



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029**

Michael Hatten, Chief
Regulatory Branch
Huntington District
U.S. Army Corps of Engineers
502 Eighth Street
Huntington, West Virginia 25701

Re: LRH-2015-00592-GBR, LRP-2015-798, NAO-2015-0898; Mountain Valley Pipeline, LLC;
Mountain Valley Pipeline, Wetzel County, West Virginia to Pittsylvania County, Virginia

Dear Mr. Hatten:

The U.S. Environmental Protection Agency (EPA) has reviewed the public notice (PN) for the proposal by Mountain Valley Pipeline, LLC (MVP) for the discharge of dredged and/or fill material into waters of the United States associated with construction of the MVP Pipeline within the Huntington, Pittsburgh, and Norfolk Districts of the U.S. Army Corps of Engineers regulatory boundaries. The project is proposed to be approximately 304 miles long and begin at the existing Equitrans, L.P. transmission system near the Mobley processing facility in Wetzel County, West Virginia and end at the Transcontinental Gas Pipe Line Company, LLC's (Transco) Zone 5 Compressor Station 165 in Transco Village, Pittsylvania County, Virginia. Proposed discharges associated with the project would permanently impact 1,198 linear feet (lf) of streams and 0.5 acre (ac) of wetlands, temporarily impact 38,312 lf of streams and 13.92 ac of wetlands, and permanently convert 3.7 ac of forested and scrub-shrub wetlands to emergent wetlands. EPA's comments, provided herein, are based upon the PN and supplemental documentation, including the application, associated attachments, and maps, in addition to state databases.

EPA's review is intended to help ensure that the proposed project complies with the Clean Water Act (CWA) Section 404(b)(1) Guidelines (Guidelines) (40 C.F.R. Part 230), which provide the substantive environmental review criteria for CWA Section 404 permit applications. Based on the information available for review, EPA has identified a number of substantial concerns with the project as currently proposed, including whether all feasible avoidance and minimization measures have been undertaken, deficient characterization of the aquatic resources to be impacted, insufficient assessment of secondary and cumulative impacts and potential for significant degradation, and the proposed mitigation. More detailed concerns and comments are set forth below and in the attached enclosure.

While EPA recognizes the proposed project's purpose and need for providing transmission of natural gas, the extent of anticipated impacts, notably the large amount of temporary discharges from the proposal to the aquatic resources, warrants careful review. The project proposes impacts within streams



and wetlands of the Little Muskingum – Middle Island, West Fork, Little Kanawha, Elk, Gauley, Lower New, Greenbriar, Middle New, Upper James, Upper Roanoke, and Banister watersheds in West Virginia and Virginia. The scientific literature provides strong weight of evidence that tributaries and their wetlands are vital components of the aquatic ecosystem.¹ They collectively provide habitat, water quality improvements, flood control, sediment transport, water supply, nutrient cycling, and organic matter sources, leading to maintenance of downstream aquatic communities and water quality. Even though some waterbodies may not exhibit surface flow every day of the year, they perform many of the foregoing important functions and contribute approximately 60% of the mean annual flow to all northeastern U.S. streams and rivers. Therefore, the proposed discharges to these aquatic resources have implications not only for the direct impacts, but also downstream waters.

Based on the information provided to EPA for review, more than 200 of the proposed 719 stream impacts are proposed in the Upper Roanoke watershed. This watershed includes Natural and Stockable Trout Waters, as well as habitat for Roanoke logperch (*Percina rex*), an endangered species. The Gauley and the Elk watersheds include Category B-2 Trout Waters and are proposed to have a combined total of nearly 200 stream impacts. The Middle New watershed is proposed to have nearly 100 stream impacts, one of which is a direct impact to a stream designated as critical habitat for the endangered Candy darter (*Etheostoma osburni*). Additionally, many of the waters within these watersheds already are impaired for a variety of parameters, including pH, fecal coliform, iron, other metals, and biology.

Because of the multitude of functions the existing streams and their wetlands provide and the documented water quality issues in these watersheds, every effort should be made to avoid and minimize impacts from discharges associated with this project consistent with the Guidelines. Furthermore, the direct, secondary, and cumulative impacts from the discharges associated with this project to these watersheds may result in significant degradation of the waters of the United States and reduce the ability for remaining aquatic resources to maintain hydrologic, geochemical, and biological functions. The above-mentioned qualities of these aquatic resources demonstrate the value they provide. For these reasons, EPA considers the protection of the proposed receiving waters to be important to the overall quality of the aquatic ecosystem both regionally and nationally.

In conclusion, it appears that the project, as proposed, may not comply with the Guidelines. 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. EPA also requests the opportunity to meet with the Corps and others to work collaboratively to address EPA comments. At this time, EPA recommends that the permit not be issued until modifications described in the attachment, including the recommended special conditions, have been addressed and incorporated into the project.

Thank you for the opportunity to review and provide comment on the PN for the Mountain Valley Pipeline. EPA looks forward to continuing to work with the Corps and the applicant. Should you have questions, please do not hesitate to contact Christine Mazzarella, the Wetlands Branch Team Lead, at 215-814-5756 or by email at mazzarella.christine@epa.gov.

¹ Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence
EPA/600/R-14/475F

Sincerely,

Jeffrey D. Lapp, Chief
Wetlands Branch

cc: Scott Hans, Chief, Regulatory Branch, Pittsburgh District, U.S. Army Corps of Engineers
Tom Walker, Chief, Regulatory Branch, Norfolk District, U.S. Army Corps of Engineers

ENCLOSURE

EPA's Technical Comments on LRH-2015-00592-GBR, LRP-2015-798, NAO-2015-0898; Mountain Valley Pipeline, Mountain Valley Pipeline, LLC, Wetzel, Harrison, Doddridge, Lewis, Braxton, Webster, Nicholas, Greenbrier, Summers, and Monroe Counties, WV and Giles, Craig, Montgomery, Roanoke, Franklin, and Pittsylvania Counties, VA

The CWA 404(b)(1) Guidelines (40 C.F.R Part 230) direct the consideration of whether the proposed fill will cause and contribute to violations of any applicable State water quality standard or to significant degradation of waters of the U.S. (230.10(b) & (c)). This includes significant adverse effects of the discharge on aquatic ecosystem diversity, productivity, and stability. EPA is concerned that the applicant has not yet demonstrated that the discharges from the project, as proposed, will not cause or contribute to water quality standards exceedances or significant degradation of receiving waters. The project proposes a substantial amount of temporary impacts in conjunction with permanent impacts. Approximately 7.25 miles of streams and 13.92 ac of wetlands are proposed to be temporarily impacted across eleven watersheds in two states. Of the 1,095 total proposed discharges of fill, 850 of them are within the Upper Roanoke, Gauley, Elk, Middle New, and Greenbrier watersheds. The streams and rivers in these watersheds have many good quality designations, such as trout waters, and provide habitat to freshwater mussels, trout, and threatened and endangered aquatic species, such as the Roanoke logperch (*Percina rex*) and Candy darter (*Etheostoma osburni*). Additionally, some of these watersheds contain streams listed as impaired for iron, other metals, biology, etc. While 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. The scientific literature provides strong weight of evidence that tributaries and their wetlands are vital components of the aquatic ecosystem.² Therefore, the impacts to these aquatic resources, including the loss of functions provided to downstream resources such as dilution, biogeochemical processes, and biodiversity, have the potential to result in significant degradation of waters of the United States and should be thoroughly assessed. To ensure that the proposed project does not result in significant degradation of waters of the United States through significant adverse effects of the discharges on aquatic ecosystems, EPA offers the following recommendations to be addressed prior to any permit decision.

Avoidance and Minimization

As directed by the Section 404(b)(1) Guidelines, the Corps' issued permit should reflect the least environmentally damaging practicable alternative (LEDPA) (230.10(a)). To identify the LEDPA, a full range of practicable alternatives, defined by the purpose and need for the project, is recommended for evaluation. Alternatives include not only geographical siting but also operational options, such as design modifications. Based on the information available for review, it is not clear that the proposed project represents the LEDPA. EPA recommends that additional examination and documentation of functional alternatives that avoid and minimize impacts be provided to ensure the proposed project is the LEDPA. Specific recommendations are provided in the following list.

1. EPA recommends updating the alternatives analysis with a narrative and table that identifies and compares the changes to the proposal since the project was authorized under the Nationwide Permit (NWP) 12. Specifically, the additional analysis should describe changes to the proposed route, modifications to stream and wetland crossing methods and subsequent changes to impacts

² Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence
EPA/600/R-14/475F

(both permanent and temporary), and the impacts that have occurred from clearing of the right-of-way (ROW) and pipe that has already been laid.

2. EPA recognizes the efforts the applicant has made to adjust crossing methods to reduce aquatic impacts. However, EPA also recommends information be provided to explain how these methods, such as Direct Pipe and microtunneling, were selected to be used or not used throughout the project. EPA also recommends further consideration of using these methods at streams where 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 to better avoid or minimize impacts.
3. More than 100 of the proposed crossings will result in the intersection of multiple unique waterbodies by a single crossing. Several of these crossings are proposed to cross two to as many as ten unique waterbodies. EPA recommends the applicant examine additional avoidance opportunities for crossings that intersect multiple unique waterbodies and minimization options such as modifying crossing methods or utilizing additional effective best management practices (BMP). If these are not practicable, the rationale should be provided. Specific examples of crossings with more than four waterbodies include, but are not limited to, the following:
 - A-016, Dry-Ditch Open-Cut, 5 waterbodies crossed
 - C-032, Dry-Ditch Open-Cut, 4 waterbodies crossed
 - C-034, Dry-Ditch Open-Cut, 4 waterbodies crossed
 - C-038, Dry-Ditch Open-Cut, 10 waterbodies crossed
 - D-028, Conventional Bore, 4 waterbodies crossed
 - E-020, Dry-Ditch Open-Cut, 5 waterbodies crossed
 - E-022, Dry-Ditch Open-Cut, 4 waterbodies crossed
 - F-001, Dry-Ditch Open-Cut, 8 waterbodies crossed
 - F-029-030, Dry-Ditch Open-Cut, 4 waterbodies crossed
 - F-037, Dry-Ditch Open-Cut, 8 waterbodies crossed
 - F-045, Dry-Ditch Open-Cut, 4 waterbodies crossed
 - G-013, Guided Conventional Bore, 5 waterbodies crossed
 - H-031, Conventional Bore, 6 waterbodies crossed
 - H-036, Dry-Ditch Open-Cut, 8 waterbodies crossed
 - H-042, Conventional Bore, 4 waterbodies crossed
 - I-046, Conventional Bore, 4 waterbodies crossed
 - I-121, Conventional Bore, 5 waterbodies crossed
4. While 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.
5. The application states that “incurring an unreasonable cost to avoid a short-duration temporary impact to an individual crossing is not appropriate and practicable.” However, the analysis of what would be practicable for these crossings did not include the consideration of the costs associated with site restoration, monitoring and management, as well as potential additional compensatory mitigation. Additionally, the applicant considered and rejected as not practicable the use of bridges to avoid permanent impacts to streams, but it is not apparent that the relative cost of compensatory mitigation was included in that analysis. EPA recommends that the applicant provide an updated analysis incorporating these factors, and consider if there are

additional opportunities, including but not limited to bridging, using trenchless methods, etc., to avoid and or minimize aquatic resources either in crossings or in access road construction.

Aquatic Resource Characterization & Direct, Secondary and Cumulative Impacts

To fully assess the alternatives and impacts under Section 404(b)(1) Guidelines, the quality of the aquatic resources in the proposed project area must be considered. This data is needed to help inform avoidance and minimization opportunities and assess the direct, secondary, and cumulative impacts of the proposal. Furthermore, it is necessary to demonstrate the adequacy of the mitigation proposal. The data provided in the application is insufficient to determine accurate baseline conditions of the aquatic resources. Below are specific recommendations to be addressed.

1. It is unclear if a baseline assessment was completed on the quality and function of the aquatic resources proposed to be impacted either permanently or temporarily. To better evaluate the proposed project's impacts and to ensure adequate functional replacement of the aquatic resources, EPA recommends the applicant conduct a baseline assessment of the condition and functions of aquatic resources to be impacted by the proposed project, including those resources subject to temporary impacts.
 - a. Specifically, EPA recommends that baseline data include biological, physical, and chemical parameters consistent with the parameters used to calculate West Virginia Stream Wetland Valuation Metric (SWVM). This data should be collected for all impacts to aquatic resources in both states.
 - b. A narrative describing the methodology undertaken, photographs, measurements, and other supporting should be provided to allow the agencies to confirm the findings.
2. Substantial temporary fills are associated with this project. However, the information provided for review does not describe how long the proposed temporary fills will be in place nor how they will be removed and aquatic resources restored. Without this information, it is difficult to ascertain if the temporary fill will or will not have lasting impacts on the aquatic resources or result in secondary effects to downstream resources. **EPA recommends the permit be conditioned to require a restoration plan for temporary impacts, including post-construction monitoring and adaptive management, that has been reviewed and approved by the resource agencies.** Depending on the quality of the resource being impacted, the sensitivity of the resource, or the number of times a water is being impacted, the pre and post construction monitoring requirements could vary.
 - a. At a minimum, to ensure that temporary stream and wetland impacts have no significant adverse impact to aquatic resources, the restoration plan should document baseline conditions, and elevations through georeferenced photographs and surveys, explain how all temporary fills and structures will be removed and the area restored to pre-project conditions, and require submission of post-construction georeferenced photographs and surveys to demonstrate that the impacts are in fact temporary and successfully restored.
 - i. In addition, upon final stream bed restoration, the stream must have similar physical characteristics to include substrate, pattern, profile, dimension, and embeddedness of the original stream channel.
 - ii. In addition, upon final wetland restoration a delineation will be conducted. At the final monitoring event a final wetland delineation will be conducted to ensure hydrology, hydric soils, and hydric vegetation communities are similar to the original wetland.
 - iii. Provide a map of monitoring locations and a table illustrating this information.
 - iv. Post construction monitoring for a period of three years.

- v. Should post-construction monitoring demonstrate longer term effects on the aquatic resources, EPA recommends additional corrective measures be undertaken including compensatory mitigation be provided to offset those impacts.
- b. In addition to the foregoing, for the following types of receiving waters, EPA recommends the restoration plan include enhanced post-construction monitoring and an adaptive management plan to ensure that temporary impacts have no significant adverse effects. Specifically, resources that should have more extensive monitoring, include but are not limited to the following:
 - i. Trout waters
 - ii. Impaired waters
 - iii. Waters with threatened or endangered species or that contain critical habitat including:
 - 1. S-S5 (Candy Darter) – proposed activity: timber mat crossing
 - 2. S-C21 (Roanoke Logperch) – proposed activity: timber mat crossing
 - 3. S-C3 (Roanoke Logperch) – proposed activity: timber mat crossing
 - 4. S-G36 (Roanoke Logperch) – proposed activity: temporary access road
 - iv. Streams and wetlands impacted multiple times by crossings or construction activities
 - 1. Table 15 lists more than 15 streams and wetlands crossed multiple times by the pipeline
 - 2. Table 2 and 3 list single streams and wetlands that incur multiple impacts from timber mats, access roads, and ROW clearing
- c. For the resources described in ‘b’, a detailed monitoring plan should be developed to measure the chemical, physical, and biological functions of the resources, along with specific success criteria, to determine successful restoration and ensure that there will be no significant adverse effects. EPA recommends that the baseline assessment of the streams and wetlands, as described above, be used to guide the development of these success criteria. In addition to the items in the above item ‘a’, specific recommendations for more detailed monitoring plan include, but are not limited to the following items:
 - i. Monitoring for the parameters that are used to calculate the SWVM to assess the chemical, physical, and biological condition of the stream resources.
 - ii. For stream hydrology, monitoring should be conducted to document that the flow maintains its preconstruction flow status. Wetland hydrology should be monitored to ensure that the overall seasonal hydroperiod (depth, degree, duration, and periodicity) is similar to that of the pre-construction wetland and the site is inundated or the water table is less than or equal to 12 inches below the soil surface for 14 or less consecutive days during the growing season.
 - iii. To ensure wetland soils are not compacted, an example success criteria could include that the subsoil shall have a bulk density of less than 90lbs/ cubic foot for clay textures, grading less than 112 lbs/ cubic foot for sands (prior to adding organic matter or topsoil to the site). Replaced topsoil layers should also be remediated to a similar bulk density range.
 - iv. To address potential sedimentation concerns, in-stream monitoring of turbidity and sedimentation should be conducted to identify any changes in sediment load. Criteria should be protective of aquatic species and water quality standards.

- v. For vegetation, the application states that “in unsaturated wetlands, most vegetation will be replaced by seeding when necessary...and saturated wetlands will typically be allowed to re-vegetate naturally.” However, this may allow time for invasive species that are in the seed bank to colonize the wetland. Therefore, EPA recommends planting wherever possible. Further, the application states that revegetation is considered "successful when cover of herbaceous species is at least 70 percent of the cover of the vegetation in adjacent wetland areas that were not disturbed," however this does not account for invasive species. EPA recommends a success criterion that defines no greater than 5% aerial coverage for invasive species be allowed.
 - vi. Post construction monitoring for a period of five years or until data from successive monitoring periods indicate site stability and success criteria have been achieved.
 - vii. Develop an adaptive management plan (AMP) that outlines measures to be taken if temporarily impacted areas fail to achieve success. Should corrective actions be needed, the AMP should guide decisions for implementing measures to address identified parameters. Actions should be specified for problems that may adversely affect aquatic resources, such as, but not limited to, erosion, sedimentation, and invasive species colonization. Should there be long term effects on the aquatic resources, EPA recommends additional compensatory mitigation be provided to offset those impacts should corrective measure fail or pre-construction conditions not be achieved.
 - viii. Review of post-construction monitoring be undertaken by an independent third party that is qualified to assess water quality, stream and wetland conditions and able to make recommendations for adaptive management measures and corrective actions; the applicant also should commit to implement such recommendations.
3. Additionally, it appears that the ROW could sever upstream reaches from downstream resources. EPA recommends analyzing the potential for effects to downstream reaches, such as, but not limited to, changes to the hydrogeomorphology and impacts of sedimentation and compaction from construction activities, to better determine if secondary impacts will occur to the remaining stream resource. Secondary effects to these downstream resources should be avoided and minimized to the maximum extent practicable. Should unavoidable secondary impacts remain, then EPA recommends additional compensatory mitigation be provided to offset those effects.
 4. Although the information provided included some analysis of cumulative effects, EPA recommends a conclusive evaluation of cumulative effects at a watershed scale (i.e. HUC 12) be provided to ensure that measures are undertaken to avoid and minimize the potential of cumulative impacts.

Compensatory Mitigation

After all practicable avoidance and minimization measures have been incorporated into the proposed project, compensatory mitigation for those unavoidable impacts to waters of the US should be undertaken. Due to the significant amount of temporary impacts caused by this project and the potential for secondary and cumulative effects, it is currently unclear if the proposed mitigation will be sufficient to offset the loss of function of the impacted and downstream aquatic resources.

1. Section 332.3(b)(1) of the 2008 Mitigation Rule states that the required compensatory mitigation should be located within the same watershed as the impact site and should be located where it is

most likely to successfully replace lost functions and service. To ensure a timely and functional replacement of aquatic resources in the impacted watershed, EPA recommends using a mitigation bank whose primary service area encompasses the project locations. Additionally, basic information about the work performed at the bank, how the credits were generated (e.g. restoration, enhancement, preservation, etc.), and the credit type should be provided to ensure adequate compensation for the proposed impacts.

2. Should a bank be used whose secondary service area (SSA) includes the project, EPA recommends that the applicant provide the Corps a narrative documenting how the use of that bank is offsetting the project impacts since SSAs are geographically large and sometimes drain to different river basins.