

PROJECT 113990
Calumet Harbor and River, IL & IN
Individual O&M Review Plan

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 all activities associated with the Calumet Harbor and River O&M project. This document includes both the harbor features as well as the Chicago Confined Disposal Facility (CDF). The document applies only to Calumet Harbor routine O&M products/activities, and does not apply to any decision or implementation documents that require Agency Technical Review or Independent External Peer Review. 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).

 - b) Agency Technical Review (ATR). ATR is mandatory for all **decision documents** (including supporting data, analyses, environmental compliance

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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 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 prepared under the model GLFER Programmatic Review Plan, the leader of the ATR team shall be from outside the home district, but may be from within the home MSC.

- c) 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.

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- 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 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.

For decision documents prepared under the model GLFER Programmatic Review Plan, Type II IEPR is not required except where public safety issues are present.

- d) 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.
- e) 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.
- f) 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

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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).

For decision documents prepared under the model GLFER Programmatic Review Plan, use of existing certified or approved planning models is encouraged. Where uncertified or unapproved model are used, approval of the model for use will be accomplished through the ATR process. 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 appropriate PCX, MSC(s), and home District(s) will identify a unified approach to seek certification of these models.

4. **Project History.** The Calumet Harbor and River was constructed beginning in 1900 and is maintained by the federal government, as authorized by the Rivers and Harbors Act of 1899, 1902, 1935, 1960, 1962, and 1965. An in-water Confined Disposal Facility (CDF) was constructed in 1983 on the shoreline south of the Calumet River mouth in Chicago, IL. The facility is currently operating, and sediment is being placed into the CDF.
5. **Current FY Activities.** The following project activities are expected to occur throughout the current FY:
 - A. Conduct standard harbor operations throughout the FY which include the following: Federal channel condition surveys; coastal structure and project safety signage inspection; stakeholder coordination; and annual budget formulation/justification/MS support.
 - B. Operate and maintain the Confined Disposal Facility throughout the FY. Activities include: Sediment management (grading) to facilitate material drying and piling, and adhere to water control provisions set forth by State of IL operating permit; Implementation of site improvements to allow for segregation of outer harbor sediment within existing project footprint for unconfined upland placement; providing regulatory reporting as required by facility/project permits and agreements; periodic inspection and maintenance of all CDF facility features.
 - C. Repairs to the shorearm and detached breakwaters by LRE marine floating plant forces. Work includes armor and capstone replacement, and grout fill into void sections to stabilize timber cribs. No design work will be performed

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in FY13; the grout mix employed is the same that was used within Chicago Harbor Exterior Breakwater Repairs ARRA contract (W912P6-09-C-0033).

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.
7. **Risk Informed Decisions Process Implementation.**

Decision or implementation documents: The Calumet Harbor Dredge Material Management Plan activity was considered a potential new decision or implementation document, as it considers alternatives and develops a recommendation for the construction of a new CG-funded Confined Disposal Facility. Therefore the Calumet Harbor Dredged Material Management Plan PDT assembled a separate product-specific Review Plan for that activity, and received approval of the document from LRD on 20 November 2012.

Risk-informed decisions on ATR and/or IEPR levels of review. In accordance with paragraph 15a of EC1165-2-214 the District Calumet Harbor PDT considered the following questions for the three remaining major harbor activities identified in paragraph 5, documented the answers presented looking to recommend whether ATR and/or IEPR levels of review were required. Paragraph 9 below gives the rationale for the decision reached on each activity.

- (1) Does it include any design (structural, mechanical, hydraulic, etc)?
A: No

B: No
C: No
- (2) Does it evaluate alternatives?
A: No
B: No
C: No
- (3) Does it include a recommendation?
A: No
B: No
C: No
- (4) Does it have a formal cost estimate?
A: Nothing aside from associated O&M budgetary work package.

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- B: Nothing aside from associated O&M budgetary work package.
- C: Nothing aside from associated O&M budgetary work package.

- (5) Does it have or will it require a NEPA document?
- A: All Federal harbors have NEPA documentation, although there are no NEPA requirements associated with completing and reporting condition assessments, stakeholder coordination, or any other USACE internal project support actions.
 - B: Yes - completed as part of CG project authorization for CDF construction. CDF site selection study released November 1975; DEIS released December 1981; FEIS (for CDF construction and dredging and disposal) released May 1982; SEIS (draft May 1998, final August 1998, ROD signed 8 Oct. 1998) for revised operating plan 401 renewed 2006.
 - C: 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: No
 - B: No
 - C: No
- (7) What are the consequences of non-performance?
- A: USACE fails to perform any of the activities described. USACE fails at its basic navigation coordination mission in a high-use harbor. Port users are not informed of conditions in the navigational channel.
 - B: Inefficient use of existing facility. Dredging costs increase by 80% as dredging contractors are compelled to move previously piled sediment to perform new dredging work.
 - C: Heavily damaged structures continue to degrade, providing poorer protection to vessels entering/leaving the port. Vessels and cargo delayed because they cannot make up/ break down tows in the harbor under many wave conditions adversely affecting vessel safety and efficiency. Coastal structure replacement costs are substantially higher than performing critical maintenance to keep the structure functioning and preventing collapse.
- (8) Does it support a significant investment of public monies?
- A: No
 - B: The definition of "significant" is unclear. The work package amount exceeds \$1.M, but it is consistent with the amount dredge material handling required at other confined disposal facilities nearing their design capacity.

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C: The definition of "significant" is unclear. This work package amount exceeds \$1.M, but it is consistent with the typical annual breakwater work package for this harbor.

(9) Does it support a budget request?

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

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

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

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

A: No

B: No

C: No

(11) Does it involve ground disturbances?

A: No

B: Dredge material relocation within the CDF technically also involves "ground disturbance" but it is a beneficial leveling of material to make additional placement of future dredge material easier and cheaper.

C: No

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

A: No

B: No

C: No

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

A: No

B: No

C: 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

B: No

C: 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

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B: No
C: No

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

A: No
B: No
C: No

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

A: No
B: Yes – some local community groups are advocating for existing CDF closure. The facility is nearly “full” as defined by the original project EIS document. USACE intends to extend the life of the facility until the DMMP recommendations are implemented.
C: No

8. 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 based largely on an assessment of the projected needs of navigation throughout the project. Needs are 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.

9. AGENCY TECHNICAL REVIEW (ATR)

O&M products to undergo ATR or IEPR are determined each fiscal year by the Chief of Operations after assessing the current navigation need in the harbor, the available funding & resources and the responses to the 17 questions in paragraph 7 above.

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In 2013, the following determinations are made as to whether O&M products will require an ATR or IEPR:

A. Conduct standard harbor operations throughout the FY which include the following: Federal channel condition surveys; coastal structure and project safety signage inspection; stakeholder coordination; and annual budget formulation/justification/MSO support.

NEITHER ATR OR IEPR REQUIRED

Rationale: The responses to the above-listed seventeen questions from paragraph 7 do not indicate the need for a more extensive review. In addition, this work effort is largely in house labor and brokered labor to Detroit District, and formal design documents are not needed for this work.

B. Operate and maintain the Confined Disposal Facility throughout the FY. Activities include: Sediment management (grading) to facilitate material drying and piling, and adhere to water control provisions set forth by State of IL operating permit; Implementation of site improvements to allow for segregation of outer harbor sediment within existing project footprint for unconfined upland placement; providing regulatory reporting as required by facility/project permits and agreements; periodic inspection and maintenance of all CDF facility features.

NEITHER ATR OR IEPR REQUIRED

Rationale: The responses to the above-listed seventeen questions from paragraph 7 do not indicate the need for a more extensive review. In addition, no contract assembly for CDF operations will occur in FY13. Sediment management (grading) to facilitate material drying and piling and implementation of site improvements to allow for segregation of new placed harbor dredge material from existing CDF dredge material will be performed by in-house labor. No design documents are being assembled by Chicago District design branch personnel.

C. Repairs to the shorearm and detached breakwaters by LRE marine floating plant forces. Work includes armor and capstone replacement, and grout fill into void sections to stabilize timber cribs. No design work will be performed in FY13; the grout mix employed is the same that was used within Chicago Harbor Exterior Breakwater Repairs ARRA contract (W912P6-09-C-0033).

NEITHER ATR OR IEPR REQUIRED

Rationale: The responses to the above-listed seventeen questions from paragraph 7 do not indicate the need for a more extensive review. In addition, no contract assembly for breakwater repair work will occur in FY13. Breakwater repairs will be performed by Detroit District crane-barge fleet personnel. No design documents are being assembled by Chicago District design branch personnel.

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10. ROSTER PDT Members

Discipline/Job	Name	Phone	Email
Operations Dredging Mgr.			
Project Management			
P&S Product Lead			
Contracting			
Cultural & Arch. Resources			
Real Estate			
Geotechnical			
Cost Engineer			
Calumet Area Office			
Environmental			
Construction			
Geotechnical			
Hydrographic Surveys			

**11. District Quality
Control Reviewers**

Operations PM
Cost Engineer
Operations
Environmental
Construction
Design

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