



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

October 27, 2016

Ms. Rebecca Rutherford, Chief Environmental
Analysis Section, Planning Branch
US Army Corps of Engineers
Huntington District
502 Eighth Street
Huntington, WV 25701-2070

Re: Supplemental Draft Environmental Impact Statement (SDEIS) – Bluestone Dam Safety Modification, Hinton, West Virginia CEQ No. 20160205

Dear Ms. Rutherford,

In accordance with Section 102(2) (c) of the National Environmental Policy Act (NEPA), 42 U.S.C. § 4332(2) (c), Section 309 of the Clean Air Act, 42 U.S.C. § 7609, and the Council on Environmental Quality (CEQ) regulations, 40 CFR Parts 1500-1508, the United States Environmental Protection Agency (EPA) has reviewed the Supplemental Draft Environmental Impact Statement (SDEIS) for the Bluestone Dam Safety Modification project in Hinton, West Virginia.

As you are aware, the SDEIS will supplement the 1998 Final Environmental Impact Statement (FEIS), which was prepared to address modifications needed to safely pass flows of the updated probable maximum flood (PMF; the original 1930 PMF was based on a hypothetical flood created by shifting the center of the July 1916 hurricane storm to the New River drainage basin). A recent risk assessment of the Bluestone Dam identified additional safety concerns not originally assessed in the 1998 FEIS. To further reduce the risk of dam failure, Huntington District of the US Army Corps of Engineers (Corps) is considering additional structural modifications. The Corps' Preferred Alternative or Tentatively Selected Plan (TSP – Alternative 1) would include:

- Concrete apron overlay of the natural river bed in the first stage between the dam and the exiting stilling weir.
- A modification of the existing stilling basin system with a protective concrete apron and larger anchored baffle blocks.
- Installation of anchors in the stilling weir, stilling basin training walls in the new and existing concrete slab.



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- Installation of 10-foot high extensions of the existing spillway right and left training walls.
- Scour protections behind both stilling basin training walls.
- Remotely controlled crest gate operating system.
- Divider wall to bisect stilling basin.
- Additional non-structural risk management measures.

These modifications to the dam would occur over an eight to ten-year period.

As part of the review process for the SDEIS, EPA has developed a set of criteria for evaluating and rating draft Environmental Impact Statements (EIS). This rating system provides a basis upon which EPA makes recommendations to the lead agency. EPA's rating system consists of a two-part alphanumeric evaluation. The alpha criterion evaluates the environmental impact of the proposed action. The numeric criterion evaluates the thoroughness of the assessment in the SDEIS. Based on this rating system, EPA has rated the SDEIS for the Bluestone Dam Safety Modification as an EC-2. The EC rating means the review has identified environmental impacts that are recommended to be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. The numeric rating assesses the adequacy of the EIS. The 2 rating indicates that the draft EIS does not contain sufficient information to fully assess the environmental impacts. A description of our rating system can be found at: <http://www.epa.gov/compliance/nepa/comments/ratings.html>. The basis for the EPA rating of an EC-2 are reflected in the attached Technical Comments. Our concerns include: aquatic habitat impacts, prolong construction schedule Climate Change measures

Thank you for the opportunity to review this project. If you have questions regarding these comments, the staff contact for this project is Kevin Magerr; he can be reached at 215-814-5724 or Magerr.kevin@epa.gov

Sincerely,

Barbara Rudnick
NEPA Team Leader
Office of Environmental Programs

Enclosures (2)



Technical Comments on the Supplemental Draft Environmental Impact Statement – Bluestone Dam Safety Modification

1. To be consistent with Alternative 2's description summary (located on page 1-1), it is recommended that the Alternative 1 description include the same base measure (the completion of Phase 3 and 4 of the 1998 FEIS project features and installation of the additional 66 monolith multi-strand anchors).
2. The tentatively selected plan (TSP) construction would require the placement of temporary cofferdams to dewater half of the stilling basins, reducing the dam's operation in half for eight to ten years. It is recommended that details pertaining to operation measures being proposed to address high flow or low flow conditions be included in the Final Supplemental EIS.
3. The US Fish and Wildlife Service (FWS) has defined the area just below the dam as a Resource Category 1 habitat because of the rare, irreplaceable, and highly suitable nature of the habitat for the conservation of species of interest. Placement of the cofferdams and rock causeway will impact the area's aquatic organisms including two mussel species listed as State Imperiled Species (Purple Wartyback (*Cyclonais tuberculata*) and Pistolgrip (*Tritogonia verrucosa*), in addition to aquatic macrophytes, benthic invertebrates, and crayfish. The dam safety modification project would directly impact 2.25 acres by cofferdam placement and 62.50 acres due to flow alterations adversely impacting this highly valued resource. Changes include potential higher velocities during low flows during construction and increase in dry conditions in the tailwater. EPA considers these impacts to be significant and is requesting that the Corps further investigate ways to minimize the impacts and to reduce the protracted construction period. EPA appreciates the mitigation being offered and identified with FWS for Category 1 habitat; any additional details on proposed mitigation should be included in the Final SEIS.
4. The SDEIS discusses that areas upstream of the dam are likely to undergo more frequent inundation due to the proposed construction, likely to impact less water tolerant species. Though tree replacement at the end of the construction period is mentioned, please consider mitigation for interim degradation of habitat. Consideration may be given to any resource enhancements that may be possible in the study area or subwatershed.
5. It is recommended that the criteria used for identifying a resource of "high, moderate or low" value in the EIS be clarified in the Final SEIS. Though resource type, for instance of wetlands, is mentioned, it is recommended that discussion of resource function in the watershed be expanded. This would assist in discussion of the effects of the project impacts to the watershed.



6. Impacts to wetlands are suggested in the SDEIS to be possible. No mitigation is proposed. It is recommended that monitoring of conditions take place and if resource degradation occurs (due to inundation or siltation), mitigation be considered.
7. The SDEIS provides good characterization of direct, indirect, temporary and cumulative impacts. EPA suggests impacts lasting for eight to ten years should not be considered temporary and recommends that they be addressed and mitigated accordingly. Because of the project's protracted construction schedule, it is recommended that the mitigation measures for the impacts to the Resource Category 1 habitat be implemented as expeditiously as practical, but no later than the construction start of the project. Potential mitigation measures may consider exotic species control.
8. Traditional cofferdam and related construction can cause sediment transportation and turbidity as well as habitat destruction. They can also pose removal challenges. It is recommended that the Corps investigate cofferdam technology including but not limited to Portadams that may be less invasive than traditional cofferdams.
9. The project team should continue coordination with FWS and other agencies regarding avoidance, minimization and mitigation for impacts to species and habitat of concern.
10. It is unclear if fish ladders have been considered during the course of this project. We recommend they be evaluated as a possible mitigation measure to address impacts caused by the proposed project and the obstruction caused by the dam.
11. The SDEIS does not contain estimates of the GHG emissions that would be caused by the alternatives considered. Consistent with CEQ's *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews* (CEQ Guidance), the EPA recommends that the SFEIS estimate the direct and indirect GHG emissions that would be caused by the proposal and its alternatives.¹ Examples of tools for estimating and quantifying GHG emissions can be found on CEQ's website.² Estimated GHG emissions levels can serve as a basis of comparison for climate change impacts among alternatives and appropriate mitigation measures.
12. While the safety analysis for the Bluestone Dam considered the Probable Maximum Flood (PMF) as the design storm, it is unclear whether the modeling effort included consideration of changing climate conditions. Consistent with the CEQ guidance,³ we recommend that the SFEIS describe potential changes to the affected environment that

¹ White House Council on Environmental Quality, *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews*, p.11, p. 16.

² https://ceq.doe.gov/current_developments/GHG-accounting-tools.html

³ CEQ Guidance, p. 20.



may result from climate change. Including future climate scenarios, such as those provided by the USGCRP's National Climate Assessment,⁴ provides information valuable to determining whether the proposal includes appropriate resilience and preparedness measures for the impacts of climate change.

⁴ <http://nca2014.globalchange.gov/>



Environmental Impact Statement Rating System Criteria

EPA has developed a set of criteria for rating a draft Environmental Impact Statement (EIS). EPA rates the draft EIS on an alpha-numeric system and includes the designated rating in EPA's comment letter. In general, the rating is based on the lead agency's preferred alternative. The rating system provides a basis upon which EPA makes recommendations to the lead agency for improving the draft EIS.

The alphabetical categories listed below signify EPA's evaluation of the environmental impacts of the proposal:

- LO (Lack of Objections)
- EC (Environmental Concerns)
- EO (Environmental Objections)
- EU (Environmentally Unsatisfactory)

The numerical categories listed below signify an evaluation of the adequacy of the draft EIS:

- 1 (Adequate)
- 2 (Insufficient Information)
- 3 (Inadequate)

The rating of the draft EIS consists of one of the category combinations shown below:

- LO
- EC-1, EC-2
- EO-1, EO-2, EO-3
- EU-1, EU-2, EU-3, or 3

Rating the Environmental Impact of the Action

LO (Lack of Objections)

The review has not identified any potential environmental impacts requiring substantive changes to the preferred alternative. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposed action.

EC (Environmental Concerns)

The review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact.

EO (Environmental Objections)

The review has identified significant environmental impacts that should be avoided in order to adequately protect the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). The basis for environmental Objections can include situations:

- Where an action might violate or be inconsistent with achievement or maintenance of a national environmental standard;
- Where the federal agency violates its own substantive environmental requirements that relate to EPA's areas of jurisdiction or expertise;
- Where there is a violation of an EPA policy declaration;
- Where there are no applicable standards or where applicable standards will not be violated but there is potential for significant environmental degradation that could be corrected by project modification or other feasible alternatives; or
- Where proceeding with the proposed action would set a precedent for future actions that collectively could result in significant environmental impacts.

EU (Environmentally Unsatisfactory)

The review has identified adverse environmental impacts that are of sufficient magnitude that EPA believes the proposed action must not proceed as proposed. The basis for an environmentally unsatisfactory determination consists of identification of environmentally objectionable impacts as defined above and one or more of the following conditions:

- The potential violation of, or inconsistency with, a national environmental standard is substantive and/or will occur on a long-term basis;
- There are no applicable standards but the severity, duration, or geographical scope of the impacts associated with the proposed action warrant special attention; or
- The potential environmental impacts resulting from the proposed action are of national importance because of the threat to national environmental resources or to environmental policies.

Rating the Adequacy of the Draft Environmental Impact Statement (EIS)

Category 1 - Adequate

The draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data

collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - Insufficient Information

The draft EIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the proposal. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3 - Inadequate

The draft EIS does not adequately assess the potentially significant environmental impacts of the proposal, or the reviewer has identified new, reasonably available, alternatives, that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. The identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. This rating indicates EPA's belief that the draft EIS does not meet the purposes of NEPA and/or the Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS.

Last updated on May 16, 2016

