market demand for its project.” Thus, neither FERC nor Mountain Valley have demonstrated any compelling public need for the project. Socioeconomic factors thus heavily favor denial of Mountain Valley’s application.

3. CONSIDERATION OF PROPERTY OWNERSHIP FAVORS DENYING MOUNTAIN VALLEY’S PERMIT APPLICATION.

The MVP’s adverse impacts to private property ownership further counter any purported economic benefits of the pipeline. The MVP is somewhat unusual among projects the Board considers permitting in that the applicant is not the fee-owner of the property at a substantial number of its proposed disposal sites. That is because Mountain Valley used the extraordinary power of eminent domain to seize vast stretches of its right-of-way.

676 See Application at 10.

677 Certificate Order at ¶41.

678 See generally Mountain Valley Pipeline, LLC v. 6.56 Acres of Land, 915 F.3d 197 (4th Cir. 2019) (appeal by hundreds of landowners of federal court order allowing Mountain Valley to engage in pipeline construction on their property before paying just compensation).
Mountain Valley was able to obtain only 82 or 83% of the properties needed to build the MVP voluntarily from their landowners. 679 Mountain Valley’s vice-president in charge of construction admitted under oath in the eminent domain proceedings that the percentage of properties that Mountain Valley had to seize through eminent domain was “substantially large” and downright “unusual.” 680 Mountain Valley assumed that landowner opposition to the project would wane once it obtained its FERC certificate and the project “bec[ame] real.” 681 But that did not happen, and Mountain Valley was forced to use the federal courts to gain access to nearly 20% of the properties it needed overall.

Given those numbers, considerations of land use cut against finding a socioeconomic necessity for the proposed project in the Board’s antidegradation review. Whereas considerations of private property rights frequently cut in favor of allowing an owner to engage in a regulated activity, 682 here private property rights cut in favor of permit denial. It is safe to say that, in the view of a substantial number of property owners along the MVP’s route, Mountain Valley is a trespasser. The “power to exclude [others from private property] has

679 Ex. 16 at 21:25 to 22:1.

680 Id. at 84:8–21.

681 Id. at 85:10–23; see also id. at 117:12–24.

682 See 33 C.F.R. § 320.4(g)(1)–(2).
traditionally been considered one of the most treasured strands in an owner's bundle of property rights.” 683 Hundreds of landowners battled Mountain Valley in court to exclude them from their private properties, on which many of the streams and wetlands at issue in this application are located.

Whether they accepted or fought against Mountain Valley’s use of their land, many of these landowners have been harmed far beyond their reasonable expectations, and any compensation they received has not made them whole. 684 These commenters have been informed that some landowners, including some who formerly used their land for agriculture, have moved away rather than endure the ordeal of ongoing construction on their property and disruption to their livelihood and family lives. Others have kept their properties but have found them permanently altered. 685 In addition to aesthetic alterations, many residential, agricultural, and commercial properties have had their water access damaged or disrupted and fear such issues will recur. 686 Still others

683 Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 435–36 (1982); see also Rakas v. Illinois, 439 U.S. 128, 143, (1978) (observing that “one of the main rights attaching to property is the right to exclude others” (citing W. Blackstone, Commentaries, Book 2, ch. 1)).


685 See, e.g., Decl. of Tammy Capaldo (attached as Ex. 80).

686 See, e.g., Mountain Valley Pipeline Weekly Report Nos. 57 through 181, at app. D (various accession numbers) (filed beginning on Nov. 13, 2018, to Sept. 1, 2020, in FERC Docket No. CP16-10-000) (documenting unresolved bad taste
have suffered emotionally, and even physically, from worries over future potential problems the pipeline may cause them, as well as the stress of the ongoing occupation of their property, even reporting feelings of being surveilled and concerns about their children’s safety due to the constant presence of strangers on their property.

The Board should also consider the land use of property in the surrounding area and the interest of its owners, as landowners within the pipeline right-of-way are not the only ones who have been—and will continue to be—affect. For example, there is no assurance that the water supply problems noted above have not or will not affect other landowners, especially given Mountain Valley’s inadequate sampling of private drinking water wells, the presence of karst terrain in many places along the proposed route, and the

---

in water coming from landowner’s home faucet); Mountain Valley Pipeline Weekly Report No. 108, at app. D, FERC Accession No. 20191127-5124 (filed Nov. 27, 2019, in FERC Docket No. CP16-10-000) (landowner reporting sediment in the well water); Mountain Valley Pipeline Weekly Report No. 97, at app. B, FERC Accession No. 20190916-5092 (filed Sept. 6, 2019, in FERC Docket No. CP16-10-000) (“The water line to the cattle waterer had been cut on the LOD.”); Mountain Valley Pipeline Weekly Report No. 56, at app. D, FERC Accession No. 20181207-5156 (filed Dec. 7, 2018, in FERC Docket No. CP16-10-000) (two cattle waterlines severed by trenching, unresolved for nearly a month); Mountain Valley Pipeline Weekly Report No. 54, at app. D, FERC Accession No. 20181129-5057 (filed Nov. 29, 2018, in FERC Docket No. CP16-10-000) (landowner’s son reporting a problem with home water supply after blasting on the pipeline right-of-way); Mountain Valley Pipeline Weekly Report No. 45, at app. D, FERC Accession No. 20180921-5230 (filed Sept. 21, 2018, in FERC Docket No. CP16-10-000) (documenting a well that went dry due to damage caused by construction and was ultimately repaired two months later).
large volumes of water Mountain Valley plans to use for hydrostatic testing.\textsuperscript{687} Residents will continue to be disturbed by construction noise. Additionally, rural roads have already been damaged by heavy construction vehicles, burdening local communities.\textsuperscript{688}

Furthermore, even if construction is completed and the pipeline begins to operate, the visual blight of the right-of-way would cause ongoing harm to the community, as residents who once had unspoiled, bucolic views will lose them as long as the right-of-way is maintained, and many years after.\textsuperscript{689}

\textsuperscript{687} See generally Ex. 41 (Hansen et al. (2018)); see also Decl. of Herman Mann, ¶7, Sierra Club v. U.S. Army Corps of Eng’rs, No. 20-2039, Doc. No. 20-22 (4th Cir. Oct. 5, 2020) (attached as Ex. 81); Decl. of Paula Mann, ¶7, Sierra Club v. U.S. Army Corps of Eng’rs, No. 20-2039, Doc. No. 20-23 (4th Cir. Oct. 5, 2020) (attached as Ex. 82).

\textsuperscript{688} See, e.g., Mountain Valley Pipeline Weekly Report No. 108, at app. D, FERC Accession No. 20191127-5124 (filed Nov. 27, 2019, in FERC Docket No. CP16-10-000) (“Landowner believes that wear and tear on the country road by construction traffic is causing water to run onto the property.”); Mountain Valley Pipeline Weekly Report No. 54, at app. D, FERC Accession No. 20181129-5057 (filed Nov. 29, 2018, in FERC Docket No. CP16-10-000) (“[Landowner] called to state that the road is in bad shape yet again and that no stone had been put on the road since the last time the [landowner] called.”).

\textsuperscript{689} Mountain Valley’s evaluation of visual impacts does not fully account for these impacts to residents, as it offers a highly subjective analysis and limits that analysis to “key observation points,” which include Mountain Valley’s own selection of sites, such as points within the Jefferson National Forest, along the Blue Ridge Parkway, other highways, and trailheads. See FEIS at 4-287–296; see also id., tbl. 4.8.1-10. Mountain Valley’s survey, thus, did not account for the visual effect of the right-of-way on residents living near it. Estimates of the pipeline’s likely visibility resulting from a study that was not conducted or paid for by Mountain Valley suggest that Mountain Valley’s assessment very likely understated the pipeline’s visual impact on surrounding communities. Phillips et al. (2016), at 30, fig. 7.
Landowners outside the right-of-way have no recourse for this loss. As the loss of these views decrease the enjoyment of the families who live in the area, it is only common sense that new families (and, as a result, businesses) will either be less likely to move to the area or will pay less to do so. In other words, residents are also likely to feel these aesthetic losses as losses in property values and/or greater difficulty selling their property, which will persist with the visibility of the right-of-way for decades after the pipeline ceases operating. Although most of the tree-felling in the right-of-way has already been completed, permit denial would allow quicker recovery, since new trees would be planted and allowed to grow in the right-of-way.

Some community members will reasonably fear their families are in greater danger due to the presence of the pipeline, especially those who have


691 *Id.*


693 See, e.g., Erin Brock Carlson & Martina Angela Caretta, *Living with Natural Gas Pipelines: Appalachian Landowners Describe Fear, Anxiety, and Loss*, The Conversation (Feb. 3, 2021) (recounting the results of a 2020 survey of 45 respondents living close to natural gas pipelines, reporting that the top concern among respondents was explosions, and noting that between 2010 and
learned to distrust Mountain Valley’s care and/or competence due to the many violations that have occurred to date. Residents who have observed Mountain Valley’s blunders over the past several years would reasonably doubt its ability to prevent or properly handle a large-scale disaster. These fears may extend to any community members living near the pipeline, not just those who have easement agreements with Mountain Valley or have been partially compensated through eminent domain.\footnote{Id.; see also Decl. of Herman Mann, ¶8; Decl. of Paula Mann, ¶9. Indeed, Paula Mann, whose property abuts a parcel crossed by the MVP in Monroe County, avers that, “[i]f construction of the Mountain Valley Pipeline is completed and the pipeline is placed into operation, I will most likely move away from this farm on which I have spent my entire life.”.} Again, in addition to psychological harm and very real safety risks that community members will be forced to bear, property values are expected to decrease in the entire area perceived as the zone of danger.\footnote{See Phillips et al. (2016) at 24–26.}

In sum, the land-use factor supports a finding that this project is not necessary from a socioeconomic standpoint, due to the unusually vast exercise of eminent domain for this project and the detrimental effect the pipeline has had and will continue to have on property owners in the communities near the pipeline route.
II. THE RECENT VACATUR OF EPA’S 2020 SECTION 401 CERTIFICATION RULE AFFECTS THE BOARD’S ANALYSIS OF MOUNTAIN VALLEY’S APPLICATION.

On October 21, 2021, the U.S. District Court for the Northern District of California vacated and remanded a rule published by the U.S. EPA on July 13, 2020 and taking effect last September. The recently adopted (and now vacated) rule interpreting states’ authority under Clean Water Act § 401 (“2020 Certification Rule”) placed significant limitations on the scope of state actions under § 401 and added specific new requirements where a state certifying authority, like the Board, takes action to deny certification or place conditions on certification. As discussed below, the vacatur of the unlawfully restrictive 2020 Certification Rule should inform the Board’s analysis of Mountain Valley’s application in several important ways.

A. THE VACATUR OF THE 2020 CERTIFICATION RULE MAKES CLEAR THAT THE BOARD MUST EVALUATE THE MVP’S IMPACT ON VIRGINIA’S GROUNDWATER AND, IF IT CERTIFIES THE PROJECT, MUST INCLUDE CONDITIONS TO PROTECT GROUNDWATER.

In deciding whether to issue a VWP permit, the Board must evaluate the project’s impacts on groundwater. And, if the Board decides to issue a VWP permit, it must craft appropriate conditions to protect groundwater.

---


Virginia law requires DEQ and the Board to regulate groundwater impacts from pipeline construction under the VWP program. The Virginia Administrative Code provisions implementing the VWP program provide generally that a permit is required not only for impacts to “surface waters,” but also more generally for impacts to “state waters.” While the regulatory definition of “surface waters” expressly excludes groundwater, the regulatory definition of “state waters” expressly includes groundwater: “State waters’ means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands.”

The VWP program requires a permit for activities that “alter the physical, chemical, or biological properties of state waters regulated under this chapter and make them detrimental to the public health, to animal or aquatic life, or to the uses of such waters for domestic or industrial consumption, for recreation, or for other uses . . . .” With respect to large natural gas pipelines such as the proposed pipeline, Virginia regulations specify that an individual VWP permit is required when such a pipeline would result in “impacts to state waters” and that the “manner” of pipeline construction must “minimize[ ]

699 Id. (emphasis added).
700 Id. § 25-210-50(A) (emphasis added).
701 Id. § 25-210-50(C).
temporary and permanent impacts to state waters . . . .” Each of these references to “state waters” includes groundwater.

The pipeline-specific permit requirement’s reference to state waters supersedes the default permitting requirement for impacts to surface waters. Furthermore, the general (non-pipeline-specific) provisions require a permit for activities that impact groundwater to the extent that they “alter” it in one of the enumerated ways. These provisions of the VWP regulations require the Board to regulate groundwater impacts from large natural gas pipelines.

Although some commenters have previously urged the Board to consider groundwater impacts in this 401 certification process, the recent vacatur of the 2020 Certification Rule removes any doubt about the Board’s authority and obligation to do so under the state’s VWP program regulations. Prior to 2020, a state could condition a Section 401 certification by requiring the project proponent to comply with conditions to protect water quality requirements as well as “any other appropriate requirement of State law,” which was interpreted to mean that states could place restrictions on the applicant’s

702 Id. § 25-210-50(C)(2).


“activity as a whole” once the requirement for certification was triggered. The EPA’s 2020 Clean Water Act Section 401 Certification Rule advanced a different interpretation that limited states’ Section 401(d) authority to water quality issues arising from the discharge itself rather than the whole activity. However, the 2020 rule was vacated last week and the previous 401 Certification Rule has been reinstated. As a result, the effective scope of 401 certification has reverted to the previous broader state authority. States are again permitted to place restrictions on activities requiring Section 401 certification in order to ensure compliance with “any other appropriate requirement of State law,” as laid out in *PUD No. 1 of Jefferson County v. Washington Dep’t of Ecology.*

---


Therefore, the Board’s VWP analysis should now include all potential impacts to groundwater from Mountain Valley’s proposed activities. If the Board decides to issue a VWP permit, it must include conditions sufficient to protect the state’s groundwater.

**B. THE VACATUR OF THE 2020 CERTIFICATION RULE MERITS THE BOARD REQUESTING THE FULL ONE-YEAR PERIOD TO ACT ON MOUNTAIN VALLEY’S APPLICATION.**

As a result of the vacatur of the 2020 Certification Rule, this 401 certification process is now subject to a different legal regime. These comments address one example in which Virginia’s state-law water quality protections have been strengthened as a result of the 401 rule vacatur, in that provisions protecting groundwater are now much more clearly within the ambit of Virginia’s 401 certification authority.\(^{709}\) There may be other such substantive changes in the scope of the certification process, and the Board should request more time to conduct the 401 process in light of the change in the law.\(^{710}\)

---

\(^{709}\) The 2020 Certification Rule imposed a new limitation on states’ Section 401 reviews, mandating that the “scope of a Clean Water Act section 401 certification is limited to assuring that a discharge from a Federally licensed or permitted activity will comply with water quality requirements.” 40 C.F.R. § 121.3 (2020). Previously, based on the United States Supreme Court’s ruling in *PUD No. 1 of Jefferson County v. Washington Dep’t of Ecology*, 511 U.S. 700 (1994) (*PUD No. 1*), Section 401 allowed states to impose conditions on the underlying activity as a whole, not just on the activities discharges, in order to ensure compliance with “any other appropriate’ state law requirements.” *Id.* at 700 (quoting CWA Section 401(d), 33 U.S.C 1341(d)); *see also* US EPA, Clean Water Act Section 401 Certification Rule, 85 Fed. Reg. 42,210, 42,222 (July 13, 2020) (discussing *PUD No. 1* and the 2020 Certification Rule’s departure from the broad interpretation therein).

\(^{710}\) The 2020 Certification Rule imposed more rigid rules governing the establishment of the “reasonable period of time” for a state’s Section 401 review
The additional time would also allow the Board to have more robust and fair public participation opportunities, including time for DEQ to secure the authority and develop the capacity for remote hearing participation for interested persons who cannot physically attend a hearing in person or who do not wish to take the associated COVID-related health risks to do so. The Board should request that the Corps allow it the full one-year maximum period as the “reasonable period of time”\(^\text{711}\) because the recent change in the governing regulations is a “circumstance[ ] [that] may reasonably require a period of time longer” than the Corps’ previously determined reasonable period for the certification determination process.\(^\text{712}\)

C. DESPITE THE RECENT VACATUR OF THE 2020 CERTIFICATION RULE, THE BOARD SHOULD NONETHELESS PROVIDE DETAILED JUSTIFICATION WHEN DENYING MOUNTAIN VALLEY’S APPLICATION

Should the Board deny Mountain Valley’s requested certification, as these comments establish is appropriate, it would nonetheless be prudent to

\(^{711}\) See 33 U.S.C. § 1341(a)(1) (“If the State, interstate agency, or Administrator, as the case may be, fails or refuses to act on a request for certification, within a reasonable period of time (which shall not exceed one year) after receipt of such request, the certification requirements of this subsection shall be waived with respect to such Federal application.”).

\(^{712}\) 33 C.F.R. § 325.2(b)(ii).
provide supporting reasoning in sufficient detail to satisfy the 2020 Certification Rule, despite its recent vacatur.

Under the vacated certification rule, in order to deny certification, the certifying authority must provide in writing:

(i) The specific water quality requirements with which the discharge will not comply;

(ii) A statement explaining why the discharge will not comply with the identified water quality requirements; and

(iii) If the denial is due to insufficient information, the denial must describe the specific water quality data or information, if any, that would be needed to assure that the discharge from the proposed project will comply with water quality requirements.713

Moreover, the vacated certification rule grants federal agencies authority to review state certification decisions under § 401,714 and states that a state’s decision to deny would instead be deemed a waiver if the state failed to comply with the procedural requirements outlined above.715

With the vacatur of the certification rule, EPA and the courts’ longstanding interpretation of Section 401 now controls, and it is widely accepted that the historic interpretation grants more leeway to states in their certification decisions than the now-vacated certification rule.716 However, due

713 40 C.F.R. § 121.7(e) (2020).
714 Id. § 121.8 (b).
715 See Id. § 121.9 (a) (2) (iii)-(iv).
716 In re Clean Water Act Rulemaking, No. 3:20-cv-04636-WHA at *17 (N.D. Cal. Oct. 21, 2021) (The court’s order “will result in a temporary return to the
to the uncertainty of litigation and a new proposed federal rulemaking process that will take approximately eighteen months, a conservative approach to denying the requested certification would be to comply with the restrictive requirements of the vacated certification rule anyways. If a denial would pass muster under the vacated rule, it will also comply with the broader historical interpretation or the new rule that EPA plans to develop.\footnote{See In re Clean Water Act Rulemaking, No. 3:20-cv-04636-WHA at *14 (N.D. Cal. Oct. 21, 2021) (“EPA’s opening brief lists eleven aspects of the certification rule about which it has ‘substantial concerns’ ... ‘including whether there is any utility in requiring specific components and information for certifications with conditions and denials; whether it is appropriate for federal agencies to review certifying authority actions for consistency with procedural requirements or any other purpose.’”}).

Fortunately for the Board, it is not difficult to craft a denial of Mountain Valley’s requested certification in compliance with the requirements of the vacated certification rule. As described in these comments, the record is replete with examples of proposed discharges that are likely to violate Virginia’s narrative water quality standards or Virginia’s antidegradation law.

A denial document could incorporate the following statements of law and fact, with additional support drawn from the materials submitted to the Board, which amply support the following conclusions:

Pursuant to its authority under Section 401 of the federal Clean Water Act, 33 U.S.C. § 1341, and the State Water Control Law, Va. Code § 62.1-44.2 \textit{et. seq.}, and regulations adopted pursuant rule previously in force until Spring 2023, when EPA finalizes a new certification rule.”}
thereto, the State Water Control Board denies Mountain Valley Pipeline, LLC’s application for a Virginia Water Protection Permit and certification under Clean Water Act § 401 for the following reasons:


2. Proposed activities [at specified crossings or in specified watersheds] are reasonably likely to interfere with designated uses under 9 Va. Admin. Code § 25-260-10 by causing significant long-term adverse impacts to “the propagation and growth of a balanced, indigenous population of aquatic life.” The proposed activities are likely to violate 9 Va. Admin. Code § 25-260-20 by introducing turbidity in amounts that are likely to “interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life.” Mountain Valley has not demonstrated that its best management practices and other minimization efforts will adequately control turbidity and sedimentation to prevent such impacts.

3. The proposed activities are likely to violate Virginia’s antidegradation law, 9 Va. Admin. Code § 25-260-30, particularly at the crossings of waters which are currently biologically impaired due to excess sediment. Mountain Valley’s proposed crossings will add sediment at concentrations that exceed background levels, such that these waters’ instream beneficial uses will not be protected. Va. Code Ann. § 62.1-44.15:20(B).

4. Mountain Valley’s application and supporting materials lack specific information required in order to determine compliance with Virginia’s antidegradation law. Specifically, a baseline analysis of existing sediment levels in the Tier 2 waters Mountain Valley proposes to cross is required, along with quantification of the amounts of sediment likely to be added
by the proposed activities. Without this information, the Board cannot determine whether the water quality in these streams will “be maintained and protected” pursuant to 9 Va. Admin. Code § 25-260-30. Without appropriate baseline data and estimates of sediment additions, the Board cannot conduct this analysis.

5. Mountain Valley’s application and supporting materials fail to demonstrate that its proposed dry ditch, open-cut crossings constitute the “least environmentally practicable alternative,” as required by 9 Va. Admin Code § 25-210-80(B)(1)(g). Mountain Valley has failed to demonstrate that it has avoided and minimized impacts to the maximum extent practicable through the use of construction alternatives, such as increased use of trenchless crossings. Mountain Valley has also failed to demonstrate that it has avoided and minimized impacts to the maximum extent practicable through the use of route alternatives, particularly with regard to route modifications that would avoid special aquatic sites. See 40 C.F.R. § 230.10(a)(2).

Explaining a denial of Mountain Valley’s application with the specificity outlined above, with additional citations to factual material in the record, could be legally required if the vacatur of the 2020 Certification Rule is limited in geographical scope or overturned by a higher court. Regardless, agency actions should always be rationally supported, and such a robust explanation of the Board’s decision would aid in ensuring that the denial decision survives any potential judicial challenge applying whichever Section 401 regulation ultimately govern the Board’s action.

CONCLUSION

For the foregoing reasons, we respectfully request that the Board deny Mountain Valley’s certification application.
Respectfully submitted,

/s/ Benjamin A. Luckett
BENJAMIN A. LUCKETT
DEREK O. TEANEY
APPALACHIAN MOUNTAIN ADVOCATES
P.O. Box 507
Lewisburg, WV 24901
(304) 873-6080
bluckett@appalmad.org
dteaney@appalmad.org
Counsel for Allegheny-Blue Ridge Alliance, Appalachian Voices, Blue Ridge Environmental Defense League, Chesapeake Climate Action Network, National Parks Conservation Association, Preserve Craig, Inc., Preserve Franklin, Preserve Montgomery County, VA, Preserve Salem, Protect Our Water Heritage Rights (POWHR), Sierra Club Virginia Chapter, Virginia Conservation Network, and Wild Virginia

/s/ Gregory Buppert
GREGORY BUPPERT
SPENCER GALL
CLAIRE HORAN
SOUTHERN ENVIRONMENTAL LAW CENTER
201 West Main Street, Suite 14
Charlottesville, VA 22902
(434) 977-4090
gbuppert@selcva.org
sgall@selcva.org
choran@selcva.org
Counsel for Defenders of Wildlife, Preserve Bent Mountain, and Preserve Giles County

/s/ Gillian R. Giannetti
GILLIAN R. GIANNETTI
NATURAL RESOURCES DEFENSE COUNCIL
1152 15TH Street NW, Suite 300
Washington, DC 20005
(202) 717-8350
ggiannetti@nrdc.org
Counsel for Natural Resources Defense Council

Organizational Contacts

Allegheny-Blue Ridge Alliance
Lew Freeman
P.O. Box 96
Monterey, VA 24465
(703) 298-8107

Appalachian Voices
Peter Anderson
812 E. High Street
Charlottesville, VA 22902
(434) 293-6373
Blue Ridge Environmental Defense League
Ann Rogers
P.O. Box 88
Glendale Springs, NC 28629
(540) 312-3104

Chesapeake Climate Action Network
Anne Havemann
6930 Carroll Avenue, Suite 720
Takoma Park, MD 20912
(240) 630-2146

Defenders of Wildlife
Jason Rylander
1130 17th Street NW
Washington, DC 20036
(202) 772-3245

National Parks Conservation Association
Pamela E. Goddard
777 6th St., NW # 700
Washington, DC 20001.
(202) 604-3781

Preserve Bent Mountain
Roberta Bondurant
P.O. Box 33
Bent Mountain, VA 24059
(540) 793-4769

Preserve Craig, Inc.
Bill Wolf
P.O. Box 730
New Castle, VA 24127
(540) 798-1349

Preserve Franklin
Bonnie Law
P O Box 312
Boones Mill, VA 24065
(540) 797-4470

Preserve Giles County
Donna Pitt
PO Box 302
Newport, VA 24128
(540) 544-7207

Preserve Montgomery County VA
Lynda Majors
P.O. Box 10623
Blacksburg, VA 24062
(540) 320-1922

Preserve Salem
Cynthia Munley
425 Roanoke Boulevard
Salem, VA 24153
(540) 389 8915

Protect Our Water, Heritage, Rights (POWHR)
Russell Chisholm
PO Box 809
Pembroke, VA 24136-9998
(540) 404-2727

Sierra Club Virginia Chapter
100 W. Franklin Street
Mezzanine
Richmond, VA 23220
(804) 225-9113

Virginia Conservation Network
Pat Calvert
701 East Franklin Street
Suite #800
Richmond, VA 23219
(804) 644-0283

Wild Virginia
David Sligh
108 5th St SE
Charlottesville, VA 22902
(434) 964-7455