

REVIEW PLAN

**Houston-Galveston Navigation Channels, TX
Limited Reevaluation Report and Section 902 Analysis**

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

MSC Approval Date: Pending
Last Revision Date: November 2012



**US Army Corps
of Engineers®**

REVIEW PLAN

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1. PURPOSE AND REQUIREMENTS

a. **Purpose.** This Review Plan defines the scope and level of peer review for the Houston-Galveston Navigation Channels, TX, Limited Reevaluation Report and Section 902 Analysis.

b. References

- (1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, Change #1 31 Jan 2012
- (2) 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
- (5) 1995 Limited Reevaluation Report for the Houston-Galveston Navigation Channels, Texas

c. **Requirements.** This review plan was developed in accordance with EC 1165-2-209, 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 1165-2-209) and planning model certification/approval (per EC 1105-2-412).

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this Review Plan. The RMO for decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is U.S Army Corps of Engineers Deep Draft Navigation Planning Center of Expertise located in Mobile District.

The RMO will coordinate with the Cost Engineering Directory of Expertise (DX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies.

3. STUDY INFORMATION

a. **Decision Document.** This study and Section 902 analysis for the Houston-Galveston Navigation Channels, TX, will result in a Limited Reevaluation Report (LRR) decision document that summarizes changes that have occurred to the recommended plan as outlined in the 1995 LRR. The LRR will also document the results of the Section 902 cost limit analysis. The Section 902 analysis is expected to show that the maximum cost limit for the project will be exceeded prior to completing construction of the remaining project elements. If the Section 902 analysis shows that the maximum cost limit will be exceeded, the LRR and new project cost will require Congressional authorization. Approval authority for the report is the Director of Civil Works (DCW).

b. Study/Project Description.

Project Background

The deepening and widening of the Houston-Galveston Navigation Channels (HGNC) was authorized by the 1996 WRDA. The authorization document (1995 LRR and SEIS) recommended a multi-purpose project consisting of a deep-draft navigation base plan (NED) and an environmental restoration plan. The deep-draft navigation portion of the recommended plan consisted of an entrance channel 47ft deep x 800ft wide extending 14 miles from the Gulf of Mexico to Bolivar Roads, a 45ft x 530ft Houston Ship Channel (HSC) extending 39 miles from Bolivar Roads to Boggy Bayou, and a 45ft channel with a width varying from 650ft to 1,112ft, extending 3.9 miles from Bolivar Roads to the Port of Galveston. Dredged material from the offshore and Bolivar reaches would be deposited in the Gulf. Material from the Galveston Ship Channel (GSC) and the bayou reach of the HSC would be placed in upland, fully confined disposal areas and used to restore Goat Island. Material from the bay reach would be used beneficially for the Environmental Restoration Plan. Initial/New-work on the 45-foot project for the HSC was completed in 2005 and in 2010 for the GSC.

The environmental restoration plan features consisted of building 4,250 acres of tidal marsh, a 12-acre colonial waterbird nesting island, and other island restorations using new-work and maintenance dredged material. Unavoidable losses of oyster reef were mitigated through construction of 118 acres of artificial oyster reef. In total, the plan provided for the disposal of 79.08 million cubic yards of new work dredged material and 270.18 million cubic yards of maintenance material over the 50-year period of economic analysis.

Current Limited Reevaluation Report – Documentation of Project Changes

Of the 4,250 acres of BU marsh creation planned for in the 1995 LRR, approximately 2,832 acres of marsh have been completed or are under contract. The remaining acreage cannot be constructed due to several technical issues. The HGNC project has seen several additional authorized improvements since the 1996 WRDA authorization including the construction of barge lanes, levee construction and repairs, and construction of marsh cells. The project has also seen a large influx of Supplemental and America Recovery and Reinvestment Act (ARRA) funds for hurricane repairs and project execution. Additionally, the Galveston Harbor Channel Extension project is currently under review for approval. If approved, the Galveston Extension would also be added to the HGNC project.

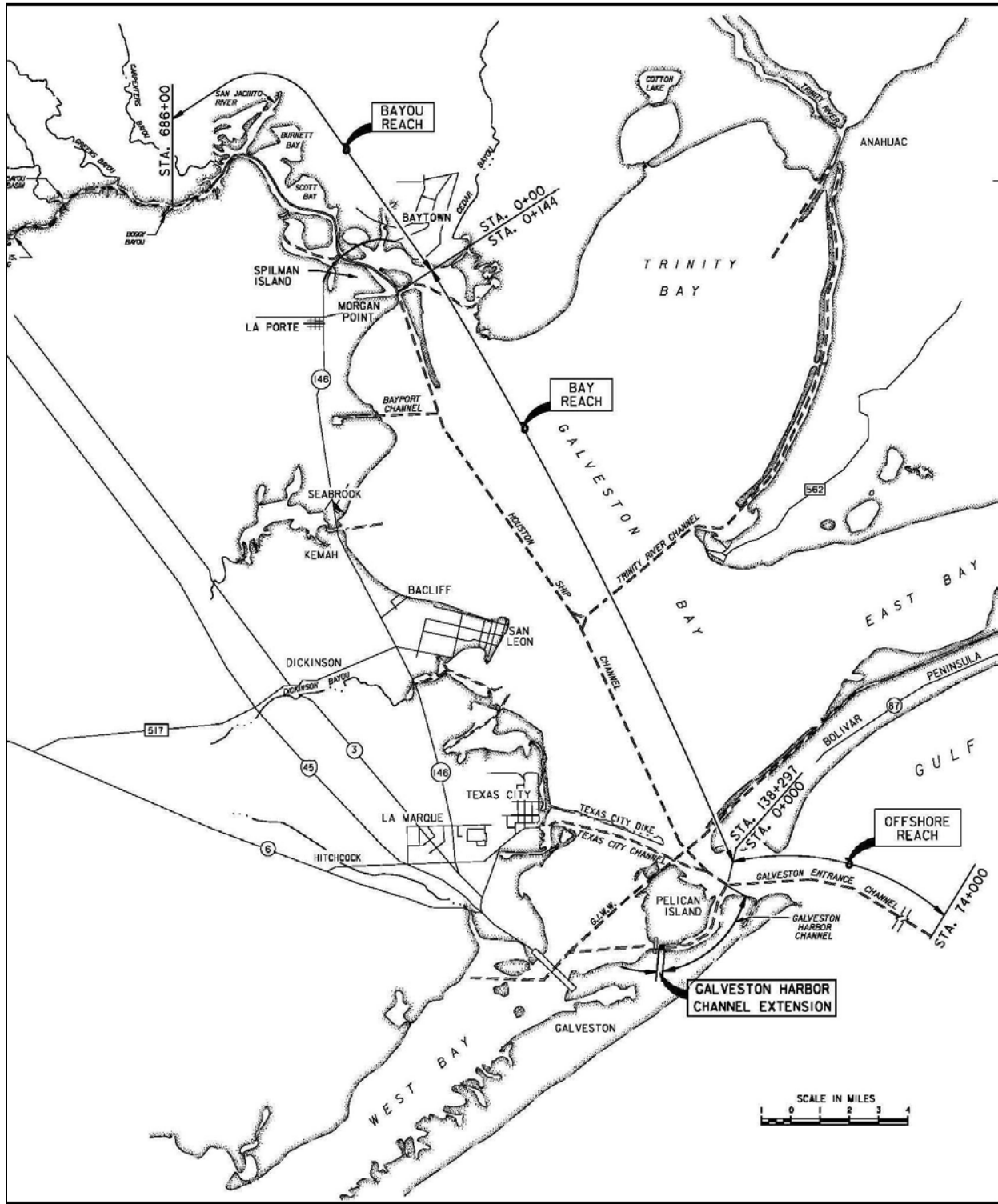


Figure 1 – Houston-Galveston Navigation Channels

Current Limited Reevaluation Report - Section 902 Cost Limit Analysis

In 2007, a Section 902 analysis was conducted and it projected the 902 limit would be reached in 2028. A new Section 902 analysis effort is currently in progress, with a preliminary indication that the project's cost may exceed the 902 limit before completion of project features.

As part of the effort to account for the changes outlined above, the District will include the 902 cost limit analysis as part of the LRR and use the LRR to request authorization for a new project cost (if needed). The scope of LRR will cover efforts such as:

- Review of LRR MII estimate to determine what costs were included in the original project authorization,
- Compilation and review of all costs to the project including changes since authorization,
- Review of environmental coordination that was conducted during and as a result of the changes,
- Review/calculation of economic benefits of the project. Calculation of remaining costs to the project,

NEPA Documentation

The project has seen several actions that were not considered in the 1995 SEIS NEPA coordination. Additional NEPA coordination include:

- The 1999 Final Environmental Assessment (EA) for Changes in Bolivar Beneficial Placement Area,
- The 2001 Record of Environmental Considerations for Environmental Restoration of Redfish Island and San Jacinto State Park Shoreline Protection,
- The 2005 Record of Environmental Considerations for Houston-Galveston Navigation Channels, Texas Project - Upper Bay Barge Lanes,
- The 2006 Final Environmental Assessment, Houston-Galveston Navigation Channels, Texas, Project - Mining Barbours Terminal Channel for Levee Repair and Construction.
- The Final Environmental Assessment for the Expansion of Placement Areas 14 and 15, Houston Ship Channel, Chambers County, Texas
- Conversion Mid-Bay and build 200 acres of marsh restoration at Bolivar to compensate for the loss of bay bottom was fully coordinated with the Interagency Coordination Team and is recorded in meeting minutes. Additionally, representatives of the BUG are currently preparing letters documenting the coordination that occurred and their support for the Mid-Bay conversion. A comprehensive documentation of changes and coordination will be included in the limited reevaluation report (LRR).

c. Factors Affecting the Scope and Level of Review.

The LRR is essentially three things: 1) a documentation of completed and remaining work authorized by the 1995 LRR for the Houston-Galveston Navigation Channels and a summary/explanation of changes that have occurred to the 1995 recommended plan; 2) a summary of all NEPA documentation associated with changes to the project not covered by the SEIS that accompanied the 1995 LRR; and 3) a Section 902 Analysis (with an economic update) to determine if the authorized project cost limit may be exceeded. If it is determined that the project cost limit will be exceeded, the LRR would also be the vehicle for requesting authorization of a new project cost. If

new authorization is required, coordination with the Cost Engineering Directory of Expertise in Walla Walla District for ATR of cost estimates, construction schedules and contingencies will occur. The LRR does not recommend additional project elements or present for consideration risk factors to life and safety or new novel methods and technologies. With the possible exception of requesting authorization for a new project cost, public review of the LRR is not anticipated and the potential for controversy is minimal. Risk associated with the LRR is primarily associated with the calculation of project costs and conducting the project cost limit analysis.

- d. **In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. The in-kind products and analyses to be provided by the non-Federal sponsor include: **Not Applicable**

4. DISTRICT QUALITY CONTROL (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 MSC.

- a. **Documentation of DQC.** DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements. 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, 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 approval by the District Commander. For the Houston-Galveston Navigation Channels LRR / Section 902 Cost Analysis, non-PDT members and/or supervisory staff will conduct this review for major draft and final products. It is expected that the Major Subordinate Command (MSC)/District QMP addresses the conduct and documentation of this fundamental level of review.

5. 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 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 the designated 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. The ATR team lead will be from outside the home MSC.

- a. **Products to Undergo ATR.** The product to undergo ATR will be the draft LRR/Section 902 costs limit analysis. ATR is required for this study and will focus on the following:
 - (1) Review of the planning study process,

- (2) Review of the compilation of project changes, associated costs to date, and cost estimates for remaining project features,
- (3) The Section 902 cost limit analysis,
- (4) Completeness of study and support documentation

b. Required ATR Team Expertise.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with extensive experience in preparing Civil Works decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead may also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc).
Planning	The Planning reviewer should be a senior water resources planner with experience in deep-draft navigation.
Economics	The Economics reviewer should be an economist with experience in deep-draft navigation.
Environmental Resources	The Environmental Resources reviewer should be a reviewer with experience in deep-draft navigation.
Cost Engineering/Estimating	The Cost Engineering / Estimating reviewer should be a reviewer with experience in deep-draft navigation.
Real Estate	The reviewer should have knowledge in reviewing RE Plans for deep draft navigation decision documents (e.g. LERRDs, navigation servitude, facility relocations and placement areas). The reviewer must be selected from the RE CoP approved list of RE ATR reviewers.

c. Documentation of ATR. DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:

- (1) The review concern – identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;
- (2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not be properly followed;
- (3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and
- (4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist.

The ATR documentation in DrChecks will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the district, RMO, MSC, and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issue (if any); and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed, based on work reviewed to date, for the AFB, draft report, and final report. A sample Statement of Technical Review is included in Attachment 2.

6. 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 1165-2-209, 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 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 1165-2-209.

- 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.

a. Decision on IEPR.

Due consideration was given to Paragraph 15 of EC 1165-2-209 as well as Appendix D of the same EC. The LRR is an economic update and documentation of project changes that have occurred since authorization. The documentation includes a new Section 902 cost limit analysis that may determine that the project cost limit will be exceeded due to changes that have already been incurred associated with increased dredging costs and design changes due to site conditions. Remaining project costs are for work associated with completing a few remaining marsh restoration features. The cost of the project at the time of authorization was much greater than \$45,000,000 the LRR does not reevaluate alternatives, technical analyses, or recommend additional features. The LRR is an activity for which there is ample experience within the USACE and industry to treat the activity as being routine and there is no life safety risk. Project risks have already been evaluated in an approved Chief's Report and the project is authorized. While the Section 902 limit analysis may result in a request for additional authorization to fund completion of the project, it will not affect any of the previous recommendations. Other criteria, such as public safety concerns, significant controversy, a high level of complexity, significant economic, environmental and social effects to the nation, innovative solutions, or life safety issues will not trigger the requirement for IEPR. By HQ Email notification dated 4 December 2012 the study has received approval for an exclusion from the requirement for IEPR.

b. Products to Undergo Type I IEPR. Not Applicable

c. Required Type I IEPR Panel Expertise. Not Applicable

d. Documentation of Type I IEPR. Not Applicable

7. 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.

8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost Engineering DX, located in the Walla Walla District. The DX will assist in determining the expertise needed on the ATR team and Type I IEPR team (if required) and in the development of the review charge(s). The DX will also provide the Cost Engineering DX certification. The RMO is responsible for coordination with the Cost Engineering DX.

9. MODEL CERTIFICATION AND 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. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. 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).

- a. **Planning Models.** The following planning models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
Section 902 Analysis Certified Tool	Section 902 Analysis Tool will be used to calculate the maximum project cost (includes the authorized cost (adjusted for inflation), the current cost of any studies, modifications, and action authorized by WRDA '86 or any later law, and 20 percent of the authorized cost (without adjustment for inflation).	Certified
Study Specific Economic Spreadsheet Model	The LRR / 902 Analysis Report presents a Level 2 (Benefit Update) Economic Update to support the previously authorized economic feasibility of deepening and widening HGNC. The Deep Draft Navigation (DDN) Planning Center of Expertise (PCX) will conduct a Level 3 review of the model for the following reasons: 1) Review is for a routine and non-complex model that has a minor impact on project decision-	Level 3 Review of Regional / Local Model (Approval for Single Use is Pending)

	making; and 2) The model platform is Microsoft Excel and the DDNPCX has in-house expertise to review it appropriately.	
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b. Engineering Models. The following engineering models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
MII Cost Estimating Tool	MII Cost Estimating Tool will be used to estimate the cost of completing the remaining features authorized in the 1995 Houston-Galveston Navigation Channels LRR.	Approved

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost.

Estimated schedule for ATR of the draft Feasibility Report

ATR Review of Draft Report	28 Nov – 10 Jan 2012
ATR Certification	01 Feb
HQ Policy Compliance Review	14 March – 24 April
IRC	24 April
Project Guidance Memo	25 April – 8 May
IEPR	9 May – 12 July

Total cost is expected to be approximately \$40K and the participation of the ATR Lead in milestone conferences and the Civil Works Review Board (CWRB) meeting (if required for the study) to address the ATR process and any significant and/or unresolved ATR concerns.

b. Type I IEPR Schedule and Cost. N/A

c. Model Certification/Approval Schedule and Cost. As part of the LRR, the District is performing a Level 2 (Benefit Update) Economic Update to support the previously authorized economic feasibility of deepening and widening the H-GNC. The estimated schedule and cost for this update is February – April 2013 and \$25K.

11. PUBLIC PARTICIPATION

No public participation is anticipated for this project. This expectation is based on no new SEIS or EA accompanying the draft LRR.

12. REVIEW PLAN APPROVAL AND UPDATES

The Southwestern Division Commander is responsible for approving this Review Plan. The Commander’s approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the PMP, the Review Plan is a living document and may change as the study progresses. The home district is responsible for keeping

the Review Plan up to date. Minor changes to the review plan since the last MSC Commander approval are documented in Attachment 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, should be posted on the Home District's webpage. The latest Review Plan should also be provided to the RMO and home MSC.

13. REVIEW PLAN POINTS OF CONTACT

Public questions and/or comments on this review plan can be directed to the following points of contact:

	Chief, Planning Section	
	Planning Lead	
	ATR Team Lead	

ATTACHMENT 1: TEAM ROSTERS

PDT Roster

NAME	TITLE/ORG.	PHONE	EMAIL
	Project Manager CESWG-PM-J		
	Planning Study Lead CESWG-PE-PL		
	Environmental Lead CESWG-PE-PR		
	Economist CESWG-PE-PL		
	Cost Engineer's CESWG-EC-EC		
	Real Estate CESWG-RE		

DQC ROSTER

NAME	TITLE/ORG.	PHONE	EMAIL
	PLANNING DQC CESWG-PE-PL		
	ENVIRONMENTAL DQC CESWG-PE-PR		
	ECONOMICS DQC CESWG-PE-PL		
	COST ENGINEER DQC CESWG-EC-EC		
	REAL ESTATE DQC CESWG-RE		

ATR Roster

NAME	ATR Discipline/ORG.	PHONE	EMAIL
	ATR Lead / DDNPCX		
	Costs/Walla Walla		
	Economics / SAM		
	Environmental / SAM		
	Real Estate / MVN		
	Plan Formulation / SAM		

VERTICAL TEAM POC'S

NAME	TITLE/ORG.	PHONE	EMAIL
	MSC Planning Coordinator for SWG		
	Chief of Planning Division		
	Regional Integration Team		

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the <type of product> for <project name and location>. The ATR was conducted as defined in the project’s Review Plan to comply with the requirements of EC 1165-2-209. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer’s needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrCheckssm.

SIGNATURE

Name
ATR Team Leader
Office Symbol/Company

Date

SIGNATURE

Name
Project Manager
Office Symbol

Date

SIGNATURE

Name
Architect Engineer Project Manager¹
Company, location

Date

SIGNATURE

Name
Review Management Office Representative
Office Symbol

Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: *Describe the major technical concerns and their resolution.*

As noted above, all concerns resulting from the ATR of the project have been fully resolved.

SIGNATURE

Name

Chief, Engineering Division

Office Symbol

Date

SIGNATURE

Name

Chief, Planning Division

Office Symbol

Date

¹ Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number
2012-09-06	DQC Roster added to Team Roster section	p. 15

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

Term	Definition	Term	Definition
AFB	Alternative Formulation Briefing	NED	National Economic Development
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
DPR	Detailed Project Report	OMB	Office and Management and Budget
DQC	District Quality Control/Quality Assurance	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DX	Directory of Expertise	OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PAC	Post Authorization Change
ER	Ecosystem Restoration	PMP	Project Management Plan
FDR	Flood Damage Reduction	PL	Public Law
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
GRR	General Reevaluation Report	RED	Regional Economic Development
Home District/MSD	The District or MSD responsible for the preparation of the decision document	RMC	Risk Management Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IEPR	Independent External Peer Review	RTS	Regional Technical Specialist
ITR	Independent Technical Review	SAR	Safety Assurance Review
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WRDA	Water Resources Development Act