

UPPER OHIO NAVIGATION STUDY, PENNSYLVANIA
ENVIRONMENTAL APPENDIX

Clean Water Act, Section 404 (b)(1) Evaluation

Note to Reader:

The following evaluations specify the sites for proposed fill material at the Emsworth, Dashields, and Montgomery replacement locks as required in Clean Water Act, Section 404(b)(1). Their inclusion in this feasibility study report satisfies the requirements of Section 404(r) regarding Federal projects specifically authorized by Congress.

While the Corps will seek water quality certification from Pennsylvania, it has ensured that this Environmental Impact Statement (EIS) contains sufficient information regarding water quality effects, including consideration of the Section 404(b)(1) Guidelines, to meet the EIS content requirements of Section 404(r), should that exemption be invoked.

SECTION 404(b)(1) EVALUATION

Upper Ohio Navigation Study – Emsworth Locks and Dams

Allegheny County, Pennsylvania

PROJECT LOCATION: The Emsworth Locks and Dams are located on the Ohio River, mile 6.2 (main channel dam) and mile 6.9 (back-channel dam), in Allegheny County, Pennsylvania. The main channel dam runs between Ben Avon, to the north, and Neville Island. The back-channel dam runs between Neville Island and Kennedy Township.

PROJECT DESCRIPTION: The U.S. Army Corps of Engineers, Pittsburgh District, proposes to modify the existing Emsworth Locks and Dam. The Emsworth Locks are dual, adjacent chambers located on the right bank of the river's main channel at river mile 6.2. The main chamber occupies the landward position and has clear dimensions of 56' x 360'. The upper guide wall was extended approximately 500 feet when the new gated dam was constructed in 1938. The upper and lower guard walls consist of a series of individual sheet-pile cells.

The main channel dam is 967.42 feet from the river-face of the River Wall to the river-face of the abutment wall. The back channel dam has an overall length of 750 feet from the river-face of the abutment wall on Neville Island to the river-face of the abutment wall on the left bank of the Ohio River back channel.

The project consists of one new 110 x 600 foot lock main chamber to replace the existing auxiliary 56 x 360 foot lock chamber and repair of items that fail on the existing 110 x 600 foot main lock chamber. The existing main lock chamber would become the auxiliary chamber upon completion and commissioning of the new main lock chamber.

The main channel dam would also be modified under the project to accommodate the new lock chamber. The fixed crest weir adjacent to the existing river wall would be demolished along with dam pier #1, vertical lift gate #1, a portion concrete gate sill #1. Additionally, the dam apron and downstream scour protection from the fixed crest weir to pier #2 would be removed.

Temporary cofferdams and cofferboxes will be constructed to complete construction of the project in dry conditions. The area within the cofferdams will be dewatered and excavated to install the new lock chamber features. The cofferboxes will be used to construct the new walls.

GENERAL DESCRIPTION OF DREDGED OR FILL MATERIAL: The material to be excavated includes a mixture of sand, silt, clay and gravel derived from both glacial deposits and the native weather rock sources. Overburden soils will be excavated to the top of the rock at locations of structural elements construction and within cofferdams. Borrow material will be

required for use in cofferdam fill and berm construction. Dredge material could potentially be used for borrow material, if found suitable.

DESCRIPTION OF PROPOSED DISCHARGE SITE: Excavated materials will be transported by barge to an offloading area and transferred to trucks for hauling to an approved disposal facility. Availability of disposal sites, relative cost of disposal and beneficial use of excavated materials will all be investigated during the Preconstruction Engineering and Design phase.

The area under the upstream guard wall curtain will have a rock berm to control the current and velocity through the wall to improve navigation. The rock berm will consist of approximately 2,125 CY of material. The rock berm cross section is shown on Plate A-1D, Guard and Guide Wall Sections.

404(b)(1) Factual Determinations for Discharges of Dredged or Fill Material [33 CFR 320.4(a-r), 33 CFR 325 App B, and 40 CFR 230.11 and 230.20 - 230.77]

Section 404(b)(1) Guidelines Impact Analysis (Subparts C-F).

Substrate: The particle shapes, sizes, and compactions of the substrate will differ from the discharge material. The sediment is a mixture of silt, sand and gravel. The rock berm will consist of broken stone, 50 lb average, placed to produce a reasonable uniform surface and slope as shown on Plate A-1D, Guard and Guide Wall Sections.

Suspended particulates/turbidity: Excavation of overburden during in the wet conditions has the potential to increase Total Suspended Solids and increase turbidity. This is expected to be minor and temporary during cofferbox/cofferdam construction. The majority of the excavation will occur within dry cofferdam areas. In addition, the NPDES permit will have conditions to assure the proposed project will not violate Sections 401 and 402 of the CWA.

Water: In total, the project will impact approximately 2, 265 linear feet (overall length of the new river wall, upstream guard wall and downstream guard wall) of the Ohio River. Additionally, Lowries Run, a trout-stocked fishery, will be dredged and approximately 12,000 cubic yards of material will be removed.

Current patterns and water circulation: Water flow will be slightly altered in the construction of the new locks. By removing the accumulated sediment from Lowries Run, the water flow and circulation will be improved.

Normal water level fluctuations: Normal water flow will remain. No alterations to the existing pool level are anticipated.

Salinity gradients: N/A

Threatened and endangered species: Potential effects of the project have been analyzed relative to Federally-listed threatened and endangered species with potential for occurrence in the vicinity of the proposed project pursuant to the relevant laws and regulations. Recent mussel surveys completed in the project area have resulted in no findings of Threatened or Endangered species. Informal consultation with the U.S. Fish and Wildlife Service was completed and comments were received December 2009.

Fish, crustaceans, mollusks, and other aquatic organisms in the food web: The aquatic ecosystem within the footprint of the project will be permanently impacted. The majority of the impacts will occur during construction or from the loss of substrate from construction. It is likely that benthic organisms will be impacted by the proposed action; however, due to the constant movement of material by currents, benthic organism diversity and abundance would appear to be low. Research conducted by the U.S. Army Corps of Engineers, Engineering, Research and Development Center (ERDC) under the Dredged Material Research Program suggests that the benthic community is adapted to a wide range of naturally occurring environmental changes. No long-term or significant changes in community structure or function are expected.

Other wildlife: Minimal impact is anticipated during the life of the operation.

Special aquatic sites: N/A

Sanctuaries and refuges: N/A

Wetlands: No wetlands will be impacted by the project. NRCS soil survey mapping indicated the soils at the proposed batch plant site were not hydric.

Mud flats: N/A

Vegetated shallows: N/A

Coral reefs: N/A

Riffle and pool complexes: N/A

Municipal and private water supplies: There are approximately 16 water intake structures in the Emsworth Pool of the Ohio River. The closest upstream water intake is the West View Municipal Authority, near river mile 5.0, left descending bank, at the head of Neville Island. The nearest downstream water intake is Coraopolis Borough, at mile 10.3 on the left descending bank. The project will not affect these intakes.

Recreational and commercial fisheries: The existing main chamber will operate during the construction period. The project should not impact recreational fishing, other than potential minor delays for lockages.

Water-related recreation: The main chamber will remain open during construction. The project is not expected to impact water-related recreation.

Aesthetics: The project involves maintenance to an existing structure. Aesthetics should not be affected.

Possible Cumulative and Secondary Impacts: The proposed project is not expected to result in more than minimal adverse environmental effects, both individually and cumulatively, on the aquatic environment.

Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: None present within the local area.

Determination: Evaluation of Compliance with 404(b)(1) Guidelines.

Alternatives Test [40 CFR 230.10(a)]:

Are there available, practicable alternatives having less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into “waters of the U.S.” or at other locations within these waters?

Yes. No. **Explain rationale for decision:** The existing structure is in need of upgrades due to age, condition and usability issues. Upgrading the existing structure will have less impact than construction of new facilities at another location.

Based on Section 4.0, if the project is in a special aquatic site and is not water dependent, has the applicant clearly demonstrated that there are no practicable alternative sites available?

Yes. No. **Explain rationale for decision:** Project is water-dependent.

Special Restrictions [40 CFR 230.10(b)].

Will the discharge violate state water quality standards?

Yes. No. **Explain rationale for decision:** The project will be coordinated with the Pennsylvania DEP for an NPDES permit and any other water quality requirements.

Violate toxic effluent standards [under Section 307] of the Clean Water Act?

Yes. No. **Explain rationale for decision:** Discharges will only consist of clean rock and incidental fall back of sediments.

Jeopardize endangered or threatened species or their critical habitat?

Yes. No. **Explain rationale for decision:** Recent surveys in the vicinity of the project did not reveal any threatened or endangered species or suitable habitat. Coordination with USFWS was completed in December 2009.

Violate standards set by the Department of Commerce to protect marine sanctuaries?

Yes. No. **Explain rationale for decision:** N/A

Other restrictions [40 CFR 230.10(c)]:

Will the discharge contribute to significant degradation of “waters of the U.S.” through adverse impacts to adjacent waters:

Yes. No. **Explain rationale for decision:**

The project has been designed to minimize adverse impacts to adjacent waters. Storm water discharged from this project during construction will be managed in accordance with a storm water pollution prevention plan developed pursuant to an NPDES general permit for the discharge of storm water. Prior to construction activities, all potential environmental receptors will be identified and protective measures will be taken to protect these receptors from potential discharges of contaminants. In addition, care will be exercised during construction operations to prevent releases from machinery and fuel sources and/or to contain and cleanup spills or releases that could potentially impact soil, groundwater, or surface water resources through various receptors.

Actions to minimize potential adverse impacts [40 CFR 230.10(d)]?

Will all appropriate and practicable steps [40 CFR 230.70-77] be taken to minimize adverse impacts of the discharge on the aquatic ecosystem? Does the proposal include satisfactory compensatory mitigation for losses of aquatic resources [33 CFR 332, 40 CFR 230, Subpart J]?

Yes. No. **Explain rationale for decision:** Mitigation in the form of aquatic habitat enhancement or conservation areas is formulated and recommended in the feasibility report.

Findings of Compliance with the 404(b)(1) Guidelines [40 CFR 230.12]:

- The discharge complies with the guidelines.
- The discharge complies with the guidelines, with the inclusion of the appropriate and practicable conditions listed in Appendix C to minimize pollution or adverse effects to the affected ecosystem.
- The discharge fails to comply with the requirements of these guidelines because:
- There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem and that alternative does not have other significant adverse environmental consequences.
 - The proposed discharge will result in significant degradation of the aquatic ecosystem under 40 CFR 230.10(b) or (c).
 - The discharge does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem, namely.... **Explain:**
 - There is not sufficient information to make a reasonable judgment as to whether or not the proposed discharge will comply with the guidelines.

Evaluator

Chief, Regulatory Branch

SECTION 404(b)(1) EVALUATION

Upper Ohio Navigation Study – Dashields Locks and Dam

Allegheny County, Pennsylvania

PROJECT LOCATION: The Dashields Locks and Dam are located on the Ohio River, mile 13.3, in Allegheny County, Pennsylvania. The dam runs between Edgeworth, to the north, and Glenwillard, to the south.

PROJECT DESCRIPTION: The U.S. Army Corps of Engineers, Pittsburgh District, proposes to modify the existing Dashields Locks and Dam. The Dashields Locks are dual, adjacent chambers located on the left bank of the river at river mile 13.3. The main chamber occupies the landward position and has clear dimensions of 110' x 600'. The adjacent smaller chamber occupies the riverward position with clear dimensions of 56' x 360'. The upper and lower guard walls consist of a series of individual sheet-pile cells.

The uncontrolled, overflow fixed-crest dam has an overall length of 1,585 feet from the river face of the river wall to the river face of the abutment wall on the right bank. The crest elevation is 692.0 and the vertical-lift between the upper and lower pool (elevation 682.0) is 10 feet.

The project consists of one new 110 x 600 foot lock main chamber to replace the existing auxiliary 56 x 360 foot lock chamber and repair of items that fail on the existing 110 x 600 foot main lock chamber. The existing main lock chamber would become the auxiliary chamber upon completion and commissioning of the new main lock chamber.

Modifications to the dam are included in the project. A portion of the fixed crest weir adjacent to the existing river wall would be demolished to accommodate the new lock chamber and construction of a new gated dam section (one gate bay and two piers). The existing abutment will be repaired and stabilized.

Temporary cofferdams and cofferboxes will be constructed to complete construction of the project in dry conditions. The area within the cofferdams will be dewatered and excavated to install the new lock chamber features. The cofferboxes will be used to construct the majority of the lock monoliths for the river, middle and approach walls.

GENERAL DESCRIPTION OF DREDGED OR FILL MATERIAL: The material to be excavated includes a mixture of sand, silt, clay and gravel derived from both glacial deposits and the native weather rock sources. Overburden soils will be excavated to the top of the rock at locations of structural elements construction and within cofferdams. Borrow material will be required for use in cofferdam fill and berms. Dredge material could potentially be used for borrow material, if found suitable.

DESCRIPTION OF PROPOSED DISCHARGE SITE: Excavated materials will be transported by barge to an offloading area and transferred to trucks for hauling to an approved disposal facility. Availability of disposal sites, relative cost of disposal and beneficial use of excavated materials will all be investigated during the Preconstruction Engineering and Design phase.

The area under the upstream guard wall curtain will have a rock berm to control the current and velocity through the wall to improve navigation. The rock berm will consist of approximately 5,595 CY of material. The rock berm cross section is shown on Plate A-1D, Guard and Guide Wall Sections.

404(b)(1) Factual Determinations for Discharges of Dredged or Fill Material [33 CFR 320.4(a-r), 33 CFR 325 App B, and 40 CFR 230.11 and 230.20 - 230.77]

Section 404(b)(1) Guidelines Impact Analysis (Subparts C-F).

Substrate: The particle shapes, sizes, and compactions of the substrate will differ from the discharge material. The sediment is a mixture of silt, sand and gravel. The rock berm will consist of broken stone, 50 lb average, placed to produce a reasonable uniform surface and slope as shown on Plate A-1D, Guard and Guide Wall Sections.

Suspended particulates/turbidity: Excavation of overburden during in the wet conditions has the potential to increase Total Suspended Solids and increase turbidity. This is expected to be minor and temporary during cofferbox/cofferdam construction. The majority of the excavation will occur within dry cofferdam areas. In addition, the NPDES permit have conditions to assure the proposed project will not violate Sections 401 and 402 of the CWA.

Water: In total, the project will impact approximately 2,265 linear feet of the Ohio River

Current patterns and water circulation: Water flow will be slightly altered in the construction of the new locks.

Normal water level fluctuations: Normal water flow will remain the same pool elevation. No alterations to the existing pool level are anticipated.

Salinity gradients: N/A

Threatened and endangered species: Potential effects of the project have been analyzed relative to Federally-listed threatened and endangered species with potential for occurrence in the vicinity of the proposed project pursuant to the relevant laws and regulations. Recent mussel surveys completed in the project area have resulted in no findings of Threatened or Endangered

species. Informal consultation with the U.S. Fish and Wildlife Service was completed and comments were received December 2009.

Fish, crustaceans, mollusks, and other aquatic organisms in the food web: The aquatic ecosystem within the footprint of the project will be permanently impacted. The majority of the impacts will occur during construction or from the loss of substrate from construction. It is likely that benthic organisms will be impacted by the proposed action; however, due to the constant movement of material by currents, benthic organism diversity and abundance would appear to be low. Research conducted by the U.S. Army Corps of Engineers, Engineering, Research and Development Center (ERDC) under the Dredged Material Research Program suggests that the benthic community is adapted to a wide range of naturally occurring environmental changes. No long-term or significant changes in community structure or function are expected.

Other wildlife: Minimal impact is anticipated during the life of the operation.

Special aquatic sites: N/A

Sanctuaries and refuges: N/A

Wetlands: No wetlands will be impacted by the project. NRCS soil survey mapping indicated the soils at the proposed batch plant site were not hydric.

Mud flats: N/A

Vegetated shallows: N/A

Coral reefs: N/A

Riffle and pool complexes: N/A

Municipal and private water supplies: There are approximately 7 water intake structures in the Dashields Pool of the Ohio River. The closest upstream water intake is the Edgeworth Water Company, near river mile 12.7. The nearest downstream water intake is Leetsdale Industrial Corporation, on the right descending bank, mile 14.4. The project will not affect these intakes.

Recreational and commercial fisheries: The existing main chamber will operate during the construction period. The project should not impact recreational fishing, other than potential minor delays for lockages.

Water-related recreation: The main chamber will remain open during construction. The project is not expected to impact water-related recreation.

Aesthetics: The project involves maintenance to an existing structure. Aesthetics should not be affected.

Possible Cumulative and Secondary Impacts: The proposed project is not expected to result in more than minimal adverse environmental effects, both individually and cumulatively, on the aquatic environment.

Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: None present within the local area.

Determination: Evaluation of Compliance with 404(b)(1) Guidelines.

Alternatives Test [40 CFR 230.10(a)]:

Are there available, practicable alternatives having less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into “waters of the U.S.” or at other locations within these waters?

Yes. **No. Explain rationale for decision:** The existing structure is in need of upgrades due to age, condition and usability issues. Upgrading the existing structure will have less impact than construction of new facilities at another location.

Based on Section 4.0, if the project is in a special aquatic site and is not water dependent, has the applicant clearly demonstrated that there are no practicable alternative sites available?

Yes. **No. Explain rationale for decision:** Project is water-dependent.

Special Restrictions [40 CFR 230.10(b)].

Will the discharge violate state water quality standards?

Yes. **No. Explain rationale for decision:** The project will be coordinated with the Pennsylvania DEP for an NPDES permit and any other water quality requirements.

Violate toxic effluent standards [under Section 307] of the Clean Water Act?

Yes. **No. Explain rationale for decision:** Discharges will only consist of clean rock and incident fall back of sediments.

Jeopardize endangered or threatened species or their critical habitat?

Yes. **No. Explain rationale for decision:** Recent surveys in the vicinity of the project did not reveal any threatened or endangered species or suitable habitat. Coordination with USFWS was completed in December 2009.

Violate standards set by the Department of Commerce to protect marine sanctuaries?

Yes. No. Explain rationale for decision: N/A

Other restrictions [40 CFR 230.10(c)]:

Will the discharge contribute to significant degradation of “waters of the U.S.” through adverse impacts to adjacent waters:

Yes. No. Explain rationale for decision:

The project has been designed to minimize adverse impacts to adjacent waters. Storm water discharged from this project during construction will be managed in accordance with a storm water pollution prevention plan developed pursuant to an NPDES general permit for the discharge of storm water. Prior to construction activities, all potential environmental receptors will be identified and protective measures will be taken to protect these receptors from potential discharges of contaminants. In addition, care will be exercised during construction operations to prevent releases from machinery and fuel sources and/or to contain and cleanup spills or releases that could potentially impact soil, groundwater, or surface water resources through various receptors.

Actions to minimize potential adverse impacts [40 CFR 230.10(d)]?

Will all appropriate and practicable steps [40 CFR 230.70-77] be taken to minimize adverse impacts of the discharge on the aquatic ecosystem? Does the proposal include satisfactory compensatory mitigation for losses of aquatic resources [33 CFR 332, 40 CFR 230, Subpart J]?

Yes. No. Explain rationale for decision: Mitigation in the form of aquatic habitat enhancement or conservation areas is formulated and recommended in the feasibility report.

Findings of Compliance with the 404(b)(1) Guidelines [40 CFR 230.12]:

- The discharge complies with the guidelines.
- The discharge complies with the guidelines, with the inclusion of the appropriate and practicable conditions listed in Appendix C to minimize pollution or adverse effects to the affected ecosystem.
- The discharge fails to comply with the requirements of these guidelines because:
- There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem and that alternative does not have other significant adverse environmental consequences.
 - The proposed discharge will result in significant degradation of the aquatic ecosystem under 40 CFR 230.10(b) or (c).
 - The discharge does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem, namely.... **Explain:**
 - There is not sufficient information to make a reasonable judgment as to whether or not the proposed discharge will comply with the guidelines.

Evaluator

Chief, Regulatory Branch

SECTION 404(b)(1) EVALUATION

Upper Ohio Navigation Study – Montgomery Locks and Dam

Allegheny County, Pennsylvania

PROJECT LOCATION: The Montgomery Locks and Dam are located on the Ohio River, mile 31.7, in Beaver County, Pennsylvania. The dam runs between Industry Borough, to the north, and Potter Township, to the south.

PROJECT DESCRIPTION: The U.S. Army Corps of Engineers, Pittsburgh District, proposes to modify the existing Montgomery Locks and Dam. The Montgomery Locks are dual, adjacent chambers located on the left bank of the river at river mile 31.7. The main chamber occupies the landward position and has clear dimensions of 110' x 600'. The adjacent smaller chamber occupies the riverward position with clear dimensions of 56' x 360'. The upper and lower guard walls consist of a series of individual sheet-pile cells.

The dam is comprised of a controlled spillway consisting of 10 vertical-lift, gated sections. Each section is 100 feet in length with a sill at elevation 667.0 and an uncontrolled overflow spillway section (fixed-crest weir) consisting of 2 fixed weir sections, one 109.5 feet in length adjacent to the abutment wall and the other 100.25 feet in length adjacent to the River Wall. The crest elevation is 680.33 and the vertical-lift between the upper and lower pool (664.5) is 17.5 feet. The overall length of the dam, from the River Wall to the abutment wall is 1,378.75 feet, including the fixed-crest weirs and gated spillways.

The project consists of one new 110 x 600 foot lock main chamber to replace the existing auxiliary 56 x 360 foot lock chamber and repair of items that fail on the existing 110 x 600 foot main lock chamber. The existing main lock chamber would become an auxiliary chamber upon completion and commissioning of the new lock chamber.

Modifications to the dam are included in the project to accommodate the new lock chamber. The fixed crest weir adjacent to the existing river wall would be demolished along with pier #1, vertical lift gate #1, a portion of gate sill #1, and the service bridge at gate #1. A new pier #1 will be built on top of the new River Wall, and a new gated dam section #1 will be completed.

Temporary cofferdams and cofferboxes will be constructed to complete construction of the project in dry conditions. The area within the cofferdams will be dewatered and excavated to install the new lock chamber features. The cofferboxes will be used to construct the majority of the lock monoliths for the river, middle and approach walls.

GENERAL DESCRIPTION OF DREDGED OR FILL MATERIAL: The material to be excavated includes a mixture of sand, silt, clay and gravel derived from both glacial deposits and

the native weather rock sources. Overburden soils will be excavated to the top of the rock at locations of structural elements construction and within cofferdams. Borrow material will be required for use in cofferdam fill and berms. Dredge material could potentially be used for borrow material, if found suitable.

DESCRIPTION OF PROPOSED DISCHARGE SITE: Excavated materials will be transported by barge to an offloading area and transferred to trucks for hauling to an approved disposal facility. Availability of disposal sites, relative cost of disposal and beneficial use of excavated materials will all be investigated during the Preconstruction Engineering and Design phase.

The area under the upstream guard wall curtain will have a rock berm to control the current and velocity through the wall to improve navigation. The rock berm will consist of approximately 1,426 CY of material. The rock berm cross section is shown on Plate __, Guard and Guide Wall Sections.

404(b)(1) Factual Determinations for Discharges of Dredged or Fill Material [33 CFR 320.4(a-r), 33 CFR 325 App B, and 40 CFR 230.11 and 230.20 - 230.77]

Section 404(b)(1) Guidelines Impact Analysis (Subparts C-F).

Substrate: The particle shapes, sizes, and compactions of the substrate will differ from the discharge material. The sediment is a mixture of silt, sand and gravel. The rock berm will consist of broken stone, 50 lb average, placed to produce a reasonable uniform surface and slope as shown on **Plate A-1D, Guard and Guide Wall Sections.**

Suspended particulates/turbidity: Excavation of overburden during in the wet conditions has the potential to increase Total Suspended Solids and increase turbidity. This is expected to be minor and temporary during cofferbox/cofferdam construction. The majority of the excavation will occur within dry cofferdam areas. In addition, the NPDES permit has conditions to assure the proposed project will not violate Sections 401 and 402 of the CWA.

Water: In total, the project will impact approximately 2,265 linear feet (overall length of the new river wall, upstream guard wall and downstream guard wall) of the Ohio River.

Current patterns and water circulation: Water flow will be slightly altered in the construction of the new locks.

Normal water level fluctuations: Normal water flow will remain the same pool elevation. No alterations to the existing pool level are anticipated.

Salinity gradients: N/A

Threatened and endangered species: Potential effects of the project have been analyzed relative to Federally-listed threatened and endangered species with potential for occurrence in the vicinity of the proposed project pursuant to the relevant laws and regulations. Recent mussel surveys completed in the project area have resulted in no findings of Threatened or Endangered species. Informal consultation with the U.S. Fish and Wildlife Service was completed and comments were received December 2009.

Fish, crustaceans, mollusks, and other aquatic organisms in the food web: The aquatic ecosystem within the footprint of the project will be permanently impacted. The majority of the impacts will occur during construction or from the loss of substrate from construction. It is likely that benthic organisms will be impacted by the proposed action; however, due to the constant movement of material by currents, benthic organism diversity and abundance would appear to be low. Research conducted by the U.S. Army Corps of Engineers, Engineering, Research and Development Center (ERDC) under the Dredged Material Research Program suggests that the benthic community is adapted to a wide range of naturally occurring environmental changes. No long-term or significant changes in community structure or function are expected.

Other wildlife: Minimal impact is anticipated during the life of the operation.

Special aquatic sites: N/A

Sanctuaries and refuges: N/A

Wetlands: No wetlands will be impacted by the project. NRCS soil survey mapping indicated the soils at the proposed batch plant site were not hydric.

Mud flats: N/A

Vegetated shallows: N/A

Coral reefs: N/A

Riffle and pool complexes: N/A

Municipal and private water supplies: There are approximately 19 water intake structures in the Montgomery Pool of the Ohio River. The closest upstream water intake is NOVA Chemical, near river mile 29.5. The nearest municipal water intake is for Beaver Borough, near mile 26.1. The nearest downstream water intake is at Pennsylvania Power Mansfield Plant, left descending bank, mile 33.6. The project will not affect these intakes.

Recreational and commercial fisheries: The existing main chamber will operate during the construction period. The project should not impact recreational fishing, other than potential minor delays for lockages.

Water-related recreation: The main chamber will remain open during construction. The project is not expected to impact water-related recreation.

Aesthetics: The project involves maintenance to an existing structure. Aesthetics should not be affected.

Possible Cumulative and Secondary Impacts: The proposed project is not expected to result in more than minimal adverse environmental effects, both individually and cumulatively, on the aquatic environment.

Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: None present within the local area.

Determination: Evaluation of Compliance with 404(b)(1) Guidelines.

Alternatives Test [40 CFR 230.10(a)]:

Are there available, practicable alternatives having less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into “waters of the U.S.” or at other locations within these waters?

Yes. No. **Explain rationale for decision:** The existing structure is in need of upgrades due to age, condition and usability issues. Upgrading the existing structure will have less impact than construction of new facilities at another location.

Based on Section 4.0, if the project is in a special aquatic site and is not water dependent, has the applicant clearly demonstrated that there are no practicable alternative sites available?

Yes. No. **Explain rationale for decision:** Project is water-dependent.

Special Restrictions [40 CFR 230.10(b)].

Will the discharge violate state water quality standards?

Yes. No. **Explain rationale for decision:** The project will be coordinated with the Pennsylvania DEP for an NPDES permit and any other water quality requirements.

Violate toxic effluent standards [under Section 307] of the Clean Water Act?

Yes. No. **Explain rationale for decision:** Discharges will only consist of clean rock and incident fall back of sediments.

Jeopardize endangered or threatened species or their critical habitat?

Yes. No. **Explain rationale for decision:** Recent surveys in the vicinity of the project did not reveal any threatened or endangered species or suitable habitat. Coordination with USFWS was completed in December 2009.

Violate standards set by the Department of Commerce to protect marine sanctuaries?

Yes. No. **Explain rationale for decision:** N/A

Other restrictions [40 CFR 230.10(c)]:

Will the discharge contribute to significant degradation of “waters of the U.S.” through adverse impacts to adjacent waters:

Yes. No. **Explain rationale for decision:**

The project has been designed to minimize adverse impacts to adjacent waters. Storm water discharged from this project during construction will be managed in accordance with a storm water pollution prevention plan developed pursuant to an NPDES general permit for the discharge of storm water. Prior to construction activities, all potential environmental receptors will be identified and protective measures will be taken to protect these receptors from potential discharges of contaminants. In addition, care will be exercised during construction operations to prevent releases from machinery and fuel sources and/or to contain and cleanup spills or releases that could potentially impact soil, groundwater, or surface water resources through various receptors.

Actions to minimize potential adverse impacts [40 CFR 230.10(d)]?

Will all appropriate and practicable steps [40 CFR 230.70-77] be taken to minimize adverse impacts of the discharge on the aquatic ecosystem? Does the proposal include satisfactory compensatory mitigation for losses of aquatic resources [33 CFR 332, 40 CFR 230, Subpart J]?

Yes. No. **Explain rationale for decision:** Mitigation in the form of aquatic habitat enhancement or conservation areas is formulated and recommended in the feasibility report.

Findings of Compliance with the 404(b)(1) Guidelines [40 CFR 230.12]:

- The discharge complies with the guidelines.
- The discharge complies with the guidelines, with the inclusion of the appropriate and practicable conditions listed in Appendix C to minimize pollution or adverse effects to the affected ecosystem.
- The discharge fails to comply with the requirements of these guidelines because:
- There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem and that alternative does not have other significant adverse environmental consequences.
 - The proposed discharge will result in significant degradation of the aquatic ecosystem under 40 CFR 230.10(b) or (c).
 - The discharge does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem, namely.... **Explain:**
 - There is not sufficient information to make a reasonable judgment as to whether or not the proposed discharge will comply with the guidelines.

Evaluator

Chief, Regulatory Branch