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U.S. ARMY ENGINEER DIVISION, GREAT LAKES AND OHIO RIVER
CORPS OF ENGINEERS
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CINCINNATI, OH 45202-3222

JAN 13 2010

CELRD-PDS P (1105)

MEMORANDUM FOR Commander, Louisville District, Attn: [REDACTED] (CELRD-PM-P)

SUBJECT: Review Plan Approval for Locks and Dams 52 and 52 Replacement Project (Olmsted Locks and Dam) Post Authorization Change Report (PACR)

1. The enclosed Review Plan for the Olmsted PACR has been prepared in accordance with EC 1165-2-209 dated 31 January 2010. The Review Plan has been coordinated with the Planning Center of Expertise for Inland Navigation (PCXIN) which is the lead entity to execute this Review Plan. The Review Plan includes independent external peer review.
2. I hereby approve this Review Plan, which has been endorsed by the technical directors of the PCXIN. This Review Plan is subject to change as study circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution will require new written approval from this office.
3. Questions may be directed to [REDACTED] at phone (513) 684-3598.

Encl

[REDACTED]
Chief, Planning & Policy Division

REVIEW PLAN

**LOCKS AND DAMS 52 AND 53 REPLACEMENT PROJECT (OLMSTED LOCK
AND DAM), IL & KY
POST-AUTHORIZATION CHANGE REPORT**

LOUISVILLE DISTRICT



**US Army Corps
of Engineers®**

FEBRUARY 2010

REVIEW PLAN
LOCKS AND DAMS 52 AND 53 REPLACEMENT PROJECT (OLMSTED LOCK
AND DAM), IL & KY
POST-AUTHORIZATION CHANGE REPORT
LOUISVILLE DISTRICT

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1. PURPOSE AND REQUIREMENTS

A. Purpose.

This document outlines the Review Plan for the Locks and Dams 52 and 53 Replacement Project (the construction of Olmsted Lock and Dam) Post-Authorization Change Report (PACR). EC 1165-2-209, *Civil Works Review Policy*, dated 31 January 2010, outlines the policy on review of decision documents, particularly with regards to Independent External Peer Review (IEPR) and Safety Assurance Review (SAR), which is also referred to as a Type II IEPR. As this is the most current guidance available on review policy, this review plan and the performance of the reviews described herein will conform to the formats, procedures and guidance laid down in EC 1165-2-209.

B. Requirements.

EC 1165-2-209 outlines the requirement of the three review approaches (DQC, ATR, and IEPR) and provides guidance on Corps Planning Centers of Expertise (PCX) involvement in the approaches. This document addresses review of the decision document as it pertains to both approaches and planning coordination with the appropriate PCX. This Post-Authorization Change document deals with an existing Inland Navigation Project, and therefore falls under the purview of the Planning Center of Expertise for Inland Navigation (PCXIN).

(1) District Quality Control. DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). It is managed in the District and may be conducted by in-house staff as long as the reviewers are not doing the work involved in the study, including contracted work that is being reviewed. Basic quality control tools include a Quality Management Plan (QMP) providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. Additionally, the PDT is responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before the approval by the District Commander. For the Study, non-PDT members and/or supervisory staff will conduct this review for major draft and final products following review of those products by the PDT. The Major Subordinate Command (MSC)/District are directly responsible for the QM and QC respectively, and to conduct and document this fundamental level of review. A Quality Control Plan (QCP) was included in the PMP for the subject study and addresses DQC by the MSC/District. DQC is not addressed further in this Review Plan.

(2) Agency Technical Review (ATR). The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and

professional practices. The ATR is an in-depth review, managed within USACE, and conducted by a qualified team outside of the home district that is not involved in the day-to-day production of a project/product. The ATR team reviews the various work products and assures that all the parts fit together in a coherent whole. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.) and may be supplemented by outside experts as appropriate. To assure independence, the leader of the ATR team shall be from outside the home MSC. EC 1105-2-408 first established the requirement that DrChecks (<https://www.projnet.org/projnet/>) be used to document all ATR comments, responses, and associated resolution accomplished. An ATR of all work products, including review of all methodologies, assumptions and plans as well as policy review, has previously been accomplished for the L&D 52 and 53 Replacement Project Post Authorization Change Report, predating this Review Plan. As no changes to these assumptions, methods, or application of policy have occurred since the certification of ATR on 21 March 2008, this RP will focus instead on the Independent External Peer Review process. No further ATR is envisioned for this report.

(3) Independent External Peer Review. EC 1165-2-209 delineates the definition of IEPR, into Types I and II, the latter of which being synonymous with Safety Assurance Review. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. Type I IEPR is managed by an outside eligible organization (OEO) that is described in the Internal Review Code Section 501(c)(3), is exempted from Federal tax under Section 501(a), of the Internal Revenue Code of 1986; is independent; is free from conflicts of interest; does not carry out or advocate for or against Federal water resources projects; and has experience in establishing and administering IEPR panels. The scope of review will address all the underlying planning, engineering, including safety assurance, economics, and environmental analyses performed, not just one aspect of the project. The IEPR will focus on the technical aspects of the project. This Review Plan outlines the planned approach to meeting this requirement for the Study. Type I IEPR is required for this study.

(4) Safety Assurance Review / Type II IEPR. In accordance with Section 2035 of WRDA 2007 and EC 1165-2-209, all projects addressing flooding or storm damage reduction are required to undergo a safety assurance review during design and construction. Per EC 1165-2-209, "A Type II IEPR (SAR) shall be conducted on design and construction activities for hurricane and storm risk management and flood risk management projects, as well as other projects where existing and potential hazards pose a significant threat to human life." Safety assurance factors must be considered in all reviews for those studies. Type II IEPR / SAR is not required for this study.

(5) Policy and Legal Compliance Review. In addition to the technical reviews, decision documents will be reviewed throughout the study process for their compliance with law and policy. These reviews culminate in Washington-level determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority

by the Chief of Engineers. Guidance for policy and legal compliance reviews is addressed further in Appendix H, ER 1105-2-100. Technical reviews described in EC 1165-2-209 are to augment and complement the policy review processes by addressing compliance with published Army policies pertinent to planning products, particularly policies on analytical methods and the presentation of findings in decision documents. DQC and ATR efforts are to include the necessary expertise to address compliance with published planning policy. Counsel will generally not participate on ATR teams, but may at the discretion of the district or as directed by higher authority. When policy and/or legal concerns arise during DQC or ATR efforts that are not readily and mutually resolved by the PDT and the reviewers, the District will seek issue resolution support from the MSC and HQUSACE in accordance with the procedures outlined in Appendix H, ER 1105-2-100. IEPR teams are not expected to be knowledgeable of Army and administration policies, nor are they expected to address such concerns. An IEPR team should be given the flexibility to bring important issues to the attention of decision makers.

(6) Planning Center of Expertise (PCX) Coordination. EC 1165-2-209 outlines PCX coordination in conjunction with preparation of the Review Plan. This Review Plan is being coordinated with the PCX for Inland Navigation (PCXIN). The PCXIN is responsible for the accomplishment of IEPR for the Study. The DQC is the responsibility of the MSC/District. The PCXIN will manage the IEPR review to be conducted by others.

(7) Review Plan Approval and Posting. In order to ensure the Review Plan is in compliance with the principles of EC 1165-2-209 and the MSC's QMP, the Review Plan must be endorsed by the PCXIN and approved by the applicable MSC, in this case the Commander, Great Lakes and Ohio River Division (LRD). Once the Review Plan is approved, the District will post it to its district public website and notify LRD and the PCXIN.

2. STUDY INFORMATION

A. Decision Document.

The Locks and Dams 52 and 53 Replacement Project Post Authorization Change Report is intended to recommend an increase in the maximum amount that the U.S. Army Corps of Engineers is authorized to spend to complete Olmsted Locks and Dam, and to document the reasons for the recommendation. The report is required because the current estimated cost of completing the Project exceeds the maximum cost limit, as defined in Section 902 of the Water Resources Development Act of 1988 ("Section 902 cost limit"). The authorized cost for the Olmsted Locks and Dam Project, as stated in the Water Resources Development Act of 1988, is \$775,000,000. The fully-funded cost was estimated at \$1,389,031,000. The Section 902 cost limit is currently \$1,544,031,000.

The current cost estimate, without inflation and at the October 2007 price level, is \$1,991,999,999, of which, \$867,842,000 are sunk costs through September 2007. The

current cost estimate with inflation applied to the remaining cost to complete construction (i.e., fully-funded cost), at the October 2007 price level, is \$2,067,000,000. The \$2,067,000,000 figure exceeds the current Section 902 cost limit of \$1,554,031,000. The report documents the history and background of project costs, and serves as a basis for requesting approval of an increase in the authorized cost.

B. General Site Description.

The Olmsted locks and dam project provides for a structure near the community of Olmsted, Illinois at Ohio River Mile 964.4 that will replace the existing Locks and Dams 52 and 53, located between Paducah, KY and Cairo, IL. The structure will consist of twin 110-foot-wide by 1,200-foot-long locks adjacent to the Illinois bank, five tainter gates, a 1,400-foot-wide navigable pass, and a fixed weir extending to the Kentucky bank. During low flow conditions, an upper pool having an elevation of 300 feet Ohio River Datum at the dam will extend upstream to the Smithland Locks and Dam, a distance of 47 miles. Open river conditions will exist from the Olmsted Locks and Dam site downstream to the mouth of the Ohio River, a distance of approximately 17 miles.

C. Study Scope.

Construction of Olmsted Locks and Dam is currently ongoing. Louisville District awarded the first construction contract on 19 November 1992 to construct the Access Road and Resident Engineer's Office. The major contracts that have been awarded and completed since then include the Locks Cofferdam, the Locks, the Approach Walls and the Operating and Maintenance Bulkheads contracts. Louisville District awarded the construction of the Dam on the 28th of January, 2004. Other contracts to be awarded in the future include the Operation Buildings, Demolition of Locks and Dams 52 and 53, and various equipment contracts.

The cost of this project is being equally shared by Congressional appropriation and the navigation industry. Industry pays a tax on diesel fuel, which goes to the Inland Waterways Trust Fund. The trust fund then pays 50 percent of the project cost. The fully funded cost estimate for the construction of the project exceeds the Section 902 cost limit, and approval of an increase will be required before the project can be completed.

The Post Authorization Change Report represents no change to the authorized scope or purpose of the Olmsted L&D / L&D 52 and 53 Replacement Project, as well as no change to local cooperation requirements or the location of the project. Design changes however have been made post-authorization (Feasibility Report), as well as changes to project costs and benefits.

D. Problems and Opportunities.

The continuing growth in demand for waterborne commerce on the Ohio River requires periodic improvements in the waterways transportation infrastructure. Locks and Dams No. 52 and 53 were completed in 1929, and temporary 1200-foot long lock chambers were added later. The antiquated design and age of these structures however make it impossible to meet current traffic demands without significant delays.

The strategic reach of the Ohio River where these projects are located provides a connection between the Ohio, Tennessee, Cumberland, and Mississippi rivers. Barge traffic moving between the Mississippi River system and the Ohio, Tennessee, and Cumberland rivers must pass through this stretch of river. More tonnage passes this point than any other place in America's inland navigation system. The U.S. Army Corps of Engineers and the navigation industry, in a continuing effort to provide for the nation's future navigation needs, have undertaken to replace these aged facilities with the Olmsted Locks and Dam project, one of the largest civil works projects undertaken by the Corps.

The Corps of Engineers estimates that the Olmsted Locks and Dam project will produce average annual economic benefits to the nation of more than \$700 million. The new locks will operate more efficiently and will pass tows with fewer delays. Delays ultimately raise the price of commodities, which move on the waterways. Total lockage time will be reduced from approximately five hours through Locks and Dams No. 52 and 53 to less than one hour in the new project. The Corps estimates lockage wait times of 150 hours per tow by the year 2025 at Lock and Dam 52 without the new locks.

3. AGENCY TECHNICAL REVIEW (ATR)

An ATR has previously been completed for the Olmsted Locks and Dams Project PACR, and the reviewed report products have not changed since the approval of this review. The ATR approval memorandum is included as Appendix A.

4. INDEPENDENT EXTERNAL PEER REVIEW PLAN

The decision document will present the details of post-authorization changes during the course of design and construction of the Olmsted Locks and Dam project, including the cost increases above the Section 902 limit that have mandated the PACR. EC 1165-2-209 states thresholds that trigger an IEPR: "where there are public safety concerns, a high level of complexity, novel or precedent-setting approaches; where the Chief of Engineers determines that the project is controversial, has significant interagency interest, or has significant economic, environmental and social effects to the nation". IEPR is further mandatory in such cases as the total estimated project cost, including mitigation, exceeds \$45 million, or an EIS is required for the study.

Due to the size and complexity of the project, the Locks and Dams 52 and 53 Replacement Project has significant agency and public interest. Additionally the total fully-funded project cost exceeds the \$45 million (current fully-funded cost estimate, at Oct 2007 price levels, exceeds \$2 billion) threshold. An environmental impact statement was prepared in May of 1993, and a supplemental environmental assessment later completed in June 2002, to cover the alternative, in-the-wet construction techniques. The study does not however involve significant public safety concerns. In consideration of these factors, IEPR will be conducted. The cost of IEPR is currently estimated to be \$100,000. IEPR is a project cost. The IEPR panel review will be Federally-funded. In-house costs associated with obtaining the IEPR panel contract as well as responding to IEPR comments will be cost-shared expenses. It is not anticipated that the public,

including scientific or professional societies, will be asked to nominate potential external peer reviewers.

A. Project Magnitude.

For reasons described in the preceding paragraphs, the magnitude of this project is determined as high.

B. Project Risk.

This project is considered to have moderate overall risk. The replacement Locks and Dam structure is at the date of this Review Plan roughly 50% complete, however the size and complexity are considered to contribute to overall project risk.

C. Vertical Team Consensus.

This Review Plan will serve as the coordination document to obtain vertical team consensus. Subsequent to PCX endorsement, the plan will be provide to the vertical team for approval. MSC approval of the plan will indicate vertical team consensus.

D. Products for Review.

The full IEPR panel will receive the entire Post Authorization Change Report for review. The District will draft a response to the IEPR final report and process it through the vertical team. The Corps will issue final response to the IEPR panel and notify the public.

Disciplines that are anticipated to undergo IEPR are economics and cost engineering. The economics review(s) will review the analysis and assumptions used by study economists to revise and update project benefits, including the Waterways Analysis Model (WAM), and revisions to the without-project condition, including an assumption that major rehab work could be done within the analysis period to address the risk of structural failure. In addition, time-sensitive model input data, such transportation rates and waterway traffic demand forecasts, were updated from the 1990 report, as were the cost-closure matrices. The cost engineering reviewer(s) will review the changes in project costs across all feature codes, and the underlying justifications for these increases.

IEPR panel members will be identified in Appendix B after they have been selected. Work undertaken as part of these technical disciplines is relevant to justification of the project cost, complexities of design, and other potentially controversial aspects of the project. Of the products that will undergo IEPR, all have previously been reviewed by the PDT and undergone ATR prior to submittal for IEPR. This includes all relevant contractor work products.

E. Communication and Documentation.

The communication plan for the IEPR is as follows:

(1) The panel will use DrChecks to document the IEPR process. The lead planner will facilitate the creation of a project portfolio in the system to allow access by all PDT and a qualified Outside Eligible Organization (OEO). An electronic version of the document, appendices, and any significant and relevant public comments shall be posted in MS Office compatible or Adobe Acrobat format at:

<ftp://ftp.usace.army.mil/pub/> at least one business day prior to the start of the comment period.

The OEO will compile the comments of the IEPR panelists, enter them into DrChecks, and forwards the comments to the District. The District will consult the PDT and outside sources as necessary to develop a proposed response to each panel comment. The District will enter the proposed response into DrChecks, and then return the proposed response to the panel. The panel will reply to the proposed response through the OEO, again using DrChecks. This final panel reply may or may not concur with the District's proposed response and the panels final response will indicate concurrence or briefly explain what issue is blocking concurrence. There will be no final closeout iteration. The District will consult the vertical team and outside resources to prepare an agency response to each comment. The initial panel comments, the District's proposed response, the panel's reply to the District's proposed response, and the final agency response will all be tracked and archived in DrChecks for the administrative record. However, only the initial panel comments and the final agency responses will be posted.

(2) Each IEPR panel member shall download the appropriate documents.

(3) The lead planner shall inform the IEPR panel when all responses have been entered into DrChecks and conduct a briefing to summarize comment responses to highlight any areas of disagreement.

(4) A revised electronic version of the report and appendices with comments incorporated shall be posted at <ftp://ftp.usace.army.mil/pub/> for use during back checking of the comments.

(5) PDT shall contact the OEO for the IEPR as appropriate to seek clarification of a comment's intent or provide clarification of information in the report. Discussions shall occur outside of DrChecks but a summary of discussions may be provided in the system.

(6) The IEPR panel shall produce a final Review Report to be provided to the PDT. This report shall be scoped as part of the effort to engage the IEPR panel. The District will draft a response report to the IEPR final report and process it through the vertical team. Upon satisfactorily resolving any relevant follow-on actions, the Corps will finalize its response to the IEPR Review Report and will post both the Review Report and the Corps final responses to the public website.

F. Funding

The PCXIN will identify someone independent from the PDT to scope the IEPR and develop an Independent Government Estimate. The District will provide funding to the IEPR panel.

5. MODEL CERTIFICATION

For the purposes of this RP section, planning models are defined as any models and analytical tools that planners use to define water resources management problems and

opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision-making. It includes all models used for planning, regardless of their scope or source, as specified in the following sub-paragraphs.

The computational models employed in the Study have either been developed by or for the USACE. Model certification and approval for all identified planning models will be coordinated through the PCXIN as needed. Project schedules and resources will be adjusted to address this process for certification and PCXIN coordination. Models used were:

1. Ohio River Navigation Investment Model (ORNIM) – Developed by the Center for Transportation Analysis (CTA) in cooperation with the Great Lakes and Ohio River Division of the Corps of Engineers (LRD), ORNIM is a three component model; the Waterway Supply and Demand Module (WSDM), the Lock Risk Module (LRM), and the Optimization Module. The three components of the ORNIM model determine shipper equilibrium, use a Monte Carlo simulation to determine closure probabilities, and optimize investments, respectively. *Certification of ORNIM is currently in progress.*
2. Waterways Analysis Model (WAM) – The Waterways Analysis Model is used to estimate traffic/delay relationships, lock capacities, and simulating closure impacts on traffic. *Certification of WAM is currently in Progress.*
3. Barge Costing Model – The Barge Costing Model, which contains three modules; one-way general towing service, roundtrip general towing service, and a roundtrip dedicated towing service module, is used for rate estimation. *Certification of the Barge Costing Model is in Progress.*

6. PUBLIC REVIEW

Private individuals, elected officials, agencies, and all levels of government have been publically involved in the development of the project. The primary vehicle for public involvement has been the process of complying with the National Environmental Policy Act and its provisions for public involvement. The 1985 and 1993 Environmental Impact Statements each had a 45-day comment period for the draft documents followed by a 30-day comment period for the final documents. The 2002 Environmental Assessment had a 30-day comment period.

Public involvement is also part of the permitting process whether for Section 401 water quality certification under the Clean Water Act or for some other law or regulation. For example, changes involving Historic/Cultural Mitigation issues resulted from coordination with consulting parties undertaken in accordance with the National Historic Preservation Act (NHPA). Changes involving cultural resources/archaeology sites resulted from coordination with the Illinois and Kentucky State Historic Preservation Officer and Native American tribes in accordance with NHPA and the Native American

Graves Protection and Repatriation Act.

Public involvement and coordination was maintained with residents of local communities such as Paducah, KY and Olmsted, IL on Project features such as the disposition of L&D 52 and 53, construction of a new boat ramp at Olmsted, construction and operation of a contractor facility in Paducah, and purchase of mitigation lands in Ballard County, Kentucky.

In addition, this Review Plan, The IEPR Review Report, and the Corps' final responses will be posted to a public website for review and comment.

7. POINTS OF CONTACT

A. Project Delivery Team.

The PDT is comprised of those individuals directly involved in the development of the decision document. Individual contact information and disciplines are presented in Appendix B.

B. Vertical Team.

The Vertical Team includes District management, District Support Team (DST) and Regional Integration Team (RIT) staff as well as members of the Planning of Community of Practice (PCoP). Specific points of contact for the Vertical Team can be found in Appendix B.

C. PCX.

The appropriate PCX for this document is the Planning Center of Expertise for Inland Navigation, located in LRH. This Review Plan will be submitted to the PCXIN Program Manager for review and comment. Since an IEPR will be required, the PCX will be asked to manage the IEPR review. The approved Review Plan will be posted to the District's public website for public comment and consideration of public comments

D. Review Plan Points of Contact

The Points of Contact for questions and comments to this Review Plan are as follows:

1. District Point of Contact: [REDACTED] 502-315-6778
2. MSC Point of Contact: [REDACTED] 513-684-3598
3. PCXIN Point of Contact: [REDACTED] 304-399-6955

8. APPROVALS

The PDT will carry out the Review Plan as described. The lead planner will submit the Review Plan to the PCXIN for review and recommendation for approval. After PCXIN review and recommendation, the PDT District Planning Chief will forward the Review Plan to their respective MSC for commander approval. Formal coordination with PCX will occur through the PDT District Planning Chief.

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LOCKS AND DAMS 52 AND 53 REPLACEMENT PROJECT (OLMSTED LOCK
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**APPENDIX A
STATEMENT OF TECHNICAL REVIEW**

ITR CERTIFICATION OF DECISION DOCUMENT

The Post Authorization Change Report for the Olmsted Locks and Dam, IL & KY, navigation project, and associated appendices have been reviewed in accordance with the requirements of ER 1105-2-100 for independent technical review of decision documents. All concerns resulting from independent technical review have been considered and addressed. Comments and resolutions are documented in the attachment.

 _____ 13 March 2008
(Signature) (Date)
Project Manager for the Product Delivery Team, CELRL-PM-C

 _____ 12 March 2008
Assistant District Counsel, CELRL-OC

 _____ 17 March 08
Structural Engineer, CELRL-ED-D-S

 _____ 18 MAR 2008
Asst. Chief, Construction Division, CELRL-CD

DISTRICT CERTIFICATION OF POLICY COMPLIANCE

I have reviewed the Post Authorization Change Report for the Olmsted Locks and Dam, IL & KY, navigation project and concur that it is in compliance with current Corps of Engineers policy and guidance.

 _____ 17-March 2008
/ Chief, Planning Branch, CELRL-PM-P

COMPLETION and CERTIFICATION OF LEGAL REVIEW

The Post Authorization Change Report for the Olmsted Locks and Dam, IL & KY, navigation project has been full reviewed by the Office of Counsel, Louisville District, and is approved as legally sufficient.

 _____ 3/19/08
(Signature) (Date)
District Counsel, CELRL-OC

**Olmsted Locks and Dam, Illinois and Kentucky
Remaining Contract Cost Review**

Completion of Remaining Contract Review

The Walla Walla Cost Directory of Expertise performed a quality assurance review of the methodology used in determining contingency calculations for the Olmsted Dam Remaining Contract. The review analyzed the approach by the district in performing a risk assessment for remaining cost of the project. This is not to be considered an independent technical review of the cost and schedule data. The review did not assess the accuracy of the actual input data of the risk assessment.

[Redacted Signature]

3-6-08

(Signature)
Cost Engineer, CENWW-EC-X

(Date)

**Certification
Independent Technical Review
Economic and Formulation
of the Olmsted Locks and Dam Navigation Project
Post Authorization Change Report
dated March 2008**

I hereby certify that I reviewed the Olmsted Post Authorization Change Report (PACR) from both an economic and plan formulation perspective and found the report and analysis to conform to Corps requirements and procedures. The computation of the Section 902 cost limit was done in accordance with the method specified in ER 1105-2-100, Appendix G. My comments and the responses from the Louisville District are attached.



CELRP-BR-E
Regional Technical Specialist in
Inland Navigation Economics

21 MAR 08

date

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APPENDIX B
PROJECT DELIVERY TEAM

Name	Discipline
	Project Manager
	Lead Planner
	Economics
	Environmental Resources
	Cultural Resources
	Floating Plant
	Engineering
	Cost Engineering
	Cost Closure Matrices
	Construction
	Operations
	Real Estate
	Legal

INDEPENDENT TECHNICAL REVIEW TEAM

Name	Discipline
	Economics
	Cost Engineering ¹

¹ The Walla Walla Cost Directory of Expertise performed a quality assurance review of the methodology used in determining contingency for the remaining contract. This is not to be considered an ITR of the cost and schedule data. The review did not assess the accuracy of input data for the risk assessment.

INDEPENDENT EXTERNAL PEER REVIEW PANEL

Name	Discipline
[REDACTED]	Economics
[REDACTED]	Cost Engineering

VERTICAL TEAM

Name	Phone	Email
[REDACTED]	513-684-6899	[REDACTED]@usace.army.mil
[REDACTED]	513-684-3598	[REDACTED]@usace.army.mil

**PLANNING CENTER OF EXPERTISE
INLAND NAVIGATION**

Name	Discipline	Phone	Email
[REDACTED]	Civil Engineer	304-399-6955	[REDACTED]@usace.army.mil

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APPENDIX C
ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
ASA(CW)	Assistant Secretary of the Army for Civil Works	OEO	Outside Eligible Organization
ATR	Agency Technical Review	OMB	Office of Management and Budget
CELRL (LRD)	Corps of Engineers, Ohio River and Great Lakes Division	ORNIM	Ohio River Navigation Investment Model
CELRD (LRL)	Corps of Engineers, Louisville District	PACR	Post Authorization Change Report
CTA	Center for Transportation Analysis	PCoP	Planning Community of Practice
CWRB	Civil Works Review Board	PCX	Planning Center of Expertise
DQC	District Quality Control	PDT	Project Delivery Team
DX	Directory of Expertise	PPA	Project Partnership Agreement
EA	Environmental Assessment	QA	Quality Assurance
EC	Engineer Circular	QC	Quality Control
EIR	Environmental Impact Report	QMP	Quality Management Plan
EIS	Environmental Impact Statement	RIT	Regional Integration Team
EO	Executive Order	SAR	Safety Assurance Review
FDR	Flood Damage Reduction	WAM	Waterways Analysis Model
FRM	Flood Risk Management	WRDA	Water Resources Development Act
IEPR	Independent External Peer Review	WSDM	Waterway Supply and Demand Module
ITR	Independent Technical Review		
LRM	Lock Risk Module		
MSC	Major Subordinate Command		
NED	National Economic Development		
NEPA	National Environmental Policy Act		
O&M	Operation and maintenance		