



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

CELRD-PD-G

5 April 13

MEMORANDUM FOR Commander, U.S. Army Engineer District, Chicago (Susanne Davis/CELRD-PM-PL), 111 N. Canal, Suite 600, Chicago, IL, 60606-7206

SUBJECT: Operations and Maintenance Review Plan for Waukegan Harbor Approach Channel Dredging

1. The attached Review Plan (RP) for Waukegan Harbor was presented to the Great Lakes and Ohio River Division for approval in accordance with EC 1165-2-214 "Civil Works Review" dated 15 December 2012.
2. The Waukegan Harbor was constructed beginning in 1852. The project is maintained by the federal government as authorized by the Rivers and Harbors Act of 14 June 1880, 13 June 1902, and 2 March 1945. The project is currently unfunded, so no project activities are certain to occur during FY13. If funds were provided via the FY13 work plan for dredging of the harbor approach channel, the work would entail dredging from the harbor approach channel and disposal of approximately 65,000 CY of clean sediment in open-lake disposal areas per the current State of Illinois permit agreement.
3. The RP defines the scope and level of peer review for the activities to be performed for the subject project. The USACE LRD Review Management Organization (RMO) has reviewed the attached RP and concurs that it describes the scope of review for work phases and addresses all appropriate levels of review consistent with the requirements described in EC 1165-2-214.
4. I concur with the recommendations of the RMO and approve the enclosed RP for the Waukegan Harbor project.
5. The District is requested to post the RP to its website. Prior to posting, the names of all individuals identified in the RP and the dollar values of all project costs should be removed.
6. If you have any questions please contact Dr. Hank Jarboe, CELRD-PDP, at (513) 684-6050.

Encl  
Review Plan

*Margaret W. Burcham*  
MARGARET W. BURCHAM  
Brigadier General, USA  
Commanding

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1. **Applicability.** This review plan is based on National Programmatic review plan for Operations and Maintenance (O&M) project decision documents, as promulgated by EC in the Water Resources Development Act of 2007 (P.L.110-114) and Engineering Circular 1165-2-214 (Civil Works Review Policy). The purpose of this Review Plan is to define the requirements, procedures, and specific details of how District Quality Control (DQC) will be conducted for the activity of dredging the Waukegan Harbor Approach Channel. Work products that are covered under this plan have checklists contained in Appendix A.
2. **References.**
  - (1) Engineering Circular (EC) 1165-2-214, Civil Works Review Policy, 15 Dec 2012
  - (2) Engineering Circular (EC) 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
  - (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
  - (4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
3. **Requirements.** This programmatic review plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-214) and planning model certification/approval (per EC 1105-2-412).
  - a) District Quality Control/Quality Assurance (DQC). All **decision documents** (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home Major Subordinate Command (MSC).

Agency Technical Review (ATR). ATR is mandatory for all **decision documents** (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published US Army Corps of Engineers (USACE) guidance, and that the

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document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by a designated Review Management Organization (RMO) and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. For decision documents the leader of the ATR team shall be from outside the home MSC.

- b) Independent External Peer Review (IEPR). IEPR may be required for **decision documents** under certain circumstances. 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. A risk-informed decision, as described in EC 1165-2-214, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR: Type I is generally for decision documents and Type II is generally for implementation products.
  - i. Type I IEPR. Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-214.
  - ii. Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically

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thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

- c) Policy and Legal Compliance Review. All **decision documents** will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in 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 home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.
- d) Cost Engineering DX Review and Certification. All **decision documents** shall be coordinated with the Cost Engineering Directory of Expertise (DX), located in the Walla Walla District.
- e) Model Certification/Approval. EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, 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. The use of a certified/approved planning model does not constitute technical review of the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required). EC 1105-2-412 does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. The use of engineering models is also subject to DQC, ATR, and IEPR (if required).

The ATR team will apply the principles of EC 1105-2-412 during the ATR to ensure the model is theoretically and computationally sound, consistent with USACE policies, and adequately documented. If specific uncertified models are identified for repetitive use within a specific district or region, the

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appropriate PCX, MSC(s), and home District(s) will identify a unified approach to seek certification of these models.

4. **Project History.** The Waukegan Harbor was constructed beginning in 1852. The project is maintained by the federal government as authorized by the Rivers and Harbors Act of 14 June 1880, 13 June 1902, and 2 March 1945.
5. **Current FY Activities.** The project is unfunded, so no project activities are certain to occur during FY13. If funds were provided via the FY13 work plan for dredging of the harbor approach channel, activity A would occur.
  - A. Dredge from the harbor approach channel and dispose of approximately 65,000 CY of clean sediment in open-lake disposal areas as per the current State of IL permit agreement.
6. **Product Review Responsibilities.** At LRC, PDTs are assembled for individual contracted maintenance products for O&M. When these maintenance products are required, LRC conforms to all the District Quality Control/Quality Assurance requirements set forth in EC 1165-2-214, Paragraph 8, and prepares appropriate Quality Control Plans along with any necessary Project Management Plan updates. Waukegan Harbor is currently unfunded, and therefore the PDT's have not yet been assembled, nor have DQC/QA documents been assembled.

**Risk Informed Decisions Process Implementation.** In accordance with paragraph 15a of EC1165-2-214, the Chicago District has considered the following questions for the possible harbor activity identified in paragraph 5, documented the answers presented looking to recommend whether ATR and/or IEPR levels of review were required. Paragraph 8.below gives the rationale for the decision reached.

- (1) Does it include any design (structural, mechanical, hydraulic, etc)?  
A: No, maintenance dredging P&S does not constitute a new design.
- (2) Does it evaluate alternatives?  
A: No – maintenance dredging restores authorized project only. No new design decisions are made in assembling plans and specs for regular and reoccurring dredging.
- (3) Does it include a recommendation?  
A: Recommend dredging of harbor approach channel to re-open port to commercial navigation.
- (4) Does it have a formal cost estimate?

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A: No, currently the working estimate of dredging for budget submission purposes is \$1.3M. If funding is received in the FY13 work plan an IGE will be prepared.

(5) Does it have or will it require a NEPA document?

A: Not required per ER 200-2-2, paragraph 9a (categorical exclusion for activities at completed Corps projects which carry out the authorized project purposes, including routine operation and maintenance activities, and repair or rehabilitation work.

(6) Does it impact a structure or feature of a structure whose performance involves potential life safety risks?

A: Yes - USCG sets barge traffic load lines limits for Lake Michigan commercial vessels contingent on this port being available as a harbor of refuge. Commercial vessels can no longer safely enter the port to obtain shelter from Lake Michigan storms.

(7) What are the consequences of non-performance?

A: Commercial vessels cannot safely enter the port. Three bulk cargo terminals will close. Return on Dredge Investment Analysis for port predicts a \$5.3M net benefit. Bulk commodities generate \$10.M in direct revenue, & support 132 jobs in an economically-disadvantaged community.

(8) Does it support a significant investment of public monies?

A: The definition of "significant" is unclear. This FY13 work plan work item amount is \$1.3M and is consistent with the amount of typical annual dredging need to keep the channel clear for navigation.

(9) Does it support a budget request?

A: Product is an O&M budget work package request in the Navigation BL.

(10) Does it change the operation of the project?

A: Yes, the harbor would be re-opened to commercial navigation. The harbor is currently closed to commercial navigation as a result of shoaling in the harbor approach channel.

(11) Does it involve ground disturbances?

A: Dredging disturbs the sediment accumulated within the Federal channel.

(12) Does it affect any special features, such as cultural resources, historic properties, survey markers, etc, that should be protected or avoided?

A: No

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(13) Does it involve activities that trigger regulatory permitting such as Section 404 or stormwater/NPDES related actions?

A: No

(14) Does it involve activities that could potentially generate hazardous wastes and/or disposal of materials such as lead based paints or asbestos?

A: No

(15) Does it reference use of or reliance on manufacturers' engineers and specifications for items such as prefabricated buildings, playground equipment, etc?

A: No

(16) Does it reference reliance on local authorities for inspection/certification of utility systems like wastewater, stormwater, electrical, etc?

A: No

(17) Is there or is there expected to be any controversy surrounding the Federal action associated with the work product?

A: No

**7. DISTRICT QUALITY CONTROL (DQC)**

All major O&M work efforts in the harbor each year will undergo DQC. The product team PDT is responsible for producing quality services and/or products. The technical element formulating the various work product for the fiscal year is the Operations Technical Support Section. Needs are based largely on an assessment of the projected needs of navigation throughout the project, and further refined by examining condition surveys of channels and navigation structures. The extent of the work to be performed is largely driven by the annual O&M budget allocation to the project. Methodology, concurrence, technical adequacy and product quality are obtained through periodic internal reviews by the product team and technical supervisors. Within the Technical Services Division, section chiefs are largely responsible for product review and will document this internal review through certification of product development checklists. The checklists, to be followed by the product team and certified by the section or branch chiefs, are not attached to this RP. Each PDT member is responsible for following current checklist, and coordinating review of document and checklist with their technical supervisor for signature.

**8. AGENCY TECHNICAL REVIEW (ATR)**

O&M products to undergo ATR or IEPR typically are determined each fiscal year by the District Chief, Operations after assessing the current (FY13) navigation need in the harbor and the responses to the 17 questions in paragraph 7 above. The determination was made that customary in-house independent technical review

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procedure was adequate for the possibility of dredging the harbor approach channel by contract in FY13.

However, in March 2013, a determination was made by LRD that an ATR would be required if this harbor approach channel dredging activity is funded in the FY13 work plan.

## 9. ROSTER PDT Members

The project is currently unfunded – no PDT has been assembled. If funds were provided, the following individuals would likely be PDT members.

<b>Discipline/Job</b>	<b>Name</b>	<b>Phone</b>	<b>Email</b>
Operations Dredging Mgr.	Bob Paluch	312-846-5482	<a href="mailto:Robert.G.Paluch@usace.army.mil">Robert.G.Paluch@usace.army.mil</a>
Project Management	Mike Nguyen	312-846-5555	<a href="mailto:Mike.Nguyen@usace.army.mil">Mike.Nguyen@usace.army.mil</a>
P&S Product Lead	Damian Allen	312-846-5548	<a href="mailto:Damian.G.Allen@usace.army.mil">Damian.G.Allen@usace.army.mil</a>
Contracting	Kim Beard	312-846-5378	<a href="mailto:Kim.M.Beard@usace.army.mil">Kim.M.Beard@usace.army.mil</a>
Cultural & Arch. Resources	Peter Bullock	312-846-5587	<a href="mailto:Peter.Y.Bullock@usace.army.mil">Peter.Y.Bullock@usace.army.mil</a>
Real Estate	Michael Rohde	312-846-5576	<a href="mailto:Michael.B.Rohde@usace.army.mil">Michael.B.Rohde@usace.army.mil</a>
Geotechnical	Georgette Hlepas	312-846-5457	<a href="mailto:Georgette.Hlepas@usace.army.mil">Georgette.Hlepas@usace.army.mil</a>
Cost Engineer	Adam Tennant	312-846-5593	<a href="mailto:Adam.Tennant@usace.army.mil">Adam.Tennant@usace.army.mil</a>
Northern Area Office	Brian Hannon	847-688-4431	<a href="mailto:Brian.A.Hannon@usace.army.mil">Brian.A.Hannon@usace.army.mil</a>
Environmental	Margaret Rauwerdink	312-846-5502	<a href="mailto:Margaret.A.Rauwerdink@usace.army.mil">Margaret.A.Rauwerdink@usace.army.mil</a>
Construction	Michelle O'Donoghue	847-688-4431	<a href="mailto:Michelle.M.O'Donoghue@usace.army.mil">Michelle.M.O'Donoghue@usace.army.mil</a>
Geotechnical	Adam Jones	312-846-5411	<a href="mailto:Adam.K.Jones@usace.army.mil">Adam.K.Jones@usace.army.mil</a>
Hydrographic Surveys	James Mrozek	906-635-3451	<a href="mailto:James.S.Mrozek@usace.army.mil">James.S.Mrozek@usace.army.mil</a>

## 10. District Quality Control Reviewers

<b>Name</b>	<b>Phone</b>	<b>E-mail</b>
Operations PM	Tim Kroll	<a href="mailto:Tim.Kroll@usace.army.mil">Tim.Kroll@usace.army.mil</a>
Cost Engineer	David Druzbieki	<a href="mailto:David.Druzbieki@usace.army.mil">David.Druzbieki@usace.army.mil</a>
Operations	Steve Hungness	<a href="mailto:Steve.E.Hungness@usace.army.mil">Steve.E.Hungness@usace.army.mil</a>
Environmental	Jay Semmler	<a href="mailto:Jay.A.Semmler@usace.army.mil">Jay.A.Semmler@usace.army.mil</a>
Construction	Dick Albert	<a href="mailto:Dick.Albert@usace.army.mil">Dick.Albert@usace.army.mil</a>
Design Branch	Joe Schmidt	<a href="mailto:Joseph.J.Schmidt@usace.army.mil">Joseph.J.Schmidt@usace.army.mil</a>