

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:
OEP/DG2E/G3
Mountain Valley Pipeline LLC
CP16-10-000

August 29, 2018

Matthew Eggerding, Counsel
Mountain Valley Pipeline LLC
625 Liberty Ave., Suite 1700
Pittsburgh, PA 15222

Re: Partial Authorization to Resume Construction

Dear Mr. Eggerding:

Staff, having further reviewed the status of construction activities along the route of the Mountain Valley Pipeline Project (Project), and additional information provided by the Department of the Interior's Bureau of Land Management (BLM), has determined that the protection of the environment along the Project's right-of-way is best served by modifying the Stop Work Order issued on August 3, 2018.

In the Stop Work Order, staff stated that "[s]hould the agencies authorize alternative routes, [Mountain Valley Pipeline] may need to revise substantial portions of the Project route across non-federal lands, possibly requiring further authorizations and environmental review." On August 24, 2018, the BLM provided the Commission a supplemental analysis of other pipeline route alternatives that offer collocation opportunities across federal lands (see enclosure). Based on the BLM's determination that the route previously approved by all federal agencies provides the greatest level of collocation for an alternative crossing that is also practical, the specific route of the Project no longer seems in question.

Approximately sixty-five percent of the right-of-way between Mileposts 77 and 303 has been cleared of vegetation, with a significant portion of that length having been graded. In those cleared and graded segments, Mountain Valley Pipeline has installed temporary erosion control devices. Maintaining the status quo across non-federal lands while the Department of Agriculture's Forest Service, the Army Corps of Engineers, and the BLM address the Court's instructions regarding federal lands would likely pose threats to plant and wildlife habitat and adjacent waterbodies as long-term employment of temporary erosion control measures would subject significant portions of the route to erosion and soil movement. Requiring immediate restoration of the entire right-of-way to pre-construction conditions would require significant additional construction activity, also causing further environmental impacts.

In consultation with staff, I have determined that protection of the environment along the Project's right-of-way across non-federal land is best served by completing construction and restoration activities as quickly as possible. Consequently, pursuant to delegated authority under Title 18 of the Code of Federal Regulations, section 375.308(x)(7), and Environmental Condition 2 of the Commission's October 13, 2017 Order¹, I authorize the resumption of construction for the Project, except as indicated below.

Mountain Valley Pipeline has not obtained the rights-of-way and temporary use permits from the federal government needed for the Project to cross federally owned lands. Therefore, construction is still excluded at the following locations:

- the crossing of the Weston and Gauley Bridge Turnpike on lands owned by the U.S. Army Corps of Engineers, in Braxton County, West Virginia; and
- between milepost 196.0 and milepost 221.0, an area encompassing the two watersheds containing the 3.5 miles of pipeline route across the Jefferson National Forest, in Monroe County, West Virginia and Giles County, Virginia.

Finally, construction is being authorized, with the exceptions note above, because construction will best mitigate further environmental impacts. In order to ensure that Mountain Valley Pipeline achieve that objective, it must take all steps necessary to promptly conduct post-construction restoration as soon as construction is complete. I also remind you that Mountain Valley Pipeline must comply with all applicable remaining terms and conditions of the Commission's October 13, 2017 Order.

Sincerely,

Terry L. Turpin
Director,
Office of Energy Projects

¹ *Mountain Valley Pipeline, LLC*, 161 FERC ¶61,043 (2017), *order on reh'g*, 163 FERC ¶61,197 (2018).



United States Department of the Interior



Bureau of Land Management

Eastern States

Southeastern States District Office

273 Market Street

Flowood, Mississippi 39232

<http://www.es.blm.gov>

August 24, 2018

IN REPLY REFER TO:
2880 (ESJ020) VMC

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

Re: Mountain Valley Pipeline, LLC
Docket No. CP16-10-000
Mineral Leasing Act Section 28(p) Analysis for the Mountain Valley Pipeline

Dear Ms. Bose:

Enclosed for your docket please find the Bureau of Land Management's analysis of the Mountain Valley Pipeline project under section 28(p) of the Mineral Leasing Act of 1920. Please note that this analysis in itself does not constitute a record of decision or right-of-way grant.

Sincerely,

Victoria (Vicki) Craft
Project Manager

Enclosure (1)
-Practicality Analysis

CC: Public File, Docket No. CP16-10-000

Haninah Levine
Attorney-Advisor, Branch of Public Lands
Division of Land Resources
Office of the Solicitor
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240

John Henson, Attorney-Adviser
U.S. Department of the Interior
Field Solicitor's Office
800 S. Gay Street, Suite 800
Knoxville, TN 37929

Paul Friedman
Environmental Project Manager
Federal Energy Regulatory Commission
Office of Energy Projects (OEP)
888 First Street NE
Washington, DC 20426

Timothy Abing
Director - Lands, Minerals, and Uses
On detail – Pipeline Infrastructure Regional Coordinator
Forest Service
Southern Region
1720 Peachtree Road NW, Suite 792S
Atlanta, GA 30309-2405

Anita Bradburn
Huntington District, RE Division
Realty Specialist
502 8th Street
Huntington, WV 25701

Christopher Carson
Regulatory Project Manager
U.S. Army Corps of Engineers
Huntington District, CELRH_RD_E
502 Eighth Street
Huntington, WV 25701

Todd Miller
Environmental Scientist
U.S. Army Corps of Engineers
Norfolk District
9100 Aboretum Parkway, Suite 235
Richmond, VA 23236



United States Department of the Interior



BUREAU OF LAND MANAGEMENT

Eastern States
20 M Street SE, Suite 950
Washington, DC 20003
<http://www.blm.gov/eastern-states>

AUG 23 2018

Mr. Joseph R. Balash
Assistant Secretary – Land and Minerals Management
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240

Re: Mineral Leasing Act Section 28(p) Analysis for the Mountain Valley Pipeline

Dear Mr. Balash:

Section 28(p) of the Mineral Leasing Act of 1920 provides that “[i]n order to minimize adverse environmental impacts and the proliferation of separate rights-of-way across Federal lands, the utilization of rights-of-way in common shall be required to the extent practical.”¹ On July 27, 2018, the U.S. Court of Appeals for the Fourth Circuit vacated the record of decision and right-of-way (ROW) grant for the Mountain Valley Pipeline (MVP). The court found that the record of decision did not address whether “the utilization of an existing right of way would be *impractical*,” and specified that the BLM on remand must “favor[] routes utilizing existing rights of way unless those alternatives [are] *impractical*.”²

The Bureau of Land Management (BLM) has prepared this supplemental analysis to address the court’s instructions on remand. As explained below, we conclude that the additional utilization of existing ROWs across federal lands would be impractical.

I. Background

In order to implement the court’s instructions, we have analyzed whether any route alternative exists that would result in greater collocation with other ROWs on federal lands than the route that was previously approved by the BLM, and that would be practical. Each of these two criteria is explained in greater detail below.

A. Collocation on Federal Lands

The first criterion that a route alternative must satisfy is that it must result in greater collocation with other ROWs on federal lands – that is, it must cross fewer miles of federal lands without

¹ 30 U.S.C. § 185(p).

² See *Sierra Club, Inc. v. U.S. Forest Serv.*, – F.3d –, 2018 WL 3595760, at *16 (4th Cir. July 27, 2018) (emphasis in the original).

collocation than the previously approved alternative. We limit our comparison of collocation to federal lands because section 28(p) aims to minimize “the proliferation of separate rights-of-way across Federal lands,” and because the BLM has no authority over the MVP route except to the extent that the route involves the use of federal lands.³

In order to determine the extent of collocation on federal lands, we rely on two independent assessments: one conducted by staff of the Federal Energy Regulatory Commission (FERC), and one conducted by MVP.⁴ Although the results of these two independent assessments are generally consistent, they occasionally provide different estimates of the extent of collocation on federal lands, because of the technical challenges inherent in measuring the lengths of potential pipeline routes. Where the two assessments provide conflicting results on the question of whether a given route alternative would result in greater collocation on federal lands than the previously approved route, we have assumed conservatively that the route alternative would satisfy this criterion, and proceeded to examine whether the route alternative would be practical.

B. Practicality

The second criterion that a route alternative must satisfy is that it must be practical. In interpreting the term “practical” for purposes of this analysis, we have taken into consideration the term’s common usage, as well as relevant administrative and judicial interpretations. Black’s Law Dictionary defines “practical” as meaning “[l]ikely to succeed or be effective,” and “[u]seful or suitable for a particular purpose or situation.”⁵ The BLM’s regulations note that one of the objectives of the BLM’s pipeline ROW program is to “[p]romote[] the use of rights-of-way in common considering engineering and technological compatibility,” and that the use of ROWs in common may be required “where safety and other considerations allow.”⁶ In the only judicial or administrative decision addressing section 28(p), the Interior Board of Land Appeals determined that this standard includes consideration of a route’s cost and land-disturbance footprint, affirming that a route alternative was not “practical” when it would have “require[d]

³ See § 185(c)(2),(p). We define federal lands, consistently with section 28, to exclude “lands in the National Park System.” See 30 U.S.C. § 185(b)(1).

⁴ See Email from Rich McGuire, FERC, to Victoria Craft, BLM (Aug. 16, 2018) (McGuire August 16, 2018 Email); Email from Megan Neylon, MVP, to Victoria Craft, BLM (Aug. 17, 2018) (Neylon August 17, 2018 Email). Unlike the figures reported in the FEIS for “[l]ength adjacent to existing right-of-way,” these assessments included collocation with both major ROWs such as pipelines or electric transmission lines and smaller ROWs such as roads. See FEIS at 3-20. Cf. 70 Fed. Reg. 20,970, 20,970 (April 22, 2005) (“Some examples of land uses which require a right-of-way grant include: transmission lines, communication sites, roads, highways, trails, telephone lines, canals, flumes, pipelines, and reservoirs.”). For this reason, along with the fact that the FEIS’s figures do not distinguish between miles of collocation on federal and non-federal lands, we do not generally rely on the FEIS’s figures for “[l]ength adjacent to existing right-of-way” for this analysis.

⁵ See “Practical,” Black’s Law Dictionary (10th ed. 2014).

⁶ See 43 C.F.R. §§ 2881.2(c), 2882.10(b). See also 70 Fed. Reg. at 21,033 (noting that “there may be situations where for technical or safety reasons it is not practical” to make use of an existing ROW).

construction of an additional 39 miles of pipeline at an estimated additional cost of \$37.5 million,” as well as “installation of an additional compressor station and ... the temporary disturbance of a substantially greater acreage of lands during construction.”⁷ Similarly, in interpreting a parallel standard in another statute, the Board affirmed that a route was not “practical” where it would have “require[d] construction of up to an additional 60 miles of 345 kV power line and ha[d] an adverse impact on an additional 60 miles of public and private land,” while “preclud[ing] the opportunity to improve” service to one of the project’s proposed customers.⁸ Finally, a regulation issued to implement section 404 of the Clean Water Act prohibits the issuance of a dredge or fill discharge permit “if there is a practicable alternative to the proposed discharge” that is environmentally preferable, and defines “practicable” as including “consideration [of] cost, existing technology, and logistics in light of overall project purposes.”⁹ In reviewing decisions made under this regulation by the U.S. Army Corps of Engineers (USACE), courts have deferred to the agency’s practicability determinations, and upheld its consideration of factors including cost, construction delays, logistical feasibility, and “the objectives of the applicant’s project.”¹⁰

Accordingly, we interpret the term “practical,” for purposes of this analysis, as referring to the suitability of a route alternative for achieving its purpose, and to the likelihood that attempting to utilize that route would succeed in achieving that purpose.¹¹ The purpose of any route alternative is to construct a pipeline to deliver natural gas from the MVP’s beginning point to its endpoint, via its mid-route delivery points, in a safe, environmentally responsible, and cost-effective manner.¹² In certain cases, however, as discussed below, a particular route alternative may also have a more specific purpose, such as mitigating the impact of the MVP on certain resources. Therefore, the determination of whether a route alternative is practical includes consideration of the construction challenges and potential safety hazards that would arise from constructing or operating the pipeline along the route;¹³ the environmental consequences of constructing the

⁷ *Wyo. Indep. Producers Ass’n*, 133 IBLA 65, 82 (1995).

⁸ *Paul Herman*, 146 IBLA 80, 105 (1998) (interpreting 43 U.S.C. § 1763).

⁹ See 40 C.F.R. §§ 230.3(f), 230.10(a).

¹⁰ See *Friends of Santa Clara River v. U.S. Army Corps of Eng’rs*, 887 F.3d 906, 912, 921-922 (9th Cir. 2018) (quotation marks omitted); *Friends of the Earth v. Hintz*, 800 F.2d 822, 833-834 (9th Cir. 1986); *Nat’l Parks Cons. Ass’n v. Semonite*, 311 F. Supp. 3d 350, 377-378 (D.D.C. 2018).

¹¹ See “Practical,” Black’s Law Dictionary.

¹² See MVP Final Environmental Impact Statement at 1-8 (June 23, 2017) (FEIS). While the section 28(p) analysis described here is distinct from the National Environmental Policy Act analysis contained in the FEIS, the information and analysis presented in the FEIS is in many instances relevant to the section 28(p) analysis.

¹³ See 43 C.F.R. §§ 2881.2(c), 2882.10(b); 70 Fed. Reg. at 21,033.

pipeline along the route;¹⁴ any resulting increase in the pipeline's length and footprint;¹⁵ the ability of the route to serve the MVP's mid-route delivery points;¹⁶ the additional costs associated with the alternative;¹⁷ and the likelihood that the route would achieve any specific purpose identified for that route alternative.¹⁸

Although our comparison of the extent of collocation is limited to federal lands, determining the practicality of a route requires consideration of the route as a whole. A route alternative may increase the extent of collocation on federal lands, but prove impractical because of technical or other considerations relating to the route as a whole.

II. The MVP and the Previously Approved Route

The MVP is intended "to transport natural gas produced in the Appalachian Basin to markets in the Northeast, Mid-Atlantic, and Southeastern United States."¹⁹ Specifically, the project is

¹⁴ We note that section 28(p) can be read as requiring "the utilization of rights-of-way-in common" only where such collocation would "minimize adverse environmental impacts" as compared to an alternative with less collocation. See 30 U.S.C. § 185(p). Had we applied a separate requirement that any route alternative must "minimize adverse environmental impacts" compared to the previously approved alternative, we would have concluded on this basis alone that none of the route alternatives would satisfy the criteria of section 28(p). See FEIS at 3-20, 3-22, 3-25, 3-32, 3-47 to 3-48, 3-51, 3-55, 3-62, 3-65, 3-70 (concluding that none of the route alternatives considered in this analysis would "provide a significant environmental advantage" over the previously approved route). In this case, however, we have not excluded any route alternatives based solely on their environmental impacts.

¹⁵ See *Wyo. Indep. Producers*, 133 IBLA at 82; see also *Paul Herman*, 146 IBLA at 105.

¹⁶ See, e.g., *Paul Herman*, 146 IBLA at 105. See also *Friends of Santa Clara River*, 887 F.3d at 912, 921 (requiring consideration of "the objectives of the applicant's project," so long as "those project objectives are not so narrowly defined as to preclude alternatives" (quotation marks omitted)). Each of the route alternatives would serve the MVP's beginning and endpoint.

¹⁷ See *Friends of Santa Clara River*, 887 F.3d at 921-923; *Wyo. Indep. Producers*, 133 IBLA at 82. In this case, the cost of each route alternative would be driven primarily by differences in length and in the extent of steep slopes, side slopes, and other challenging construction conditions. See INGAA Foundation, Inc., Final Report No. 2015-03, *Mitigation of Land Movement in Steep and Rugged Terrain for Pipeline Projects: Lessons Learned from Constructing Pipelines in West Virginia* at 6 (2016) (INGAA Rugged Terrain Report), available at <http://www.ingaa.org/File.aspx?id=28629> (noting that "the planning process must weigh the costs of longer alignments to avoid hazards versus cost of mitigation of the hazard"). Therefore, the information presented below about length and construction challenges serves, and was considered by the BLM, as a proxy for such cost information.

¹⁸ See *Friends of Santa Clara River*, 887 F.3d at 921. We note that this definition of practicality is broader than mere technical feasibility – a standard that some, but not all, of the route alternatives considered here would satisfy. See, e.g., FEIS at 3-32 (concluding that the Northern Pipeline – ACP Collocation Alternative is "likely ... technically infeasible"); *id.* at 3-119 (concluding that some of the remaining route alternatives "appear to be technically feasible").

¹⁹ FEIS at 1-8.

intended to transport natural gas from an existing interconnect in West Virginia to an existing natural gas pooling point and gas trading hub located along a major existing natural gas pipeline in Virginia.²⁰

The previously approved route connecting these locations would be 303.5 miles long, and would cross 3.5 miles of federal lands managed by the U.S. Forest Service within the Jefferson National Forest (JNF), in three discontinuous portions located at mileposts (MPs) 196.2 to 197.8, MPs 218.5 to 219.4, and MPs 219.8 to 220.8.²¹ The route would also cross 60 feet of federal lands managed by the USACE, at MP 66.8.²² The route would be collocated with an existing ROW for 1.0 miles of its crossing of the JNF, following a forest road known as Mystery Ridge Road at MPs 196.8 to 197.8.²³ The previously approved route would not be collocated with another ROW for any portion of its crossing of USACE lands.

In addition to its beginning and endpoints, the MVP is also intended to serve three mid-route delivery points that are relevant to this analysis: the WB Interconnect, located at MP 77.6 of the previously approved route; the Roanoke Gas Lafayette Tap, located at MP 235.7; and the Roanoke Franklin Tap, located at MP 261.3.²⁴ The location of the WB Interconnect is determined by existing natural gas infrastructure, while the locations of the two Roanoke Gas taps are determined by the service area of the utility purchaser that will operate those taps and by existing agreements with that purchaser.²⁵ The existence of these three mid-route delivery points was an important factor in the selection of the previously approved route, and in the approval of the MVP project by FERC.²⁶ Therefore, to the extent that any of the route alternatives would bypass these mid-route delivery points, that fact is relevant to the BLM's consideration of the practicality of that route alternative.

III. Route Alternatives

The BLM has analyzed nine route alternatives or families of route alternatives that would affect the MVP project's crossing of the JNF.²⁷ These route alternatives are analyzed in the order of the milepost at which each route alternative first diverges from the previously approved route.

²⁰ FEIS at 1-8, 3-3.

²¹ FEIS at 1-1, 1-14.

²² FEIS at 1-16, 4-277.

²³ FEIS App'x P at P-6; MVP Plan of Development at 1-7 (Nov. 30, 2017) (POD).

²⁴ FEIS at 2-14 to 2-15; FERC Order Issuing Certificates and Granting Abandonment Authority at 4 (Oct. 13, 2017) (FERC Certificate). Two additional mid-route facilities are located at points along the previously approved route that would not be affected by any of the route alternatives considered here. *See* FEIS at 2-14 to 2-15.

²⁵ *See* FEIS at 1-8, 2-14; MVP Resource Report 10 and Appendices at 10-2 to 10-3 (Oct. 23, 2015) (Resource Report 10).

²⁶ *See* FEIS at 1-8 to 1-9, 3-15; FERC Certificate at 3-5.

²⁷ Several of the route alternatives addressed in this analysis would also affect the location of, or necessity for, the crossing of USACE lands. Because the USACE crossing is so short compared with the JNF crossing, however, any differences in the length or location of the USACE crossing

A. Northern Pipeline – ACP Collocation Alternative

The Northern Pipeline – ACP Collocation Alternative would involve collocating the 42-inch-diameter MVP with the planned 42-inch-diameter Atlantic Coast Pipeline (ACP), along the ACP's proposed route.²⁸ This route alternative would diverge from the previously approved route at MP 37, and re-converge at the MVP's endpoint at MP 303.5.²⁹

For purposes of this analysis, the BLM assumes that the ACP would be constructed as proposed, and therefore that this route alternative would collocate the MVP with another ROW for the MVP's entire crossing of federal lands. Accordingly, this route alternative would provide greater collocation on federal lands than the previously approved route.

Constructing the two pipelines in parallel would raise serious constructability challenges:

[A] major disadvantage of the Northern Pipeline – ACP Collocation Alternative route is the necessity to construct two parallel pipelines along approximately 205 miles of the ACP route, much of which presents significant constructability issues related to topography and space. ... Based on [FERC's] review of aerial photography and topographic maps, ... in many areas, such as in Lewis and Upshur Counties, West Virginia and Augusta and Nelson Counties, Virginia,^[30] there is insufficient space along the narrow ridgelines to accommodate two parallel 42-inch-diameter ... pipelines. This would result in side slope (i.e., side-hill) or two-tone construction techniques, with additional acres of disturbance required for [temporary workspaces], given the space needed to safely accommodate equipment and personnel, as well as spoil storage. The constructability issues alone are likely to render this alternative technically infeasible.³¹

would not affect the outcome of the BLM's analysis for these route alternatives. As to alternatives apart from those addressed in this analysis, no route alternatives exist that would result in collocation of the USACE crossing and that are practical. A private landowner whose parcel is located approximately 2.5 miles from the USACE crossing proposed collocating the MVP with an existing pipeline near her property, but this proposal (which may not have resulted in collocation at the USACE crossing itself) would be impractical due to constructability and safety concerns. *See* FEIS at 3-112. No other route alternative has been identified that would involve collocation with that existing pipeline. *See* McGuire August 16, 2018 Email.

²⁸ FEIS at 3-29.

²⁹ FEIS at 3-29 to 3-30.

³⁰ These counties include much of the ACP's crossing of federal lands. *See* FEIS at 3-30.

³¹ FEIS at 3-32. *See also* FERC Order on Rehearing at 73, 163 FERC ¶ 61,197 (June 15, 2018) ("The area's steep slopes and narrow ridgeways make construction of two adjacent pipelines technically infeasible."). FERC's assessment is supported by information submitted by MVP. *See* MVP Responses to FERC Environmental Information Request at 177 (Mar. 31, 2016) (March 31, 2016 Responses) ("Significant mountaintop removal and material excavation would be required to obtain a proper level construction surface to work on during the pipeline

Moreover, the Northern Pipeline – ACP Collocation Alternative would cross at least 19.1 miles of federal lands – more than five times as much as the previously approved MVP route.³² Because a separate 125-foot-wide ROW may be required for each pipeline,³³ collocating the MVP with the ACP may result in a substantial increase in federal land disturbance compared with constructing each pipeline along its previously approved route.

Furthermore, the Northern Pipeline – ACP Collocation Alternative would include 22 more miles of side slope than the previously approved route, in addition to any side slope construction required by the need to fit two parallel pipelines on narrow ridgelines.³⁴ Construction along side slopes, where the gradient of the slope is perpendicular or oblique to the pipeline route, requires modified construction techniques and presents considerable safety and operational risks both during and after construction.³⁵ Although the terrain of the project area makes some degree of side slope construction unavoidable, and the project incorporates best management practices to mitigate the risks associated with side slopes, reducing side slopes is a key factor in comparing route alternatives for the MVP project.³⁶

Finally, because the Northern Pipeline – ACP Collocation Alternative would diverge from the previously approved route at MP 37, and re-converge only at the MVP's endpoint at MP 303.5, this route alternative would bypass all three of the mid-route delivery points discussed above.³⁷ The two Roanoke Gas taps, in particular, could not be relocated so as to meet the ACP's route, meaning that an alternative that follows the ACP route would require either forfeiting the

installation phase. ... There is insufficient space along the tops of the ridgelines for two adjacent large diameter pipelines in these areas. Constructing two large diameter pipelines in the mountainous terrain would add significant construction personnel risk with the amount of equipment necessary to move and install both pipelines in the steep terrain. Sidebooms do not have enough weight capacity or levered distance to hold or move a second pipe over the first pipe trench. Erosion and sediment control risks significantly increase with the amount of soil and steep slope disturbance required for the two 42-inch pipelines ditch excavation and soil control.”); Resource Report 10 at 10-16 (similar).

³² See FEIS at 3-31. The version of the ACP route included in that project's final environmental impact statement may cross even more federal lands. See ACP Final Environmental Impact Statement at 4-423 (July 2017).

³³ FEIS at 3-29.

³⁴ See FEIS at 3-32.

³⁵ FEIS at 2-37, 3-4, 4-52 to 4-56; INGAA Rugged Terrain Report at 26-28, 40-41; McGuire August 16, 2018 Email.

³⁶ FEIS at 3-3. See also INGAA Rugged Terrain Report at 30 (recommending that side slope areas “should be identified early in the project design and planning processes, and minimized to the greatest extent possible”); *id.* at 61 (“Careful planning and routing is always preferred to avoid or minimize potential threats from landslide and erosion hazards, but mitigation is usually required when such hazards cannot be avoided.”).

³⁷ See FEIS at 3-30.

purpose of serving this customer, or else building nearly 60 miles of additional pipeline in order to reach those taps.³⁸

For these reasons, we conclude that the Northern Pipeline – ACP Collocation Alternative is not practical.

B. Highway Collocation Alternative

The Highway Collocation Alternative is a route alternative that would follow public roads for as much of its route as possible.³⁹ More specifically, this route alternative would mostly be collocated with interstate highways, intersecting the previously approved route in the vicinity of MP 60 and crossing the JNF alongside Interstate 77.⁴⁰ For purposes of this analysis, we assume that this route alternative would collocate the MVP with an interstate highway ROW for the MVP project's entire crossing of federal lands, and would therefore provide greater collocation on federal lands than the previously approved route.

The FEIS examined two versions of this collocated route alternative, one that would be located within the highway ROWs and one that would be located "adjacent to, but outside of," the highway ROWs.⁴¹ The version that would be located outside the highway ROWs

would likely present numerous and substantive construction challenges, including traversing roadway overpasses and underpasses, large interchanges, elevated sections of roadway including bridges, areas congested with development and homes, and narrow valleys where the most suitable terrain (i.e., flat) is already partially or fully encumbered by the roadway.⁴²

The version of this route alternative that would be located within the highway ROWs, meanwhile, would likely be prohibited by state laws and policies.⁴³ In West Virginia, the state agency's utility placement policy "prohibits longitudinal occupancy inside the controlled access right of way, by any utility, on any type of [controlled] highway, ... except ... underground fiber

³⁸ FEIS at 3-14. *See also* March 31, 2016 Responses at 177 ("[MVP] will also serve Roanoke Gas which is located along its Proposed Route in southwest Virginia; a market that cannot be served by moving to the Northern Pipeline Alternative route."); Resource Report 10 at 10-8, 10-16 (similar).

³⁹ FEIS at 3-18.

⁴⁰ FEIS at 3-18 to 3-19.

⁴¹ FEIS at 3-18.

⁴² FEIS at 3-18. This version of the Highway Collocation Alternative would not "utiliz[e a ROW] in common," and therefore does not satisfy section 28(p) for that reason, as well.

⁴³ Federal regulations permit state agencies to establish policies regarding utility installations in interstate highway ROWs. *See* 23 C.F.R. § 645.209(c)(1). *See also* 30 U.S.C. § 185(v) ("The Secretary or agency head shall take into consideration and to the extent practical comply with State standards for right-of-way construction, operation, and maintenance.").

optic facilities.”⁴⁴ And in Virginia, where the JNF crossing is primarily located, state regulations provide that “[n]ew utilities will not be permitted to be installed parallel to the roadway longitudinally within the controlled or limited access right-of-way lines of any highway” except in “special cases,” and even then only if such installation would not “involve tree removal or severe tree trimming.”⁴⁵ This limitation on tree removal or trimming is likely incompatible with the placement of a natural gas pipeline.⁴⁶

In addition, the Highway Collocation Alternative would be 142.5 miles (almost 47%) longer than the previously approved route, cross six times as many miles of federal lands, and cross more than twice as many perennial waterbodies, resulting in substantial additional costs and environmental impacts.⁴⁷ This route alternative would also cross an additional 51 miles of side slopes and an additional 125 miles of lands with landslide potential, amplifying the constructability concerns described above.⁴⁸ It would also bypass the three mid-route delivery points discussed above.⁴⁹

For these reasons, we conclude that the Highway Collocation Alternative is not practical.⁵⁰

C. Alternative 1/Hybrid Alternative 1A

⁴⁴ See W. Va. Div. of Highways, *Accommodation of Utilities on Highway Right of Way and Adjustment and Relocation of Utility Facilities on Highway Projects*, at 2 (2007), available at https://transportation.wv.gov/highways/engineering/files/ACCOMMODATION_OF_UTILITIES.pdf.

⁴⁵ 24 Va. Admin. Code. § 30-151-301(2)(d). See also Va. Dep’t of Trans., *Utility Manual of Instructions: Utility Relocation Policies & Procedures*, at 8-7 (2011), available at http://www.virginiadot.org/business/resources/right_of_way/utility_manual02132012_techrev.pdf. Such installations must also satisfy other requirements, including that “the installation will not adversely affect the safety, design, construction, operation, maintenance or stability of the highway,” that “the accommodation will not interfere with or impair the present use or future expansion of the highway,” and that “any alternative location would be contrary to the public interest,” taking into account “the direct and indirect environmental and economic effects that would result from the disapproval of [such] use.” See § 30-151-301(2)(a)-(c).

⁴⁶ See FEIS at 3-18.

⁴⁷ FEIS at 3-20.

⁴⁸ FEIS at 3-20.

⁴⁹ See FEIS at 3-19. Although such an alternative was not analyzed in the FEIS, it may be possible to construct a route alternative that generally follows the previously approved route, but deviates from that route between MPs 150 and 250 in order to cross the JNF along existing highways. See FEIS at 3-19. Such a hypothetical route alternative might avoid bypassing the three mid-route delivery points discussed above, but would otherwise be subject to most of the same practical concerns.

⁵⁰ See also FEIS at 3-17 (“This alternative concept is not evaluated in detail below due to the associated construction challenges, logistical constraints, and environmental impacts which we determined render it technically infeasible and/or as not providing a significant environmentally [sic] advantage compared to the proposed action.”).

Alternative 1 was designed to maximize collocation with an existing electric transmission line.⁵¹ Hybrid Alternative 1A is a variant that would follow the previously approved route through MP 135 and from there on follow the route of Alternative 1, re-converging with the previously approved route at its endpoint at MP 303.5.⁵² These two route alternatives are considered together here, since they are identical at the JNF crossing.⁵³ Both route alternatives would result in greater collocation on federal lands than the previously approved route, crossing fewer miles of federal lands overall and being collocated with the existing transmission line for the entirety of that crossing.⁵⁴

Collocating underground pipelines with electric transmission lines over long distances poses distinctive constructability and safety challenges that would be exacerbated in the circumstances of the MVP. Locating pipelines near transmission lines poses risks to pipeline workers from operating in close proximity to high voltage power lines, and increased risk of pipeline corrosion from interference with pipeline cathodic protection systems and from other forms of electrical interference.⁵⁵ These risks increase with parallel or near-parallel installation, especially at collocation lengths over a mile.⁵⁶ To mitigate these safety concerns, as well as concerns related to access for construction and operations, parallel installations typically involve adjacent or partially overlapping ROWs, rather than complete collocation.⁵⁷ Finally, because side slopes and

⁵¹ FEIS at 3-22. Alternative 1 was the original proposed alternative, but was supplanted by the previously approved route due to concerns regarding side slopes. *See* FEIS at 3-17; Resource Report 10 at 10-10 to 10-11.

⁵² FEIS at 3-25.

⁵³ Another route alternative, known as Hybrid Alternative 1B, would follow Alternative 1 through MP 135 and from there on follow the previously approved route. *See* FEIS at 3-25 to 3-26. Hybrid Alternative 1B is not considered here, since it would be identical to the previously approved route at the JNF crossing.

⁵⁴ *See* FEIS at 3-24, 3-27; McGuire August 16, 2018 Email; Neylon August 17, 2018 Email.

⁵⁵ *See generally* INGAA Foundation, Inc., Final Report No. 2015-04, *Criteria for Pipelines Co-Existing with Electric Power Lines* (2015) (INGAA Power Lines Report), available at <http://www.ingaa.org/File.aspx?id=24732>; McGuire August 16, 2018 Email.

⁵⁶ *See* INGAA Power Lines Report at 4, 45-49. The previously approved route would be collocated with electric transmission lines for numerous short stretches, but rarely for distances of a mile or more. *See* FEIS App'x P at P-1 to P-8.

⁵⁷ *See* McGuire August 16, 2018 Email (noting that in a typical configuration, the 50-foot-wide permanent pipeline ROW would be adjacent to the transmission line ROW, and the pipeline's temporary 100- to 125-foot-wide construction ROW would overlap with the transmission line ROW by 25 feet); FEIS at 3-22 ("The pipeline could be installed as close as 25 feet away from powerline infrastructure, with temporary workspace located even closer, but other configurations would also be required based on soil type and working conditions where the pipeline would be located much further away."). *See also* FEIS App'x P at P-1 to P-8 (listing offset distances between the centerline of the previously approved route and the edges of existing transmission line ROWs); INGAA Power Lines Report at 4, 46 (noting that interference risk is "Medium" for separation distances of 100 to 500 feet, and "High" for distances under 100 feet). MVP has also noted that constructing a major pipeline in the immediate vicinity of an electric transmission line poses "[c]onstructability and safety issues associated with ... the possibility of undermining

steep slopes⁵⁸ of the kind frequently encountered along the MVP's route pose a far greater challenge for pipelines than for electric transmission lines, which have a far smaller physical footprint and are capable of spanning stretches of challenging terrain, routes that are suitable for transmission line construction may be unsuitable for pipeline construction.⁵⁹ Therefore, while collocation with electric transmission lines can often be achieved, including in parts of the previously approved route of the MVP, the challenges of such collocation are highly relevant to the practicality analysis.

Alternative 1 would be over twenty miles longer than the previously approved route,⁶⁰ resulting in significant additional construction costs, and would pose significant technical challenges. In particular, Alternative 1 would cross 171.4 miles of steep slopes in excess of 20% grade – 42.8 miles more than the previously approved route, and over half the entire length of Alternative 1.⁶¹ Alternative 1 would also cross more miles of side slope than the previously approved route, including over 100 miles of “severe side slopes,”⁶² and would include two crossings of the New River, which the previously approved route avoids crossing.⁶³ These factors would pose substantial constructability and safety challenges.⁶⁴

power line towers.” MVP Responses to Data Requests issued January 27, 2017, at 570 (Feb. 17, 2017) (February 17, 2017 Responses).

⁵⁸ Construction along steep slopes where the gradient of the slope is parallel to the pipeline route poses many of the same challenges as construction along side slopes, though such challenges are typically less severe than in side slope conditions. FEIS at 2-49, 3-25, 4-28, 4-45, 4-52 to 4-56; INGAA Rugged Terrain Report at 7, 24. *See also* MVP Responses to Data Requests issued December 24, 2015, at 238 (Jan. 15, 2016) (describing construction and safety challenges associated with steep slopes).

⁵⁹ *See* McGuire August 16, 2018 Email. *See also* Resource Report 10 at 10-10 to 10-11 (“While the overhead transmission lines span significant areas of slide [sic] slope, these areas would be required to be crossed directly by the pipeline.”); February 17, 2017 Responses at 570 (“It is also important to recognize that the design requirements for a ROW for one type of infrastructure are not necessarily the same for other types of infrastructure.”).

⁶⁰ FEIS at 3-24.

⁶¹ *See* FEIS at 3-24.

⁶² FEIS at 3-24; Resource Report 10 at 10-10, 10-14.

⁶³ FEIS at 3-24. As explained by FERC staff, crossing the New River poses both constructability challenges and environmental concerns. *See* McGuire August 16, 2018 Email (“The New River in the immediate vicinity of the proposed route ranges from about 300 to 350 feet wide (a major river crossing). It is not a complete obstacle, as it could be crossed (likely via [horizontal directional drilling], although with a risk of an inadvertent release of drilling mud into the River), however as a significant environmental resource, avoidance (which was accomplished with the proposed route) if possible was preferred.”). Alternative 1 would also cross 38 more perennial waterbodies and 14.5 more miles of karst terrain. FEIS at 3-24.

⁶⁴ *See also* Resource Report 10 at 10-11 (“MVP determined that Route Alternative 1 represented insurmountable construction challenges, as well as a high risk of slope failure and pipeline slips, once the pipeline was to be in operation. ... [M]uch of the existing right-of-way was ultimately found unsuitable for pipeline construction ...”).

Hybrid Alternative 1A would pose many of the same challenges as Alternative 1. While this route alternative would be shorter than Alternative 1 and include fewer miles of steep slope, it would still be 6.3 miles longer than the previously approved route, and feature 140.8 miles of steep slope (almost 10% more than the previously approved route), as well as both crossings of the New River.⁶⁵ Hybrid Alternative 1A would also cross 177.2 miles of side slope (over 10% more than the previously approved route, exceeding even Alternative 1), and a significant portion of the “severe side slope” crossed by Alternative 1.⁶⁶ The additional miles of steep slope and side slope, compared with the previously approved route, would “present[] substantially more obstacles to safe construction, increas[e] extra workspace requirements, and potentially affect[] worksite stability during construction and after restoration.”⁶⁷

Both Alternative 1 and Hybrid Alternative 1A would also pose constructability challenges associated with the necessary crossing of the Blue Ridge Parkway. While the previously approved route would cross the Parkway in an open grassy area, allowing the pipeline to bore under the Parkway, Alternative 1 and Hybrid Alternative 1A would cross the Parkway in a location flanked on one side by a wetland and floodplain and on the other by a short, steep slope, which together would complicate the boring process.⁶⁸

In addition, Alternative 1 would bypass the three mid-route delivery points discussed above, while Hybrid Alternative 1A would bypass two of the three.⁶⁹

For these reasons, we conclude that Alternative 1 and Hybrid Alternative 1A are not practical.

D. Variations 110, 110R, and 110J

Variations 110, 110R, and 110J were developed in order to avoid a number of sensitive resources located in the general vicinity of the JNF crossing, between MPs 175 and 235.⁷⁰ Each of these variations would cross more miles of federal lands than the previously approved route but would be collocated for fewer of those miles.⁷¹ Therefore, these route alternatives do not satisfy the criteria of section 28(p).⁷²

E. SR 635-ANST Variation

⁶⁵ FEIS at 3-25, 3-27 to 3-28. Hybrid Alternative 1A would also cross 22 more perennial waterbodies. FEIS at 3-27.

⁶⁶ FEIS at 3-24 to 3-25, 3-28; Resource Report 10 at 10-14.

⁶⁷ FEIS at 3-25.

⁶⁸ FEIS at 4-324 to 4-325; Resource Report 10 at 10-61.

⁶⁹ See FEIS at 3-26.

⁷⁰ FEIS at 3-44 to 3-45.

⁷¹ See McGuire August 16, 2018 Email; Neylon August 17, 2018 Email.

⁷² Furthermore, we note that Variation 110 crosses a designated wilderness area within the JNF, which renders this route variation impractical. See FEIS at 3-44, 3-46. See also Letter from U.S. Forest Service to FERC (May 16, 2016) (noting lack of authority to approve a pipeline within a wilderness area).

The SR 635-ANST Variation, located between MPs 191.7 and 207.8, was developed in order to examine the feasibility of reducing impacts on hikers traveling along the Appalachian National Scenic Trail (ANST) by crossing the ANST at the same location as an existing state road.⁷³ This route variation would cross 2.9 miles more federal lands than the previously approved route, and would not be collocated for any part of its crossing.⁷⁴ Therefore, the SR 635-ANST Variation does not satisfy the criteria of section 28(p).⁷⁵

F. CGV Variation

The CGV Variation, located between MPs 195 and 200, was developed in order to examine the feasibility of collocating the MVP with two existing pipelines that cross the JNF.⁷⁶ This route alternative would provide increased collocation on federal lands, replacing a 1.7 mile crossing of federal lands of which 1 mile is collocated with a 1.6 mile crossing that is mostly or entirely

⁷³ FEIS at 3-52.

⁷⁴ FEIS at 3-54; McGuire August 16, 2018 Email; Neylon August 17, 2018 Email. While the SR 635-ANST Variation would cross the ANST at the same location as the state road, the route alternative would not continue alongside that existing road. *See* McGuire August 16, 2018 Email. To the contrary, due to the topography of the area, the SR 635-ANST Variation would be forced to parallel the ANST for one mile. *See* MVP Responses to Data Requests issued January 27, 2017 and Supplemental Materials (Mar. 2, 2017) (March 2, 2017 Responses) at 39; MVP Additional Responses to June 28, 2016 Data Request at 63 (July 18, 2016) (July 18, 2016 Responses). In light of the purpose of section 28(p), we do not consider the ANST, which is a congressionally designated national scenic trail, *see* 16 U.S.C. § 1244(a)(1), to be an existing ROW with which Congress intended to encourage collocation of pipelines.

⁷⁵ Moreover, even if the SR 635-ANST Variation provided greater collocation than the previously approved route, this route alternative would be impractical. The environmental, constructability, and safety effects of the SR 635-ANST Variation would be mixed: the variation would be 1.5 miles shorter and would affect 89.2 fewer acres of interior forest, but would cross 2.9 more miles of federal lands and cross more wetlands, perennial waterbodies, and miles of inventoried roadless areas; similarly, the variation would cross fewer miles of steep slope and side slope, but more miles of land with landslide potential. FEIS at 3-52. More importantly, however, the SR 635-ANST Variation would be unlikely to succeed at its purpose, to reduce the impact of the MVP on ANST users. Whereas the previously approved route would cross the ANST perpendicularly, and preserve a 300-foot forested buffer on either side of the ANST by boring under the trail, the SR 635-ANST Variation would be forced to parallel the trail for about a mile, as noted above, likely increasing visual impacts on the trail. *See* FEIS at 3-52 to 3-53; March 2, 2017 Responses at 39; July 18, 2016 Responses at 63. Moreover, the low topography of the trail crossing site would limit the length of the borehole, eliminating the forested buffer and further increasing the visual impacts. March 2, 2017 Responses at 39; July 18, 2016 Responses at 63. Furthermore, the SR 635-ANST Variation would bring the MVP ROW closer to the ANST's Wind Rock overlook, increasing visual impacts on this overlook. March 2, 2017 Responses at 39. For these reasons, the SR 635-ANST Variation is not likely to succeed at its purpose of reducing impacts on users of the ANST, rendering the route impractical.

⁷⁶ FEIS at 3-48.

collocated.⁷⁷ The elimination of less than three-quarters of a mile of uncollocated crossing of federal lands would come at a cost of 9 more miles of total pipeline, however, including 4.1 more miles of steep slope and 4.6 more miles of side slope.⁷⁸ The CGV Variation would also result in 136.3 more acres of construction disturbance, including 60.8 more acres on forested land; increase the MVP's potential impacts on the watershed relied on by the Red Sulphur Public Service District, a public water supply utility; and bring the MVP ROW closer to the ANST's Angel's Rest overlook, increasing visual impacts on this overlook.⁷⁹ For these reasons, we conclude that the CGV Variation is not practical.

G. AEP-ANST Variation

The AEP-ANST Variation, located between MPs 195.4 and 200, was developed in order to examine the feasibility of reducing impacts on hikers traveling along the ANST by crossing the ANST at the same location as an existing electric transmission line.⁸⁰ The AEP-ANST Variation would cross approximately 0.9 more miles of federal lands than the previously approved route, while providing, at best, no more than 0.8 miles of additional collocation on federal lands.⁸¹ Because the AEP-ANST Variation involves at least 0.1 mile more uncollocated crossing of federal lands, this route alternative provides less net collocation on federal lands, and does not satisfy the criteria of section 28(p).⁸²

⁷⁷ FEIS at 3-50; *id.* App'x P at P-6; POD at 1-7; McGuire August 16, 2018 Email; Neylon August 17, 2018 Email. While the FEIS indicates that the relevant portion of the previously approved route contains zero miles "adjacent to existing right-of-way," this figure considers only major features such as transmission lines and pipelines, and excludes the previously approved route's collocation with a forest road, as noted above. See FEIS at 3-20, 3-50.

⁷⁸ FEIS at 3-50; McGuire August 16, 2018 Email; Neylon August 17, 2018 Email. Underscoring the constructability and safety concerns associated with the additional steep slopes and side slopes, the same pipeline ROW with which this route alternative would be collocated was previously the site of a slope failure related to side slopes. See FEIS at 4-45, 4-67, 4-69. See also INGAA Rugged Terrain Report at 7 (noting that "[l]andslide and erosion hazards are more commonly found, or created, ... where the proposed alignment intersects existing landslide[s]").

⁷⁹ FEIS at 3-50; March 2, 2017 Responses at 44.

⁸⁰ FEIS at 3-52, 3-55.

⁸¹ See FEIS at 3-54; McGuire August 16, 2018 Email; Neylon August 17, 2018 Email.

⁸² The AEP-ANST Variation would also pose constructability and safety concerns. The general concerns related to collocating the MVP with electric transmission lines are discussed above. In the specific context of the AEP-ANST Variation, these challenges include more miles of steep slope, side slope, shallow bedrock, and areas with landslide potential than the previously approved route. FEIS at 3-54. Moreover, this route alternative would be 3.2 miles longer, would cross more perennial waterbodies and forested land (but less inventoried roadless area, inventoried semi-primitive area, interior forest, and karst area), would result in an additional 48.9 acres of construction disturbance and a larger area of forested land disturbance during both construction and operation, and would increase the MVP's potential impacts on the Red Sulphur Public Service District watershed. FEIS at 3-54; March 2, 2017 Responses at 40.

H. Brush Mountain Alternatives 1 and 2

Brush Mountain Alternatives 1 and 2, located between MPs 219.5 and 220.7, were developed in order to reduce impacts to the Craig Creek watershed.⁸³ Brush Mountain Alternative 1 would feature the same amount of federal lands crossing and the same amount of collocation as the previously approved route, and therefore does not satisfy the criterion of providing greater collocation on federal lands.⁸⁴ Brush Mountain Alternative 2, meanwhile, may provide greater collocation, but by no more than 0.22 miles.⁸⁵ Any such increase in collocation, meanwhile, would come at the cost of a larger increase in the total mileage (0.3 additional miles), the mileage of side slope (0.4 additional miles), and the mileage of lands with landslide potential (0.3 additional miles).⁸⁶ Because Brush Mountain Alternative 2 would entail greater

Furthermore, like the SR 635-ANST Variation, the AEP-ANST Variation would be unlikely to accomplish its purpose of reducing impacts on users of the ANST. Under either the AEP-ANST Variation or the previously approved route, hikers would experience a clearing at the location where the trail crosses the existing electric transmission line, and no clearing where the previously approved route crosses the trail (due to the 300-foot forested buffer). *See* FEIS at 3-52, 4-312; FEIS App'x S figs. 1a to 7b. The majority of new visual impacts on trail users would therefore occur, under either scenario, not due to near-field impacts at the location where the previously approved route crosses the trail, but rather due to more distant views of the MVP ROW from various points along the trail. *See* FEIS at 4-312; *see generally* FEIS App'x S. The AEP-ANST Variation would not reduce the overall visual footprint of the MVP ROW, and may in fact increase that overall footprint due to the larger area of forested land disturbance. *See also* March 2, 2017 Responses at 40 (noting that “the visual impact on ANST users would likely be greater because of the open view that trail users have when within the [transmission line] right-of-way”). Moreover, the AEP-ANST Variation would also bring the MVP ROW closer to the Angel's Rest overlook, increasing visual impacts on this overlook. March 2, 2017 Responses at 40. Therefore, the AEP-ANST Variation is not likely to succeed at its purpose of reducing impacts on users of the ANST

For these reasons, we conclude that the AEP-ANST Variation is not practical.

⁸³ FEIS at 3-61 to 3-62.

⁸⁴ FEIS at 3-64; Neylon August 17, 2018 Email. Brush Mountain Alternative 1 also poses a significant constructability and safety concern related to an area of especially steep slope, over 43% grade. FEIS at 3-62 to 3-64; March 2, 2017 Responses at 47; MVP Responses to Data Requests issued January 27, 2017, at 139 (Feb. 23, 2017).

⁸⁵ One assessment estimated that Brush Mountain Alternative 2 would cross 1.3 miles of federal lands with no collocation, and therefore would offer no collocation advantage. *See* Neylon August 17, 2018 Email. The other assessment estimated that the route alternative would cross 1.18 miles of federal lands with 0.4 miles of collocation, for a net of 0.78 miles of federal lands without collocation. McGuire August 16, 2018 Email. By contrast, the corresponding segment of the previously approved route would cross 1.0 miles of federal lands, with between 0 and 0.2 miles of collocation, for a net of between 0.8 and 1.0 miles of federal lands without collocation. Neylon August 17, 2018 Email; FEIS at 3-64.

⁸⁶ FEIS at 3-64; MVP Responses to Data Requests issued January 27, 2017, at 140 (Feb. 23, 2017); March 2, 2017 Responses at 48. The FEIS also concluded that Brush Mountain Alternative 2 would not offer a significant environmental advantage compared to the previously

constructability and safety challenges than the previously approved route while providing at best a marginal increase in collocation on federal lands, we conclude that this route alternative is impractical.

I. Slussers Chapel Variations

The Slussers Chapel Variations consist of two route alternatives located between MPs 220.7 and 223.7 that were developed in order to reduce impacts on the Slussers Chapel Conservation Site.⁸⁷ One route alternative, Modified Variation 250, would replace a portion of the route located entirely on non-federal lands with a route that would cross 2.3 miles of federal lands, and therefore does not satisfy the criterion of increased collocation on federal lands.⁸⁸ The other route alternative, the VADCR Slussers Chapel Conservation Site Avoidance Variation, would replace a portion of the route that crosses 0.04 miles of federal lands with a route that would cross 2.54 miles of federal lands, and therefore does not appear to satisfy this criterion, either.⁸⁹ This route alternative would also traverse a narrow ridgetop with a designated wilderness area on one side, steep slopes on the other side, and an existing forest road along the ridge, posing significant constructability and safety concerns that the previously approved route avoids and that render this route alternative impractical.⁹⁰ For these reasons, we conclude that these route alternatives do not satisfy the criteria of section 28(p).

IV. Conclusion

As the analysis above demonstrates, none of the route alternatives would result in greater collocation on federal lands and be practical. Several of the route alternatives would not result in greater collocation on federal lands. Each of the remaining route alternatives would be impractical due to a combination of constructability and safety challenges, increased

approved route. FEIS at 3-65. Because the purpose of Brush Mountain Alternative 2 is to reduce environmental impacts, *see* FEIS at 3-61 to 3-62, the failure to achieve a significant environmental advantage also renders this route alternative impractical.

⁸⁷ FEIS at 3-69 to 3-70. A third route alternative, Variation 250, would not affect the MVP's crossing of federal lands, and therefore is not relevant to this analysis. FEIS at 3-71. Moreover, Variation 250 was adopted by FERC and incorporated into the MVP route. FERC Certificate at 60; *id.* App'x C at 7.

⁸⁸ FEIS at 3-71, 3-74.

⁸⁹ FEIS at 3-72.

⁹⁰ FEIS at 3-69. *See also* February 17, 2017 Responses at 195-196 (“[The Slussers Chapel Variation] significantly increases the construction risks due to its placement along the ridgeline of Brush Mountain. There is an existing Forest Service Road (Forest Road 188/Brush Mountain Road) along the ridge top, with the boundary of Brush Mountain Wilderness north of and parallel to the road. Mountain Valley would need to maintain a 50-foot buffer between the Wilderness Boundary and the edge of construction work area, which would require that the 125-foot-wide construction right-of-way encompass Forest Road 188 as well as significant side slope areas along the south side of the road. In addition, during construction, this section of Forest Road 188 would be closed for an extensive period of time to regular vehicle or foot traffic.”).

environmental impacts, increased length and footprint, increased cost,⁹¹ and inability to serve the purposes of the MVP or the specific purpose of the route alternative in question. Therefore, we conclude that the additional utilization of existing ROWs across federal lands would be impractical.

Sincerely,



Mitchell Leverette
Acting State Director, Bureau of Land Management, Eastern States

I concur

I do not concur



Joseph R. Balash
Assistant Secretary - Land and Minerals Management, U.S. Department of the Interior

⁹¹ As noted above, the BLM has considered the information presented above about length and construction challenges as a proxy for cost information.