

**PROJECT REVIEW PLAN**

**FREEPORT HARBOR, TEXAS**  
**CHANNEL IMPROVEMENT PROJECT**  
**FEASIBILITY STUDY**

**U.S. Army Corps of Engineers**  
**Galveston District**

**April 2009**  
**Rev: April 2010**

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**1. PURPOSE**

Pursuant to Engineering Circular (EC) 1165-2-209, "Civil Works Peer Review", EC 1105-2-408, "Peer Review of Decision Documents," Office of Management and Budget's "Final Information Quality Bulletin for Peer Review," and the 30 May 2007 memorandum from Major General Don Riley, USACE Director of Civil Works, a Project Review Plan (PRP) has been updated from the originally approved PRP dated September 2007.

This PRP presents the process for District Quality Control (DQC), Agency Technical Review (ATR) and Independent External Peer Review (IEPR) that will be implemented as part of the Freeport Harbor feasibility study. These processes are essential to improving the quality of the products that we produce. The Project Management Plan (PMP) for the Freeport Harbor Channel Improvement Project Feasibility Study will be amended to include this PRP since the PRP is considered a component of the PMP.

**2. APPLICABILITY**

The document provides the PRP for the Freeport Harbor Channel Improvement Feasibility Study. It identifies the ATR and IEPR process for all work conducted as part of the study, including in-house, non-Federal sponsor, and contract work efforts.

**3. REFERENCES**

EC 1165-2-209 "Civil Works Peer Review" dated 19 December 2009  
EC 1105-2-408 "Peer Review of Decision Documents" dated 31 May 2005  
EC 1105-2-407 "Planning Models Improvement Program: Model Certification" dated 31 May 2005  
ER 1105-2-100 "Planning Guidance Notebook," dated April 2000  
Major General Riley Memorandum on Peer Review Process, dated 30 May 2007

**4. GENERAL**

**A. Project Description**

The existing Freeport Harbor Channel is a deep-draft navigation project, which connects harbor facilities in the Freeport area with the Gulf of Mexico. The project provides for a 47-foot deep, 400-foot wide entrance channel; a 45-foot deep, 400-foot wide main channel; a 45-foot deep, 1,000 foot diameter turning basin; a 36-foot, 200-foot wide Brazos Harbor Channel; and a 36-foot deep, 750-foot wide Brazos Harbor turning basin. The Freeport area

is about 40 miles southwest of Galveston, Texas, on the mid to upper Texas coast. The local sponsor for the project is Port Freeport.

A reconnaissance study was undertaken to determine whether commercial navigation benefits produced by enlarging the Freeport Harbor Channel are sufficient to offset the costs and environmental consequences of the enlargement. The reconnaissance study (Section 905(b) Analysis, October 2002) concluded that there is sufficient Federal interest in channel enlargement to conduct more detailed, feasibility-level studies.

The feasibility study was undertaken to determine whether commercial navigation benefits produced by widening and deepening the Freeport Harbor Channel are sufficient to offset the costs and environmental consequences of the enlargement. During feasibility study efforts, close coordination has been maintained with resource agencies, interested parties, and local interests. Periodic public meetings have been scheduled.

### **B. Project Delivery Team**

The Project Delivery Team (PDT) is comprised of those individuals directly involved in the development of the decision document. The individual contact information and disciplines of the District PDT are included in Appendix A of this document. It is planned that the non-Federal sponsor will contribute in-kind services for project management; public involvement, coordination and outreach; environmental studies; hydraulics and hydrology studies; data collection; geotechnical studies; engineering; and participate in reviews. All work-in-kind products will undergo review by the PDT for adequacy and undergo DQC. All products will undergo ATR and IEPR.

### **C. Model Certification**

EC 1105-2-407, Planning Models Improvement Program: Model Certification establishes the process and requirements for certification of planning models. This circular is specifically directed to software used in Corps' planning studies, to ensure that only high quality software is being used for key planning decisions. 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. This Circular does not cover engineering models used in planning studies, which will be certified under a separate process to be established in the future.

The computational models to be used in the Freeport Harbor, Texas Feasibility Study have been developed by or for the USACE. Model certification and approval for all identified planning models will be coordinated through the PCX as needed. Project schedules and resources will be adjusted to address this process for certification and PCX coordination. The planning models used are:

- 1) Habitat Evaluation Procedures (HEP) analysis
- 2) Economic Analysis Spreadsheets (Approved for Use)

The following are considered engineering models and undergo a different review and approval process for usage. Their certification is not addressed in this Review Plan. These models include:

- 1) Field Data Collection Program – The primary purpose of the program is to obtain data needed to validate RMA-2 and TABS-MD numerical hydrodynamic models. The secondary objective of the program is to collect data for a desktop study to estimate the shoaling rates in the proposed modified navigation channels.
- 2) Hydrodynamic Modeling – The primary purpose of this model study is to provide accurate and representative current velocity fields for the use in the ship simulator for the navigation study. The secondary objective is the development of a tool that is used to evaluate the general impacts of the design alternative improvement on circulation in the harbor.
- 3) Navigation Study – This model simulates ship movement through various alternative scenarios. A two dimensional hydrodynamic model is applied to the vicinity of the ship channel to generate currents for the ship simulator. The results are used for determining a final design channel plan which will be applied to the salinity models.
- 4) Sediment Study – The present dredging pattern and quantities would change as a result of the proposed modifications to the navigation channel. The objective of this study is to estimate the shoaling rates in the modified navigation channel. A desktop study is an alternative method of obtaining preliminary answers without conducting a full-fledged numerical sediment transport modeling study. Such a desktop approach requires field data on sediments, dredging quantities, and velocity results from a hydrodynamic model. In view of variations in salinity and currents in the Freeport system, velocity results from a 3D hydrodynamic model were necessary.
- 5) Hurricane-Induced Storm Surge Conditions – A cursory-level numerical study is used to determine whether the planned improvements to the channel will make Freeport Harbor and adjacent, low-lying areas more susceptible to inundation due to hurricane-induced storm surge.
- 6) Shoreline Impact Study – The purpose of the study is to assess the wave-induced impacts of the proposed deepening of the Freeport Channel in the Gulf of Mexico on the open-coastal shorelines adjacent to the project area.
- 7) Mii - cost estimating models
- 8) Crystal Ball Risk Based Analysis

## **5. REVIEW REQUIREMENTS**

### **A. District Quality Control (DQC)**

DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Freeport Harbor Channel Improvement Feasibility Study PMP. It is managed by the Galveston District and may be conducted by staff in the

home district as long as they 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, 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 approval by the District Commander. For the Freeport Harbor Feasibility Study, non-PDT members and/or supervisory staff will conduct this review for major draft and final products, including products provided by the non-Federal sponsors as in-kind services following review of those products by the PDT. It is expected that the Major Subordinate Command (MSC)/District QMP addresses the conduct and documentation of this fundamental level of review. A Quality Control Plan (QCP) is included in the PMP for this study and addresses DQC, which is required for this study. DQC is not addressed further in the Review Plan.

### **B. Agency Technical Review (ATR)**

ATR (which replaces the level of review formerly known as Independent Technical Review [ITR]) 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 purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices. The ATR team review the various work products and assure 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 requires that DrChecks (<https://www.projnet.org/projnet/>) be used to document all ATR comments, responses, and associated resolution accomplished. This PRP outlines the planned approach for meeting this requirement for the Freeport Harbor Feasibility Study. ATR is required for this study.

### **C. Independent External Peer Review (IEPR)**

This 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. IEPR is generally for feasibility and reevaluation studies and modification reports with EISs. IEPR is managed by an outside eligible organization (OEO) that is described in Internal Revenue Code Section 501(c) (3), is exempt 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. This PRP outlines the planned approach for meeting this requirement for the Freeport Harbor Feasibility Study. IEPR is required for this study.

#### **D. Policy and Legal Compliance Review**

In addition to the technical reviews described above, 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. The technical review efforts addressed in this Circular 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. Legal reviews will be conducted concurrent with ATR of the preliminary, draft, and final feasibility report and environmental impact statement.

#### **E. Safety Assurance Review**

WRDA 2007, Section 2035, Safety Assurance Review, requires all projects addressing flooding or storm damage reduction to undergo a safety assurance review during design and construction activities. This safety assurance review will address the adequacy, appropriateness, and acceptability of the design and construction activities for the purpose of assuring public health, safety, and welfare. However, since this project is a channel improvement project and does not address flooding or storm damage reduction, the safety assurance review requirement is not applicable.

#### **F. Planning Center of Expertise (PCX) Coordination**

This project is primarily a deep-draft navigation project with potential restoration opportunities. Pursuant to EC 1105-2-408, the District will coordinate with the Deep Draft Navigation Planning Center of Expertise (PCX) in Mobile District as the lead PCX to organize teams to perform the reviews at various stages throughout the study. This PCX is responsible for the accomplishment and quality of ATR and IEPR for this study. The PCX will also coordinate with Cost Engineering Directory of Expertise at Walla Walla for ATR of the Mii estimate, construction schedules, and contingencies.

### **6. REVIEW PROCESS**

## **A. Agency Technical Review (ATR)**

### **1) General**

The ATR process will be conducted throughout the study process. ATR involvement is anticipated between major project milestones (FSM, IEPR, and AFB). Once the ATR team has been identified, copies of PDT meeting notes will be provided to ATR team for information. ATR participation in PDT meetings on a quarterly basis (at a minimum) will be recommended.

As part of the QCP for the Freeport Harbor Project, an ATR team will be formed to perform periodic reviews of the feasibility study efforts, including the project assumptions, analyses, and calculations, as needed throughout the planning study process.

The ATR team will meet with PDT members on a quarterly basis or as needed. These quarterly meetings will be documented as required by ER 1165-2-203. Coordination throughout the study will be accomplished through individual contact between the PDT and the ATR team. The ATR will focus on the following:

- Review of the planning study process,
- Review of the methods of analysis and design of the alternatives and recommended plan,
- Compliance with program and NEPA requirements, and
- Completeness of study and support documentation

More detailed ATR information is found in the Plan Formulation and Evaluation Section of the PMP.

### **2) ATR Team**

The ATR is best conducted by experienced peers within the same discipline who are not directly involved with the development of the study or project being reviewed. Management of ATR reviews are conducted by professionals outside of the home district. For planning feasibility-level studies the ATR is managed by the appropriate Planning Center of Expertise (PCX) with appropriate consultation with the allied Communities of Practice such as engineering and real estate. The Deep Draft Navigation PCX is responsible for identifying the ATR team members. The Galveston District could suggest on possible reviewers. The ATR team members will reside outside the Galveston District with the ATR team leader from outside the Southwestern Division. The ATR team has been identified and the names and disciplines of the ATR team will be included in Appendix A of this document.

It is anticipated that the review team will consist of at least nine reviewers, one from each of the following disciplines: engineering design, hydraulics and hydrology, economics, environmental, real estate, plan formulation, operations and cost engineering. A brief description of the disciplines required for the ATR team are identified below:

- a. Engineering Design – the reviewer(s) should have extensive knowledge of channel design for navigation studies
- b. Hydraulics and Hydrology – the reviewer(s) should have extensive knowledge of hydrodynamic-salinity, ship simulation, sediment, erosion and coastal shoreline models/studies.
- c. Economics – the reviewer should have a strong understanding of economic models or studies relative to deep draft navigation (e.g. multi-port, container and bulk cargo analyses).
- d. Environmental – the reviewer(s) should have strong background in coastal ecosystems (e.g. hypersaline, lagoonal, wind-tidal flat system) and Texas environmental laws and regulations.
- e. Real Estate – the reviewer should have knowledge in reviewing RE Plans for feasibility studies (e.g. navigation servitude).
- f. Plan Formulation – the reviewer(s) should have a strong knowledge in current planning policies and guidance related to feasibility studies.
- g. Operations - the reviewer should have a strong knowledge in current operations of deep draft navigation projects.
- h. Cost Engineering – the reviewer should have a strong knowledge of the cost estimating practices for deep draft navigation projects.

### 3) Review Cost

The cost for ATR of the AFB was approximately \$60,000. It is estimated that the ATR of the remainder of the study will be \$60,000.

### 4) Review Schedule

<u>TASK</u>	<u>Proposed Date</u>
Update of Project Review Plan	May 15, 2009
Coordinate with MSC and post on website	July 9, 2009
PCX identifies ATR team	May 2008
Review of Models	TBD
ATR review of draft documents (before AFB)	June 2008
Participation in AFB meeting	April 2009
ATR Certification Draft Report	October 2008
Public Review of Draft Report	August 2009
ATR Certification Final Report	July 2009

## **B. Independent External Peer Review (IEPR)**

### **1) General**

The Freeport Harbor Project is a typical navigation study for deepening and widening an existing navigation channel. EC 1105-2-408 and EC 1165-2-209 identify concerns which would trigger IEPR: “In cases where there are public safety concerns, a high level of complexity, novel or precedent-setting approaches; where the project is controversial, has significant interagency interest, has a total project cost greater than \$45 million, or has significant economic, environmental and social effects to the nation, or where requested by the Governor of an affected state, IEPR will be conducted. The scope and technical complexity of this project is not expected to warrant IEPR and it is not controversial. An EIS will be completed for this study. Additionally, the construction costs for any deepening and/or widening of the channel are anticipated to be in the hundreds of millions of dollars range. For this reasons, IEPR will be conducted.

### **2) IEPR Panel**

IEPR panels will be made up of recognized independent experts from outside of USACE, with disciplines appropriate for the type of review being conducted. The PCX will contract with an appropriate Outside Eligible Organization (OEO) to manage the review. IEPR panel members will be selected by an OEO using the National Academy of Science's policy for selecting reviewers. Since this feasibility study is a navigation study to deepen and/or widen the existing channel, anticipated disciplines of IEPR reviewers are engineering (hydrology and hydraulics), economics, and environmental. The IEPR panel will have a minimum of three members. The IEPR panel review will be federally funded, including the costs associated with obtaining the IEPR panel contract. Responding to IEPR comments will be cost shared with the local sponsor. It is not anticipated that the public, including scientific or professional societies, will be asked to nominate potential external peer reviewers. Once the panel has been identified, the IEPR Panel members' names and disciplines will be included in Appendix A of this document.

### **3) Review Cost**

The cost for IPER was estimated to be \$140,000. The PCX for Deep Draft Navigation identified someone independent from the PDT to scope the IEPR and develop an Independent Government Estimate. The Galveston District provided funding to the IEPR panel.

### **4) Timing and Sequencing**

IEPR was conducted prior to the AFB.

### **5) Project Risk**

Anticipate minimal risk is involved with the project. This study is a channel deepening and/or widening study using standard methodologies. No novel methods or new models will be utilized in the study. Additionally, there is no significant threat to human life with implementation of the project or in its failure.

## **6) Products for Review**

Interim products for hydrology and hydraulics, economics, and environmental were provided before the draft report is scheduled for release for public review. The full IEPR panel received the entire draft feasibility report, environmental impact statement and all technical appendices. For IEPR, DrChecks was used to document comments and aid in the preparation of the Review Report by the IEPR Panel. The district, with assistance from the PCX, prepared a written proposed response to the IEPR Review Report, whether the views expressed in the report are adopted or not adopted, the actions undertaken or to be undertaken in response to the report, and the reasons those actions are believed to satisfy the key concerns stated in the report (if applicable). The proposed response will be coordinated with the MSC and HQUSACE to ensure consistency with law, policy, project guidance, ongoing policy and legal compliance review, and other USACE or National considerations. The IEPR comments and responses will be discussed at the Civil Works Review Board (CWRB) with an IEPR panel or OEO representative in attendance. Upon satisfying its concerns, HQUSACE will determine the appropriate command level for issuing the formal USACE response to the IEPR Review Report. When the USACE response is issued, the district shall disseminate the final IEPR Review Report, USACE response, and all other materials related to the review on its website, and include them in the applicable decision document. Chief of Engineers' reports for decision documents that undergo IEPR shall summarize the IEPR Review Report and USACE responses. This documentation will become a critical part of the review record and will be addressed in recommendations made by the Chief of Engineers.

## **7. PROJECT REVIEW PLAN**

The components of the PRP were developed pursuant to the requirements of EC 1105-2-408 and EC 1165-2-209.

### **A. General Information**

The decision documents that will undergo peer review are the Feasibility Report (including Economic and, Engineering Appendices, Real Estate Plan and Baseline Cost Estimate) and Environmental Impact Statement. No non-Federal products are to be reviewed.

## **B. Scientific Information**

The final feasibility report (and supporting documentation) is anticipated to contain standard engineering, environmental and economic analyses and information; therefore no influential scientific information is likely to be contained in any of the documentation.

## **C. Timing**

The peer review process began in June 6, 2008 with the initiation of the ATR team and assessment of key models (e.g. hydrodynamic-salinity model and ship simulation) during this initial plan formulation phase of the study.

## **D. Public Comment**

A Public Scoping Meeting was held in Lake Jackson, Texas on January 15, 2004. A Public Involvement Plan was formulated to ensure public involvement throughout the feasibility study process. Public comments will be made available on the project website. Public review is scheduled after the AFB and those comments will be summarized in the EIS with responses provided.

<u>TASK</u>	<u>START DATE</u>	<u>FINISH DATE</u>
Public Scoping Meeting	January 15, 2004	January 15, 2004
Public Review of DFR & EIS	August 2009	October 2009

## **E. Dissemination of Public Comments**

Proceedings from all public meetings or any other public involvement meetings will be posted on the Freeport Harbor Project website. The record of the public scoping meeting and public comments will also be posted.

## **F. Points of Contact**

Questions about this Review Plan may be directed to Mr. Robert Van Hook, Galveston District PDT Planning contact at (409) 766-3024 or [robert.c.vanhook@usace.army.mil](mailto:robert.c.vanhook@usace.army.mil) or Mr. Johnny Grandison, PCX Manager at (251) 694-3804 or [johnny.l.grandison@usace.army.mil](mailto:johnny.l.grandison@usace.army.mil) .

**FREEPORT HARBOR, TEXAS  
 CHANNEL IMPROVEMENT PROJECT  
 FEASIBILITY STUDY  
 PROJECT REVIEW PLAN**

**APPENDIX A – Review Plan Teams**

**PROJECT DELIVERY TEAM**

NAME	TITLE/ORG.	PHONE	EMAIL
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**AGENCY TECHNICAL REVIEW TEAM**

NAME	TITLE/ORG.	PHONE	EMAIL
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**INDEPENDENT EXTERNAL PEER REVIEW PANEL**

NAME	TITLE/ORG.	PHONE	EMAIL
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**VERTICAL TEAM**

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**PLANNING CENTER OF EXPERTISE  
 DEEP DRAFT NAVIGATION**

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