

Enclosure 2
U.S. Army Corps of Engineers Requests for Additional Information (RAIs)
Bell Bend Nuclear Power Plant
Combined Operating License Application – Environmental Report

RAI Number	Question Summary (RAI)	Full Text (Supporting Information)
<p>USACE-1</p> <p>40 CFR Part 230- Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material¹</p>	<p>Provide a detailed analysis of the three off-site alternative locations (candidate sites) for the proposed project. While data collected using resource mapping is acceptable, site specific information regarding potential impacts to wetlands, endangered species, historic and archeological resources, floodplains, external substations, and external transmission corridors needs to be provided. It is assumed that existing rights-of-way would be used when possible to avoid unnecessary impacts to wetlands. In addition, when evaluating these candidate sites, the Corps believes that there are several ranking factors (as represented in the report presented by AREVA at the alternative site visits) that should be excluded in the analysis. These ranking factors include, but are not limited to, additional land acquisition, expansion potential, and ownership. In relation to ownership, the Guidelines specifically state that an area not presently owned by the applicant which could be reasonably obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered if it is otherwise a practicable alternative.</p>	<p>The purpose of the off-site and the on-site alternative analysis is to demonstrate that the proposed project satisfies the Clean Water Act (CWA) Section 404(b)(1) Guidelines (40 CFR Part 230), which are the substantive criteria the Corps will use in determining the project's environmental impact on aquatic resources from discharges of dredged or fill material.</p> <p>A Department of the Army Section 404 permit is necessary to construct any project involving the discharge of dredged or fill material into waters of the U.S. The Corps must ensure that the activity complies with the Guidelines as one step in its evaluation process. Among other things, an applicant for a 404 permit must demonstrate to the Corps that the proposed project is the least environmentally damaging practicable alternative (LEDPA). The LEDPA is determined by the preparation of a Section 404(b)(1) Guidelines Alternatives Analysis.</p> <p>The CWA Section 404(b)(1) Guidelines should be a “stand alone” document. It can be integrated with the Public Interest review/evaluation (see USACE-2) to avoid duplication.</p>
<p>USACE-1a</p>	<p>Provide a detailed analysis of the steps taken to avoid and minimize the proposed on-site impacts.</p>	<p>The Section 404(b)(1) Guidelines and 33 CFR Part 332 project review progresses through a sequence of avoidance, minimization, and then</p>

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	<p>This on-site alternatives analysis does not preclude the necessity to review the off-site alternatives. This information must include the following:</p> <p>a. Methods to avoid and minimize impacts to waters of the U.S. This analysis should include:</p> <p>i. Methods to relocate or redesign the proposed construction laydown areas to uplands; and</p> <p>ii. Modification of the construction schedule so that the area proposed for permanent impacts could be utilized as construction laydown areas.</p> <p>b. For each on-site alternative, provide acreage and type of waters and wetlands that would be impacted (both temporary and permanent). For waterways, include both the linear feet of waterway impacts (measured along the centerline of the waterway) and square feet of impact; for wetlands, include both square foot and acreage impacts; and for temporary wetland impacts, quantify any change in wetland classification (e.g., palustrine forested to palustrine emergent, etc.) and method of work to accomplish these changes.</p> <p>c. Methods to avoid onsite impacts to cultural and historic resources.</p>	<p>compensation for project impacts.</p> <p>Avoidance (Step 1): involves a look at on-site modifications to determine the LEDPA: Upland sites are presumed to be available unless clearly demonstrated otherwise by the applicant. The Corps will seek avoidance first.</p> <p>Minimization (Step 2): If the “avoidance” presumption is overcome, the next step is to analyze all practicable on-site alternatives which minimize damages to wetlands within a practicable site. Minimization involves a look at on-site reconfiguration of the project, implementation of special operating procedures, or other actions to reduce impacts. Project modifications to minimize adverse impacts may include a reduction in scope or size, change in construction methods, or the use of other methods that reflect sensitivity to the environment.</p>
USACE-1b	Provide a narrative to describe and quantify cumulative and indirect wetland and stream	The 404 (b)(1) Guidelines (40 CFR 230.11) discuss long and short-term impacts, as well as potential secondary impacts. Although the impact of a particular discharge may constitute a minor change, in itself, the

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	impacts resulting from the project.	cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems.
USACE-2 33 CFR Parts 320-330: Regulatory Programs of the Corps of Engineers ¹ Baltimore District Corps permit application checklist ²	As required in the Corps public interest review process under 33 CFR 320.4, please provide a comparison chart comparing the proposed Bell Bend site as well as the three candidate sites with the Corps' twenty (20) public interest review factors. For reference, the Corps public interest review factors are as follows: conservation, economics, aesthetics, general environmental concerns, wetlands, historic and cultural resources, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, and consideration of property ownership.	The Public Interest review/evaluation should be a "stand alone" document. It can be integrated with the Section 404(b)(1) Alternative Analysis (see USACE-1) to avoid duplication.
USACE-2a	Identify all preconstruction activities (associated with the construction of cooling ponds, haul roads, dredging, and other aspects of infrastructure necessary to support the construction of the Bell Bend plant) that will result in a discharge of dredged or fill material into Waters of the U.S., or work within the Susquehanna River (i.e. requiring a	33 CFR Part 330.2(i) states that the Corps is required to evaluate a single and complete project for any permit application. As required by this regulation, the Corps must evaluate the cumulative total of all proposed impacts (including all direct, indirect, and cumulative impacts) to Waters of the U.S., including jurisdictional wetlands. All proposed impacts must be evaluated concurrently under one application submittal.

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² Document provided as attachment

Enclosure 2
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Bell Bend Nuclear Power Plant
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	Department of the Army Section 404 or Section 10 permit).	
USACE-2b	Identify and explain the mitigation requirement(s) from the Susquehanna River Basin Commission (SRBC) and identify if any Department of the Army Section 10 and/or Section 404 permits will be required.	Pursuant to Section 10 of the Rivers and Harbors Act, a Department of the Army permit is required for work or structures in navigable waters of the United States and pursuant to Section 404 of the Clean Water Act, a Department of the Army permit is required for the discharge of dredged or fill material into waters of the United States, including jurisdictional wetlands. Any proposal to perform the above activities within the area of Federal jurisdiction will require the prior approval of this office. All proposed impacts must be evaluated concurrently under one application submittal.
USACE-2c	Provide a narrative addressing public benefits of the proposed project which is separate from the project's proponents' benefit.	The proposed project must be evaluated to ensure that it is not contrary to the public interest (33 CFR 320.4). There are 20 public interest factors. The Corps must evaluate the project in light of these factors and the interests of the applicant to determine the overall balance of the project with respect to the public interest.
USACE-2d	Provide a description of the relative extent of the public and private need for the proposed project.	Under 33 CFR 320.4(a)(2). The extent of the public and private need for a project is a general criteria of the public interest review that must be considered in the evaluation of every permit application.
USACE-2e	Provide copies of all previously issued Federal, State and local permits and plans for the existing facilities at the project site as well as a description and plans for all mitigation completed for these previously authorized projects.	Under 33 CFR 325.1 (Applications for permits), the applicant is required to provide a list of authorizations required by other Federal, State, or local agencies for the proposed work, including all past permits previously issued.
USACE-2f	Provide a list of all required Federal, State and local permits for the proposed project.	Under 33 CFR 325.1 (Applications for permits), the applicant is required to provide a list of authorizations required by other Federal, State, or local agencies for the proposed work, including all past permits previously

Enclosure 2
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		issued.
USACE-2g	Provide a vicinity map and plan for the disposal options for any excess fill material resulting from construction.	Under 33 CFR 325.1 (Applications for permits) as well as under the 404 (b)(1) Guidelines, all disposal areas need to identified and in compliance with 230.10 and 230.11.
USACE-2h	Submit a complete joint permit application to the U.S. Army Corps of Engineers, Baltimore District. A copy of the joint permit application form can be found on the PA DEP website at www.dep.state.us . Include all items on the attached permit application checklist.	Under 33 CFR 325.1 (Applications for Permits).
USACE-3 33 CFR Part 332, Compensatory Mitigation For Losses of Aquatic Resources ¹	Please provide a detailed mitigation and monitoring plan that complies with the Corps final mitigation rule, published April 10, 2008, (33 CFR Part 332). Approval of the required compensatory mitigation and monitoring plan(s) will be necessary before a Department of the Army permit is issued.	Compensatory mitigation is required for unavoidable wetland resource losses which remain after minimization. A conceptual mitigation plan is a necessary component of the 404 permit review process. However, a Department of the Army 404 permit cannot be authorized on the basis of a conceptual plan; a final mitigation plan must be reviewed and approved prior to Department of the Army permit issuance.

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PERMIT APPLICATION CHECKLIST
NAB-OP-RPA-2008-01401 (Bell Bend Nuclear Power Plant)

General

- ✓ Describe the overall project and provide a general location map of the entire project area
- ✓ Show the relationship of the proposed work location to oyster bars; artificial reefs; submerged and terrestrial historic sites; navigation fairways and Federal channels; parks; named swamps and wetlands; streams; and any other natural resources of concern
- ✓ Provide a large view overall plan sheet of the project site showing the existing site conditions and the proposed work.
- ✓ Provide large plans and 8 ½" x 11" plan sheets for proposed impact areas
 - ✓ Provide top view, cross-section and/or profile drawings that include dimensions of all structures and fill proposed, including elevation and materials relative to jurisdictional waterway and wetland boundaries
- ✓ Provide a detailed written description of the project, including dimensions and structural composition of culverts, pipelines, building structures, access roads, stormwater management facilities and any other attendant features of project construction
 - ✓ Identify the disposal site(s) for excess fill material and suitable dredge material disposal, including site capacity and site plans
- ✓ Identify permanent and temporary impacts
 - ✓ Include a definition of temporary by timeframe and describe restoration of the proposed temporary impact
 - ✓ Indicate the anticipated impact area for use of temporary marsh mats, as well and indicate the dimensions and marsh mat material
- ✓ Provide a timeline/schedule for the process of obtaining all Federal, State and local authorizations for the proposed project and provide a construction schedule
- ✓ Describe the purpose and need for the project, including public need and benefit, users, suppliers, any other supporting information
- ✓ Describe the existing land and waterway use of project site location
- ✓ Describe potential cumulative impacts relative to the purpose of the project and prospective for future additional expansion
- ✓ Describe on-site and off-site avoidance and minimization of impacts
 - ✓ Describe why impacts were not avoided
- ✓ Describe maintenance, including preservation, of existing structures and protection methods of those existing structures during the proposed project construction
 - ✓ Indicate the existing roads, buildings and/or facilities that would be removed or relocated
- ✓ Describe how the project construction and maintenance may affect the existing utility or roadways easement corridors relative to their maintenance and potential future expansion and address all potential safety issues relative to construction and operation within these types of corridors
 - ✓ Describe work in right-of-ways, including maintenance and amount of tree clearing in forested areas in these areas
- ✓ Describe the method of work including equipment access; staging areas; maintenance; restoration of pre-construction contours; stream diversion; and sequence of construction
- ✓ Overlay the proposed project plans on aerial photography (source and date indicated)
 - ✓ Overlay the proposed project area on maps showing the following (each of the maps should include the source, page/sheet number and date information):
 - ✓ Wetlands of Special State Concern (i.e. exceptional value – EV)
 - ✓ National Wetland Inventory
 - ✓ County soil surveys
 - ✓ Department of Natural Resources Wetland map
 - ✓ Topography map

Bell Bend Nuclear Power Plant Checklist

- ✓ Provide any other supporting information
- ✓ Provide adjacent property owners names and addresses
 - ✓ Nearby community association names and addresses
 - ✓ The list of adjacent property owners should be provided in the application as well as electronic format (for printing mailing labels for the public notice)

Wetland/Streams

- ✓ Identify (list) all streams, named wetlands/swamps
 - ✓ The stream name must include a listing of all the downstream waterway links to the Susquehanna River - a description of the connection of the waterway/wetland to navigable waters (nontidal wetland adjacent to an unnamed tributary to X creek, which is a tributary to X river, a tributary to X River, which is a navigable waterway)
- ✓ Indicate the square foot area and acreage of each wetland proposed to be impacted and indicate whether it abuts, is adjacent to a stream or is isolated
 - ✓ Indicate the type of wetland proposed to be impacted
 - ✓ Indicate the total area of the wetland to be impacted and the proposed impact area
 - ✓ Indicate the latitude and longitude coordinates of each wetland proposed to be impacted
- ✓ Indicate the length and average width at the approximate ordinary high water mark of each stream proposed to be impacted
 - ✓ Indicate the total length and area of the stream to be impacted and the proposed impact length and area
 - ✓ Indicate the latitude and longitude coordinates of each stream proposed to be impacted at the upstream and downstream proposed impact limits
 - ✓ Describe the condition of the stream in the proposed impact area

Dredging (of the Susquehanna River)

Do you wish to have a 10-year maintenance dredging clause for the permit, if issued?

- ✓ Indicate the method of dredging
- ✓ Provide a legible plan showing the currently existing shoreline configuration as well as any other nearby pier facilities and/or remnants; pilings; shoreline erosion control structures; non-tidal wetlands; and property lines with adjacent property owners' names and addresses
- ✓ Show the project relative to any submarine cables; pipelines; outfalls; ditches; or any stormwater conveyance systems.
- ✓ For the proposed dredging, provide a cross-section drawing of the dredge area, including side slopes relative to the bottom substrate; and the ordinary high water mark.
- ✓ Indicate the disposal site, location, and capacity; and provide plans
- ✓ Describe the vessels utilizing the facility including type, length, width, and draft; the expected use of the proposed facility as it relates to navigational activity; the purpose of the proposed project; and the historic use of the property and project area waterway
- ✓ Indicate the distance from the channelward end of the proposed work to the navigational fairway.
- ✓ Identify fisheries and living resources information
- ✓ Identify future maintenance needs - siltation potential (for sloughing/settling); future continuous maintenance dredging; and the rate of sediment deposition based on increased boat wakes, shoreline development, etceteras
- ✓ Provide the bottom sediment substrate composition

Bell Bend Nuclear Power Plant Checklist

- ✓ Provide a sediment analysis for the presence of hazardous dredgate and pollutants (volatiles; acid, basic, neutral compounds; pesticides; and PCBs)?

Other

- ✓ Describe invasive plant species monitoring and restoration, if necessary in proposed work areas
- ✓ Describe emergency procedures in the event of construction and operation accident
- ✓ Describe potential issues with return water into the Susquehanna River, such as thermal pollution; water quality; bottom scouring at outlet, etceteras
- ✓ Provide a copy of the Corps jurisdictional determination and plans

Note: Additional information may be necessary as determined during project evaluation.

Specific Corps Questions for this project

1. A detailed analysis of all possible forms of energy that could meet the project purpose. The analysis should include, but not be limited to fossil fuel, fission, hydroelectric, biomass, solar, wind, geothermal, fusion and other potential near future energy options including a complete description of the criteria used to identify, evaluate, and screen project alternatives.
2. A detailed analysis of the steps taken to minimize the proposed on-site impacts and the reasons for amending the project as changes developed from the initial proposal through to the current proposal and ultimately to a project that would further minimize the currently proposed impacts, including a complete description of the criteria used to identify, evaluate, and screen project alternatives. This on-site analysis does not preclude the necessity to review of the off-site alternatives or various forms of energy. This information must include the following:
 - a. Methods to avoid and minimize impacts to waters of the U.S.
 - i. Methods to minimize dredging and construction related turbidity
 - ii. Methods to minimize adverse effects to water quality
 - iii. Methods to minimize adverse effects to natural and cultural resources
 - b. Quantify impacts to waters of the U.S. (both temporary and permanent) to all waters of the U.S., including jurisdictional wetlands, for each on-site project alternative. For waterways, include both the linear feet of waterway impacts (measured along the centerline of the waterway) and square feet of impact; for wetlands, include both square foot and acreage impacts; and for temporary wetland impacts, quantify any change in wetland classification (e.g., palustrine forested to palustrine emergent, etc.) and method of work to accomplish these changes.
3. A proposal to reduce wetland and stream impacts to the minimum necessary to meet access and safety requirements. This proposal should include:
 - a. Methods to relocate or redesign the proposed construction laydown areas to uplands.
 - b. Modify the construction schedule so that the areas proposed for permanent impacts could be utilized as construction laydown areas.
4. A detailed mitigation plan
 - a. Proposed mitigation methods.
 - b. Proposed mitigation site (s).

Bell Bend Nuclear Power Plant Checklist

- c. Wetland creation and enhancement plans.
 - i. Planting and grading plans.
 - ii. Hydrologic inputs and maintenance of hydrology.
 - iii. Monitoring and restoration plan.
 - d. Stream Mitigation
 - i. Baseline plan
 - ii. Existing site conditions plan including photographic documentation; channel cross section; pattern and profile; ordinary high water mark (OHWM); and channel and structure stability in relationship to permanent survey markers that shall be installed.
 - iii. Proposed project plans
 - iv. Project plans related to the existing site conditions and the proposed conditions, including all structures or fill; dimensions of structures or fill; proposed water depths relative to the OHWM; channel cross section; pattern and profile; and channel and structure stability in relationship to permanent survey markers.
5. Copies of all previously issued Federal, State and local permits and plans for the existing facilities at the project site as well as a description and plans for all mitigation completed for these previously authorized projects.
 6. A narrative to describe and quantify cumulative and indirect wetland and stream impacts resulting from the project.
 7. A vicinity map and plan for the disposal options for any excess fill material resulting from construction.
 8. A narrative addressing public benefits of this project separate from the project's proponents' benefit.
 9. A description of the relative extent of the public and private need for the proposed project.
 10. Will the construction and heavy haul roads be permanent use roads?

Pre-application coordination with the Federal and State resource agencies will expedite the permit process: Names and points of contact have already been made available to NRC staff.