



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
SOUTHWESTERN DIVISION, CORPS OF ENGINEERS
1100 COMMERCE STREET
DALLAS TX 75242-0216

0 3 APR 2013

CESWD-RBT

MEMORANDUM FOR Commander, Galveston District

SUBJECT: Review Plan approval for Bayport Channel Improvement projects, Galveston, TX

1. Reference: EC 1165-2-214, Civil Works Review, 15 Dec 2012.
2. The attached Review Plan for the Bayport Ship Channel Improvement project by the Port of Houston Authority (PHA) has been prepared in accordance with EC 1165-2-214. SWG will request exclusion to the Type 1 independent peer review which applies only to the Section 204(f) Federal Assumption of Maintenance. Only HQUSACE can grant approval of the Type I exclusion. SWD is supportive of the request by SWG for exclusion to the independent peer review Type I. The Chief of Engineering and Construction in Galveston District has determined that the project does not pose a risk to public safety and therefore does not require an independent external peer review Type II which applies only to the Section 408.
3. I hereby approve the Review Plan, which is subject to change as circumstances require, for design and construction of Bayport and Barbours Cut Channel Improvements by the Port of Houston Authority. Any changes as a result of the Type I exclusion request will also be addressed when a decision is reached by HQUSACE. The Review Plan has also been reviewed and coordinated with the Deep Draft Navigation Planning Center of Expertise (DNN-PCX).
4. The point of contact for this action is Mr. Michael Jordan at Michael.Jordan@usace.army.mil or office phone 469-487-7035.

Encl

A handwritten signature in black ink that reads "Thomas W. Kula".

THOMAS W. KULA
Brigadier General, USA
Commanding

REVIEW PLAN

Bayport Ship Channel and Barbours Cut Channel

Deepening and Widening Project

Section 204(f) Federal Assumption of Maintenance Report and 33

U.S.C. 408 Approval Request

U.S. Army Corps of Engineers Galveston District

MSC Approval Date: 3 May 2013

Last Revision Date: 30 April 2013

REVIEW PLAN

Bayport Ship Channel and Barbours Cut Channel

Deepening and Widening Project

Section 204(f) Federal Assumption of Maintenance Report and 33 U.S.C. 408 Approval Request

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1. PURPOSE AND REQUIREMENTS

- a. **Purpose** - This Review Plan (RP) defines the scope and level of peer review for the Bayport Ship Channel and Barbours Cut Channel Deepening and Widening Project; Section 204(f) Federal Assumption of Maintenance (AOM) Report and 33 U.S.C. 408 Approval Request.

This RP presents the process to be prepared by the Port of Houston Authority (PHA) the Non Federal Sponsor (NFS) in coordination with USACE, for District Quality Control (DQC) and Agency Technical Review (ATR) to be performed by the Galveston District (SWG) in coordination with the Deep Draft Navigation Planning Center of Expertise, which will be implemented as part of these actions. It is envisioned that a separate 33 U.S.C. 408 Approval request will be made independently for the Bayport Ship Channel (BSC) and one for the Barbours Cut Channel (BCC). However, one 204 (f) report will be prepared that includes justification for the Assumption of Maintenance of both the BSC and BCC.

b. References

- 1) Section 14 of the River and Harbors Act of 1899 as amended
- 2) Section 204 of the Water Resources Development Act of 1986 as amended
- 3) Section 214 of the Water Resources Development Act of 2000 as amended
- 4) 33 U.S.C. 408, Taking Possession of, Use of, or Injury to Harbor and River Improvements.
- 5) Engineering Circular (EC) 1165-2-214, Civil Works Review 15 Dec 2012
- 6) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- 7) EC 1105-2-410, Review of Decision Documents, 22 Aug 2008
- 8) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- 9) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- 10) ER 1165-2-119 Modifications to Completed Projects
- 11) CECW-PB Memorandum for Major Subordinate Commands, Subject: Policy and Procedural Guidance for the Approval of Modification and Alterations of Corps of Engineers Projects, 23 October 2006
- 12) CECW-PB Memorandum for See Distribution, Subject: Clarification Guidance on the Policy and Procedural Guidance for the Approval of Modification and Alterations of Corps of Engineers Projects, 17 November 2008
- 13) CECW-PB Memorandum for Major Subordinate Commands and District Commands, Subject: Delegation of Authority to District Commanders to Approve Pursuant to 33 U.S.C. 408 Those Minor, Low Impact Modifications to Flood Protection Works Operated and Maintained by Non-Federal Sponsors Previously Being Considered under 33 CFR 208.10(a)(5)
- 14) CECW-PB Memorandum for Major Subordinate Commands and District Commands, Subject: Implementation Guidance for Utilizing Section 214 of the Water Resources Development Act of 2000, as amended, to Accept Funding from Non-Federal Public Entities to Expedite the Evaluation of Permits pursuant to 33 U.S.C. 408

15) Executive Order 11988

16) Memorandum of Agreement (MOA) between the Port of Houston Authority and the Department of the Army

17) Support Agreements 1,2, & 3

18) Bayport Ship Channel AOM 1993

19) Barbours Cut Channel AOM 1993

20) SWG-2011 - 01183 Bayport Ship Channel (Section 10/404 Permit for Non-Federal Construction); June 2013

21) SWG-1999 - 02499 Barbours Cut Channel (Section 10/404 Permit for Non-Federal Construction); July 2013

c. Requirements - This RP 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. Decision documents are subject to cost engineering review and certification (per EC 1165-2-214) (certification of costs estimates are required for the section 204(f) submittal) and planning model certification/approval (per EC 1105-2-412). A formal USACE Project Management Plan (PMP) is not required as the 204 (f) and the 408 reports will be conducted by the NFS. The referenced support agreements will serve as the PMP portions for the USACE.

d. Applicability - The document provides the RP for the Bayport Ship Channel and Barbours Cut Channel Deepening and Widening Project; Section 204(f) Federal Assumption of Maintenance Report and 33 U.S.C. 408 Approval Requests.

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in the RP. 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. For these actions, the RMO for the peer review effort described in the RP is Southwestern Division (SWD) office in coordination with the Deep Draft Navigation PCX (DDNPCX).

For Section 204(f) 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. This is a single purpose study. Thus, no additional PCXs will be utilized. This project does not involve life safety issues. Thus, the RMC will not have a role in the review.

3. STUDY INFORMATION

- a. **Decision Documents** - The Bayport Ship Channel and Barbours Cut Channel Deepening and Widening Projects, Texas; Section 204(f) Federal Assumption of Maintenance Report and 33 U.S.C. 408 Report will result in three decision documents: 1) Bayport Ship Channel Modernization Project 33 U.S.C. 408 Approval Request and Report; 2) Barbour's Cut Ship Channel Modernization Project 33 U.S.C. 408 Approval Request and Report; and 3) Bayport Ship Channel and Barbours Cut Channel Deepening and Widening Project; Section 204(f) Federal Assumption of Maintenance Report. The purpose of the Section 204 (f) Report is to determine whether it is in the Federal Government's interest to assume operation and maintenance of the Bayport Ship Channel and Barbours Cut Channel Deepening and Widening Projects. The Section 408 decision documents will allow the PHA to modify the Federal Navigation Projects. The level of approval for the 204 (f) decision document is ASA (CW). The level of approval for the Section 408 decision document is the Director of Engineers. Congressional authorization is not required. An Environmental Assessment for the Projects will be prepared by the PHA and will be included in the AOM Report.
- b. **Project Description** - The project includes two separate 40-foot tributary channels (BSC and BCC) to the Houston Galveston Navigation Channels (HGNC), Texas, an existing 45-foot project. The project RP action consists of evaluating the federal interest in allowing the PHA to modify the BSC and BCC along with evaluating the federal interest in the assumption of maintenance of the planned modifications in accordance with WRDA 1986, 204 (f).

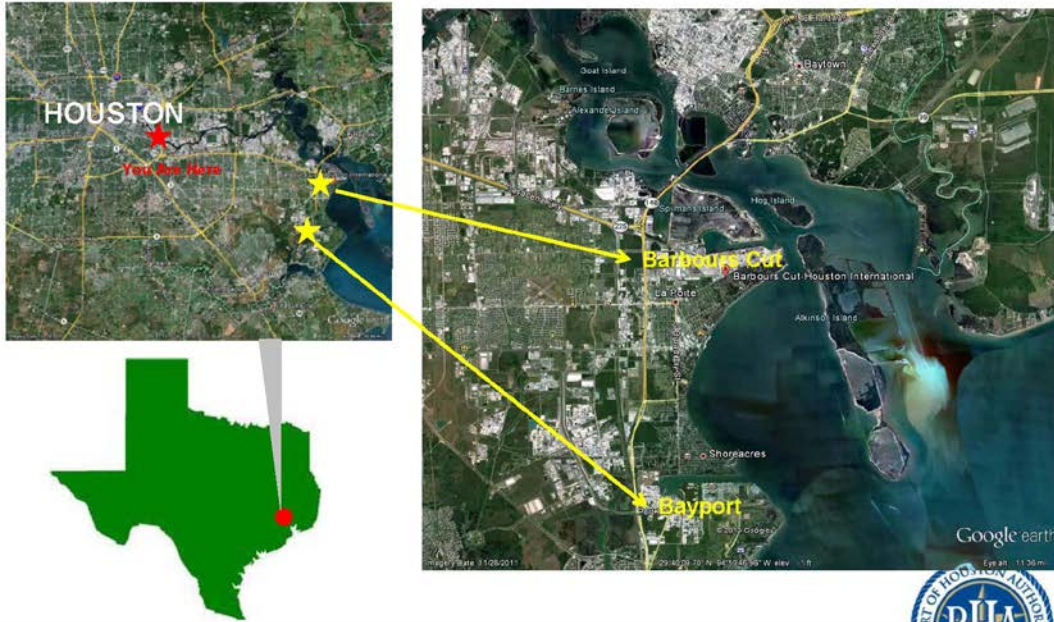
Bayport Ship Channel Authorization: Federal maintenance of the Bayport Ship Channel, the channel, exclusive of berthing areas originally constructed at 40 feet in depth by the Local Sponsor pursuant to Department of the Army permit number 6140, to be perpetually maintained by the Government at a depth of 40 feet and width of 300 feet, from the Houston Ship Channel at mile 20.5 to the Bayport Turning Basin approximately 22,000 feet west; and the turning basin, to be perpetually maintained by the Government at a depth of 40 feet, a width of 1,600 feet and a length of 1,600 feet. By USACE Section 408 and 404/10 Permits, the PHA plans to deepen the channel and Turning Basin to -45 feet MLT and widen the channel 100 feet to the north from the intersection of the HSC to approximate Station 115+00, and 50 feet to the north from Station 115+00 to 25+56 in the Turning Basin.

Barbours Cut Channel Authorization: Federal maintenance of the Barbour Terminal Channel, was authorized by Section 819 of the Water Resources Development Act of 1986, Public Law 99-662, as amended. The channel, exclusive of berthing areas, originally constructed and maintained by the Department of the Army at 16 feet in depth, subsequently deepened to a 40-foot depth by the Local Sponsor pursuant to Department of the Army permit number 8726, to be perpetually maintained by the Government at a depth of 40 feet and width of 300 feet, from the Houston Ship Channel at mile 26.0 to the Barbour Terminal Turning Basin, approximately

8,400 feet west; and the turning basin to be perpetually maintained by the Government at a depth of 40 feet, a width of 2,000 feet and a length of 1,900 feet. By USACE Section 408 and 404/10 Permits, the PHA plans to deepen the channel and Turning Basin to -45 feet MLT and widen the channel 75 feet to the north from approximate Station 25+13 to 65+43. With the exception of widened portion of the channel, the channel has been previously mined to -54 feet MLT.

The PHA is seeking approval of a modification to a Federal Project under 33 U.S.C. 408 for both the BSC and BCC as described above. The PHA is also conducting a study for Federal assumption of maintenance of the permitted project described above. The study authority is Section 204(f) of WRDA 1986, amended 1990. The physical construction would not be initiated until receiving approval of Federal assumption of maintenance from ASA (CW). This is a single-purpose study (deep draft navigation).

GENERAL STUDY AREA



PORT OF HOUSTON AUTHORITY



c. Factors Affecting the Scope and Level of Review

- This is a study to assess the feasibility of assuming maintenance of the permitted non-Federal deepening of a Federal deep draft navigation channel. The non-Federal construction is a standard dredging project, which will be accomplished via industry standard methodologies and, therefore, should be considered by USACE as routine. The local sponsor is requesting assumption of maintenance. Maintenance dredging is also a well-known practice which should be considered routine. There are no technical, institutional or social challenges associated with the project.
- All aspects of the project are routine. Financial risks include those associated with price fluctuations for construction and maintenance dredging.
- The project does not pose a threat to life or safety.
- There is no request by the Governor of an affected state for a peer review by independent experts.
- The project is a minor deepening and widening of an already authorized Federal project.
- The physical construction of the project is in the last permitting stage and has already undergone public review. Previously controversial elements of the project have been eliminated, therefore unlikely to result in significant public dispute.
- The cost of the non-Federal deepening and widening will be paid entirely by the local sponsor. Thus, the project is unlikely to involve significant public dispute for economic reasons.
- The construction footprint of the non-Federal deepening and widening is within the general footprint of the Federal project. A permit decision for the projects will be issued prior to commencement of construction and maintenance. All environmental impacts for the Bayport Channel have been minimized and there are no impacts associated with the Barbour's Cut Channel. Thus, the project is unlikely to involve significant public dispute for environmental reasons.
- This is a routine dredging project that relies on well established standard practices. The project will not utilize novel, new innovative materials, present complex challenges for interpretation, or present conclusions that are likely to change prevailing practices.
- This is a routine dredging project that is not anticipated to require redundancy, resiliency, unique construction sequencing, or a reduced or overlapping schedule.
- NEPA documentation regarding the use of the Regulatory EA or the PHA EA and the scope of requirements will continue concurrently with the sect 408 review and must be completed prior to HQ issuing a decision on the section 408.
- Mii Estimates for the construction costs to be borne by the PHA are not required.
- The Galveston District is in the process of converting all vertical datums used in navigation projects to reference Mean Lower Low Water (MLLW). The new MLLW reference is intended to indicate the average minimum tidal depth expected in the water bodies. While the District has not yet made determinations concerning the new reference elevations for Galveston Bay, project elevations will eventually need to be adjusted in accordance with the new standards. Although the reference datum change would change the labeled value of the project bottom elevation, it is not expected to change the physical elevation of the channel.

d. In-Kind Contributions – No in-kind contributions will be made by the PHA.

e. **Local Sponsor Report** - Products and analyses provided by PHA are subject to ATR. The reports provided by the PHA will undergo PHA level DQC as coordinated through the Regional Integration Team (RIT). Similarly products produced by the USACE will undergo District DQC and ATR. The Section 10/404 Permit Public Notice and associated public record, Economics, and Real Estate Reports will be prepared by the USACE.

f. **Studies and reports to be provided by the PHA through A/E contractors include:**

(1) Bayport Ship Channel Modernization Project 33 U.S.C. 408 Approval Request and Report

(a) Supporting Appendices including:

- (i) Environmental Assessment
- (ii) Project Preliminary Design Plates
- (iii) Geotechnical Analysis
- (iv) IEPR Exclusion Request
- (v) Agency Coordination
- (vi) MITAGS Ship Simulation

(2) Barbours Cut Channel Modernization Project 33 U.S.C. 408 Approval Request and Report

(a) Supporting Appendices including:

- (i) Environmental Assessment
- (ii) Project Preliminary Design Plates
- (iii) Geotechnical Analysis
- (iv) IEPR Exclusion Request
- (v) Agency Coordination
- (vi) Houston Pilots Association Navigation Assessment

(3) Bayport Ship Channel and Barbours Cut Channel Deepening and Widening Project; Section 204(f) Federal Assumption of Maintenance Report

(a) Supporting Appendices including:

- (i) Environmental Assessment for Bayport Ship Channel
- (ii) Environmental Assessment for Barbours Cut Channel
- (iii) Engineering Appendix for Bayport Ship Channel
- (iv) Engineering Appendix for Barbours Cut Channel
- (v) Construction Cost Estimate
- (vi) IEPR Exclusion Request
- (vii) Agency Coordination
- (viii) MITAGS Ship Simulation
- (ix) Houston Pilots Association Navigation Assessment

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 EC 1165-2-214. The AOM Report will be conducted by the PHA and, therefore, the quality control in this Phase will be conducted by the PHA in coordination with the A/E PDT. As per the guidance from the Planning Charrette held

January 23-25, 2013, DQC will be conducted by the PHA for all products prepared by the PHA contractors. Documentation of DQC activities is required and should be in accordance with the Port of Houston Authority QA/QC procedures for products prepared by the PHA. The real estate plan and economics reports will follow the DQC procedures of the contractors which prepared them and then checked by the PHA.

- a. **Documentation of DQC** - DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements. It will be managed by the PHA and will be conducted by PHA staff and its contractors. Quality checks may be performed by staff responsible for the work, such as supervisors, work leaders, team leaders, designated individuals from the senior staff, or other qualified personnel. However, they will not be performed by the same people who performed the original work. Basic quality control tools will include quality checks and reviews and supervisory reviews. The PHA DQC documentation will be included as part of the Section 408 backup documentation.

The PDT will be 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. This will occur during the ATR process.

b. Products to Undergo PHA DQC.

(1) Bayport Ship Channel Modernization Project 33 U.S.C. 408 Approval Request and Report

- (a) Supporting Appendices including:
 - (i) Environmental Assessment
 - (ii) Project Preliminary Design Plates
 - (iii) Geotechnical Analysis
 - (iv) IEPR Exclusion Request
 - (v) Agency Coordination
 - (vi) MITAGS Ship Simulation

(2) Barbours Cut Channel Modernization Project 33 U.S.C. 408 Approval Request and Report

- (a) Supporting Appendices including:
 - (i) Environmental Assessment
 - (ii) Project Preliminary Design Plates
 - (iii) Geotechnical Analysis
 - (iv) IEPR Exclusion Request
 - (v) Agency Coordination
 - (vi) Houston Pilots Association Navigation Assessment

(3) Bayport Ship Channel and Barbours Cut Channel Deepening and Widening Project; Section 204(f) Federal Assumption of Maintenance Report

- (a) Supporting Appendices including:
 - (x) Environmental Assessment for Bayport Ship Channel
 - (xi) Environmental Assessment for Barbours Cut Channel
 - (xii) Engineering Appendix for Bayport Ship Channel
 - (xiii) Engineering Appendix for Barbours Cut Channel

- (xiv) Construction Cost Estimate
- (xv) IEPR Exclusion Request
- (xvi) Agency Coordination
- (xvii) MITAGS Ship Simulation
- (xviii) Houston Pilots Association Navigation Assessment

- c. **Products to Undergo USACE DQC** - Products to undergo DQC include: 1) Real Estate Plan, 2) Economic Benefits Analysis, 3) Operation and Maintenance Mii, and 4) Section 408/10/404 Permit and Administrative Record.
- d. **Required PHA DQC Expertise** - Expertise required to conduct PHA DQC includes: 1) Coastal Deep Draft Planning, 2) Engineering Design, 3) Environmental Resources, 4) Cost Estimating, and 5) Construction
- e. **Required USACE DQC Expertise** - Expertise required to conduct USACE DQC includes: 1) Coastal Deep Draft Planning, 2) Coastal Deep Draft Economics, 3) Real Estate, 4) Environmental, and 5) Cost Estimating

5. AGENCY TECHNICAL REVIEW

- a. 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 will be conducted by a qualified team consisting of members from the home district supplemented by outside team members that are not involved in the day-to-day production of the project/product. The ATR team lead will be from outside the home MSC and is Johnny Grandison, SAM, Navigation PCX.

b. Products to Undergo ATR

(4) Bayport Ship Channel Modernization Project 33 U.S.C. 408 Approval Request and Report

- (a) Supporting Appendices including:
 - (i) Environmental Assessment
 - (ii) Project Preliminary Design Plates
 - (iii) Geotechnical Analysis
 - (iv) IEPR Exclusion Request
 - (v) Agency Coordination
 - (vi) MITAGS Ship Simulation

(5) Barbours Cut Channel Modernization Project 33 U.S.C. 408 Approval Request and Report

- (a) Supporting Appendices including:
 - (i) Environmental Assessment
 - (ii) Project Preliminary Design Plates
 - (iii) Geotechnical Analysis
 - (iv) IEPR Exclusion Request

- (v) Agency Coordination
- (vi) Houston Pilots Association Navigation Assessment

(6) Bayport Ship Channel and Barbours Cut Channel Deepening and Widening Project; Section 204(f) Federal Assumption of Maintenance Report

- (a) Supporting Appendices including:
 - (xix) Environmental Assessment for Bayport Ship Channel
 - (xx) Environmental Assessment for Barbours Cut Channel
 - (xxi) Engineering Appendix for Bayport Ship Channel
 - (xxii) Engineering Appendix for Barbours Cut Channel
 - (xxiii) Construction Cost Estimate
 - (xxiv) IEPR Exclusion Request
 - (xxv) Agency Coordination
 - (xxvi) Real Estate Plan
 - (xxvii) Economics Appendix
 - (xxviii) MITAGS Ship Simulation
 - (xxix) Houston Pilots Association Navigation Assessment

c. Required ATR Team Expertise - Expertise required to conduct ATR includes: 1) Coastal Deep Draft Planning, 2) Coastal Deep Draft Economics, 3) Environmental Resources, 4) Real Estate, 5) Engineering Design, 6) Cost Estimating, 7) Planning, and 8) Construction/Operations with experience in dredged material quantities and frequency.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	<u>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).</u>
Planning	<u>The Planning reviewer should be a senior water resources planner with experience in coastal deep draft navigation</u>
Economics	<u>The economics reviewer should be an economist with experience in coastal deep draft navigation</u>
Environmental Resources	<u>The environmental resources reviewer should be a reviewer with experience in coastal deep draft navigation.</u>
Engineering Design	<u>The engineering design reviewer should be a reviewer with experience in coastal deep draft navigation.</u>
Cost Estimating	<u>The cost estimating reviewer should be a reviewer with experience</u>

	<u>in coastal deep draft navigation.</u>
Construction/Operations	<u>The reviewer needs experience with dredge material quantities and frequency.</u>
Real Estate	<u>The real estate reviewer should be a reviewer with experience in coastal deep draft navigation.</u>

Timeline for ATR - The initial ATR review shall not exceed one week by the review team once a complete submittal is received. The response and backcheck shall not take more than one week unless significant additional analyses are needed. In this instance, the issue will be discussed by the PCT to determine the appropriate path forward by either engaging the PCX or MSC experts; engaging HQUSACE SMEs; or pursue resolution through the policy issue resolution processes described in Appendix H, ER 1105-2-100. Responses shall be addressed by the reviewer within three business days. The ATR of the BSC Section 408 EA will be conducted concurrently with the ATR of the technical documents. The EA will be finalized prior to SWG signing the construction approval memo.

d. 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 reviewers are encouraged to correspond with the report preparers on questions and concerns via teleconference or email in order gain efficiencies in the review process. Relevant concerns, comments and suggestions should be documented in DrChecks and resolved or the record.

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 the 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 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 of 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.

- 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.

Decision on IEPR - Due to the nature of this study as an AOM report, the PHA and the USACE will request an exclusion to the requirement to conduct a Type I IEPR although the project costs exceed \$45M. It should be noted that the execution of the proposed work described in the RP does not require additional Congressional Authorization. The factors necessary to determine the appropriate scope and level of review are specified in Paragraph 15 and Appendix D of EC 1165-2-214 and as enclosed as the IEPR Type I exclusion request in Appendix 4.

Type II IEPR is not required for these projects because the project does not pose a significant risk to public safety. A determination of risk has been made by the Chief of E&C. See also Appendix 4. Therefore, the project does not trigger WRDA 2007 Section 2035 factors for Safety Assurance Review (termed Type II IEPR in EC 1165-2-214). These risk factors, which are described in Paragraph 2 of Appendix E of EC 1165-2-214, are specifically addressed below:

- Is the Federal action justified by life safety or would failure of the project pose a significant threat to human life? No.
- Does the project involve the use of innovative materials or techniques where the engineering is based on novel methods, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices? No.
- Does the project design require redundancy, resiliency, and/or robustness? No.
- Does the project have unique construction sequencing or reduced or overlapping design construction schedule? No.

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. Policy and Legal compliance review will be conducted through the RIT and HQ USACE.

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

All 204(f) 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 in the development of the review charge(s). *Certification of the estimate for new work construction will not be required. In lieu of certification of the new work estimate, the DX will assign a reviewer on the ATR team with conducting a review of the estimate for reasonableness and general accuracy. The DX will be responsible for certifying the cost estimate for maintenance dredging.* The Navigation PCX 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, and ATR.

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
<u>Harbor Sym</u>	HarborSym is a planning-level simulation model designed to assist in economic analyses of coastal harbors. With user-provided input data, such as the port layout, vessel calls, and transit rules, the model calculates vessel interactions within the harbor. Unproductive wait times result when vessels are forced to delay sailing due to transit restrictions within the channel; HarborSym captures these delays.	<u>Certified</u>

- Engineering Models** - The following engineering models are anticipated to be used in the development of the decision document:

Ship Simulation: The simulation study was conducted for the Bayport Ship Channel by Waterway Simulation Technology, Inc. (WST) at the Maritime Institute for Technology and Advanced Graduate Studies (MITAGS) using their latest Transas Ship Simulator3. The simulation was developed from the Transas electronic navigation chart. Review of the planning community website does not indicate certified models for ship simulation. A categorical exclusion will be requested.

Environmental Models: No environmental models were used to determine the relatively minor oyster mitigation for the project. The oyster reefs to be mitigated for are relatively small and scattered rather than solid reef. The NFS has coordinated extensively with state and federal resource agencies in the development of the mitigation plan. The mitigation will be conducted on a 1:1 solid reef ratio and provide greater benefits than the current small areas to be mitigated. An exclusion for the use of habitat modeling is requested.

10. REVIEW SCHEDULES AND COSTS

The review schedules for the Bayport Ship Channel Modernization Project 33 U.S.C. 408 Approval Request and Report; Barbours Cut Channel Modernization Project 33 U.S.C. 408 Approval Request and Report; and the Bayport Ship Channel and Barbours Cut Channel Deepening and Widening Project; Section 204(f) Federal Assumption of Maintenance Report are included as ATTACHMENT 5.

11. PUBLIC PARTICIPATION

The actions of the proposed project are in the final permitting phase and have undergone public review. No significant comments remain unanswered. Elements of significant comments on the BSC project have been eliminated. All comments are documented as part of the administrative record for the permit(s).

For the same reasons as documented in the request for IEPR exclusion, no public, including scientific or professional societies will be asked to nominate external peer reviewers.

An initial public notice describing the Government's consideration of the request for assumption of maintenance will be issued by the Galveston District Commander in the June/July timeframe 2013.

The AOM Report, RP and ROD will be posted on the Galveston District Website.

12. REVIEW PLAN APPROVAL AND UPDATES

The [Southwest Division](#) Commander is responsible for approving this RP. The Commander's approval reflects vertical team input (involving district, MSC, RMO, PCX and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the PMP, the RP is a living document and may change as the study progresses. The home district is responsible for keeping the RP up to date. Revisions to the RP since the last MSC Commander approval will be documented in Attachment 3. Significant changes to the RP (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 RP, along with the Commander's 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 and the PCX.

13. REVIEW PLAN POINTS OF CONTACT

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

Becky Moyer	rebecca.j.moyer@usace.army.mil	SWD Overall Lead	496-487-7038
Byron D. Williams	byron.d.williams@usace.army.mil	USACE Project Management	409-766-3140
Mike Jordan	michael.jordan@usace.army.mil	SWD Review Mgr	496-487-7035
Scott Leimer	Matthew.s.leimer@usace.army.mil	SWG Sect 408 Mgr	409-766-3078

ATTACHMENT 1: TEAM ROSTERS

Bayport deepening and widening 33 USC 408

DQC Port of Houston Authority team members

Name	Role	Organization	Phone
Dana Cheney	Team Lead	GBA	832-377-4800, 713-545-8017 (cell) dlcheney@gba-inc.com
Rod McCrary	Report	AECOM	Contact Dana
Kevin Kremkau	Engineering	GBA	Contact Dana
Muhammad Mustafa	Geotech	HVJ	Contact Dana
Patty Mathews	Environmental	AECOM	Contact Dana
Robert Becker	Ship Sim	MITAGS	Contact Dana

ATR team members

NAME	ROLE	TELEPHONE	E-MAIL
Johnny Grandison, CESAM-PD-FP	ATR Team Lead	251-694-3804	Johnny.l.grandison@usace.army.mil
Sheridan Willey, CESWG-PE-PL	Planning	409-766-3917	Sheridan.s.willey@usace-army.mil
David B. Boothby, CESWG-EC-ES	Geotechnical	409-766-6335	David.b.boothby@usace.army.mil
Michael Sterling, CESWD-RBT-W	Hydraulics	469-487-7096	Michael.c.sterling@usace.army.mil
Carolyn Murphy, CESWG-PE-PR	Environmental	409-766-3044	Carolyn.e.murphy@usace.army.mil
Andrea Catanzaro, CESWG-PE-PR	Environmental	409-766-6346	Andrea.catanzaro@usace.army.mil
Thurman A. Schweitzer, Jr., CESWF-RE-P	Real Estate	817-886-1238	Thurman.a.Schweitzer@usace.army.mil
Roger Jennings, CESWF-RE-P	Real Estate	817-886-1224	Roger.c. Jennings@usace.army.mil
Denise Sloan, CESWG-PE-RB	Regulatory Advisory Member	409-766-3962	Denise.Sloadn@usace.army.mil
Tricia Campbell, CESWG-EC	Ops Advisory Member	409-766-3153	Tricia.C.Cambell@usace.army.mil

ATTACHMENT 2: REVIEW PLAN REVISIONS

**ATTACHMENT 4: IEPR EXCLUSION REQUEST and
Type II RISK DETERMINATION**



DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1229
GALVESTON, TEXAS 77553-1229

Executive Office

30 April, 2013

MEMORANDUM FOR Commander, Southwestern Division, (ATTN: Rebecca Moyer, CESWD-PD P), 1100 Commerce St. Dallas, TX 75242

SUBJECT: Request for Exclusion from Type I Independent External Peer Review (IEPR) Bayport Ship Channel and Barbours Cut Channel Deepening and Widening Project Section 204(f) Federal Assumption of Maintenance Report

1. Reference: EC 1165-2-214, Water Resources Policies and Authorities, 15 December 2012.
2. The Port of Houston Authority (PHA), the local Non-Federal Sponsor and the of Galveston District Commander, requests that the Section 204(f) Federal Assumption of Maintenance Report Approval Request for the subject project study be excluded from IEPR per the referenced guidance on review of civil works products. Based on a careful review of project risks, PHA, in consultation with SWG, has determined that the study may be excluded from IEPR, and would not significantly benefit from IEPR, for the following reasons.
 - a. At this time, the subject study does not meet the requirements for mandatory IEPR. Due to the nature of this study as an Assumption of Maintenance report, the NFS and SWG are requesting a variance on the requirement to conduct a Type I IEPR although the project costs exceed \$45M. It should be noted that the execution of the proposed work described in the RP does not require additional Congressional Authorization. The factors necessary to determine the appropriate scope and level of review are specified in Paragraph 15 and Appendix D of EC 1165-2-214.

EC 1165-2-214 provides for a potential Type I IEPR exclusion when: 1) No other mandatory conditions are met, 2) the project does not include an EIS, 3) various aspects of the problems or opportunities being addressed are not complex, and 4) there is no controversy surrounding the study. Applicable decision criteria are addressed in greater detail below:

(1) No significant threat to human life exists. The study includes two separate 40-foot tributary channels (Bayport Ship Channel (BSC) and Barbours Cut Channel (BCC) to the Houston Galveston Navigation Channels (HGNC), Texas, a 45-foot project. The study consists of evaluating the Federal interest in the assumption of maintenance of planned NFS modifications to deepen and widen the currently authorized BSC and BCC in accordance with WRDA 1986, 204 (f).

Bayport Ship Channel Authorization: Federal maintenance of the Bayport Ship Channel, the channel, exclusive of berthing areas originally constructed at 40 feet in depth by the Local Sponsor pursuant to Department of the Army permit number 6140, to be perpetually maintained

by the Government at a depth of 40 feet and width of 300 feet, from the Houston Ship Channel at mile 20.5 to the Bayport Turning Basin approximately 22,000 feet west; and the turning basin, to be perpetually maintained by the Government at a depth of 40 feet, a width of 1,600 feet and a length of 1,600 feet. By USACE Section 404/10 Permits, the NFS plans to deepen the channel and Turning Basin to -45 feet MLT and widen the channel 100 feet to the north from the intersection of the HSC to approximate Station 115+00, and 50 feet to the north from Station 115+00 to 25+56 in the Turning Basin.

Barbours Cut Channel Authorization: Federal maintenance of the Barbour Terminal Channel, was authorized by Section 819 of the Water Resources Development Act of 1986, Public Law 99-662, as amended. The channel, exclusive of berthing areas, originally constructed and maintained by the Department of the Army at 16 feet in depth, subsequently deepened to a 40-foot depth by the Local Sponsor pursuant to Department of the Army permit number 8726, to be perpetually maintained by the Government at a depth of 40 feet and width of 300 feet, from the Houston Ship Channel at mile 26.0 to the Barbour Terminal Turning Basin, approximately 8,400 feet west; and the turning basin to be perpetually maintained by the Government at a depth of 40 feet, a width of 2,000 feet and a length of 1,900 feet. By USACE Section 404/10 Permits, the NFS plans to deepen the channel and Turning Basin to -45 feet MLT and widen the channel 75 feet to the north from approximate Station 25+13 to 65+43. With the exception of widened portion of the channel, the channel has been previously mined to -54 feet MLT.

(2) The cost of the non-Federal deepening will be paid entirely by the local sponsor.

(3) The Governor of Texas has not requested a peer review by independent experts.

(4) The construction footprint of the non-Federal deepening and widening is within the general footprint of the Federal project. A permit for the projects will be issued prior to commencement of construction and maintenance. All environmental impacts for the Bayport Channel have been minimized and there are no impacts associated with the Barbours Cut Channel. Thus, the project is unlikely to involve significant public dispute for environmental reasons.

(5) A request to conduct IEPR has not been made by a Federal or state agency charged with reviewing the project. The project is not likely to have significant adverse impact on environmental, cultural, or other resources.

(6) There is not significant public dispute over the size, nature, or effects of the project or the economic and environmental cost or benefits of the project. The project has not been determined to be controversial by the Chief of Engineers.

(7) Note: Reference EC 1165-2-214, Para. 11.d.(1)

b. The Bayport Ship Channel and Barbours Cut Channel Deepening and Widening Project Section 204(f) Federal Assumption of Maintenance Report request does meet the requirements for potential exclusion from IEPR. Specifically, the Report:

(1) Includes an Environmental Assessment, not an EIS;

- (2) Has no impact on scarce or unique tribal, cultural, or historic resources;
- (3) Has no substantial adverse impacts on fish and wildlife species; and
- (4) Has negligible adverse temporary, construction-related impacts on species listed as endangered or threatened species or the critical habitat of such species.
- (5) Note: Reference EC 1165-2-214, Para. 11.d.(3)

c. The proposed study will not contain influential scientific information or highly influential scientific assessments.

(1) The proposed project is a deepening and minor widening of an existing Federal navigation project by the PHA at no cost to the government with subsequent assumption of maintenance by the government and has not produced influential scientific information or required any non-standard scientific assessments.

(2) Note: Reference 2004 OMB Final Information Quality Bulletin (IQB) for Peer Review, pages 11 & 23.

d. There is ample experience within SWG to conduct review of this assumption of maintenance. SWG has completed similar studies in the past and the subject projects continue to perform successfully.

- (1) The proposed projects consist of the following:
 - a. Bayport Ship Channel - By USACE Section 404/10 Permits, the NFS plans to deepen the channel and Turning Basin to -45 feet MLT and widen the channel 100 feet to the north from the intersection of the HSC to approximate Station 115+00, and 50 feet to the north from Station 115+00 to 25+56 in the Turning Basin would be conducted under Regulatory Permit SWG 2011-01183 once the construction is complete and if the assumption of maintenance is approved..
 - b. Barbours Cut Channel - By USACE Section 404/10 Permits, the NFS plans to deepen the channel and Turning Basin to -45 feet MLT and widen the channel 75 feet to the north from approximate Station 25+13 to 65+43. With the exception of widened portion of the channel, the channel has been previously mined to -54 feet MLT would be conducted under Regulatory Permit SWG-1999-02944, once the construction is complete and if the assumption of maintenance is approved.

SWG has experience with recent/current construction and on-going maintenance of the adjacent channel at the depth proposed for the requested actions.

3. This request has been informed by an assessment of project risks as documented in the draft Review Plan. The risk assessment explicitly considers the consequences of non-

performance on project economics, the environment and social well being, to include public safety and social justice issues.

4. Should any of these conditions change throughout the execution of this Section 204(f) Federal Assumption of Maintenance Report, I will immediately notify you and re-evaluate this request.

5. I recommend that you endorse this request for exclusion of the Type I IEPR and forward to the SWD RIT for HQ coordination and appropriate action. The Chief of Engineer's or Director of Civil Work's decision will then be documented in the Review Plan.

6. The PHA point of contact for this action is Mark Vincent, at 713-670-2605. The SWG point of contact for this action is Byron Williams, CESWG-PM-P, at 409-766-3140 or Robert W. Heinly, CESWG-PE-PL, at 409-766-3992.

Sincerely,

Encls
EC 1165-2-214, Para. 11.d.(3)
2004 OMB Final IQB for Peer Review


CHRISTOPHER W. SALLESE
Colonel, US Army
Commanding

30 April, 2013

MEMORANDUM FOR RECORD

SUBJECT: Type 2 IEPR Exclusion for Bayport Ship Channel and Turning Basin
33 U.S.C. 408 Approval

1. In compliance with 33 U.S.C. 408 and after obtaining Section 404/10 Permits, the Port of Houston Authority plans to deepen the Bayport Ship Channel and Turning Basin and widen the channel as noted in the enclosed review plan. The non-Federal construction is a simple routine dredging project that relies on well established standard practices. The project will not involve engineering that is based on novel methods, presents complex challenges for interpretation, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices. There are no technical, institutional or social challenges associated with the project.
2. Based upon the foregoing it is my determination that the deepening and widening of the Bayport Channel does not pose a significant threat to life safety. Therefore, no Safety Assurance Review is needed or required.



Terry F. Bautista, P.E.
Chief, Engineering and Construction Division

Encl.

ATTACHMENT 5: SCHEDULE

Activity ID	Activity Name	MS Constr	MS - CW	Original Duration	Start	Finish	Predecessors	Successors	Budgeted Total Cost
400956 HGNC Bayport AOM				240.0d	18-Jan-2013 A	02-Jan-2014			\$404,732.23
400956.22T00 HGNC Bayport Assumption of Maintenance-Charette Phase				30.0d	18-Jan-2013 A	01-Apr-2013			\$68,932.23
A1010	In - House for Bayport AOM Charette			30.0d	18-Jan-2013 A	01-Apr-2013			\$45,262.22
A1020	Non-Labor Charette Costs - Bayport AOM Charette			30.0d	18-Jan-2013 A	01-Apr-2013			\$16,250.01
A1030	Outside Labor Costs - Bayport AOM Charette			30.0d	18-Jan-2013 A	01-Apr-2013		ECON1000	\$7,420.00
400956.22M00 Project Management				211.0d	01-Mar-2013 A	31-Dec-2013			\$33,000.00
PM1000	Prepare and Complete Support Agreement and receive data from PHA			9.0d	01-Mar-2013 A	28-Mar-2013 A	ECON1000	ECON1010, PM1010, ECON1040	\$0.00
PM1010	Prepare and Complete Support Agreement 3			1.0d	02-Apr-2013	02-Apr-2013	PM1000		\$10,000.00
PM1020	General Coordination Review Assistance			211.0d	21-Mar-2013 A	31-Dec-2013	ECON0990	Report1030	\$23,000.00
400956.22000 Economics				197.0d	08-Feb-2013 A	23-Oct-2013			\$260,800.00
400956.22000.22C00 Economics				197.0d	08-Feb-2013 A	23-Oct-2013			\$260,800.00
ECON0990	Econ Lead Support			197.0d	08-Feb-2013 A	23-Oct-2013	ECON1000	ECON1130, PM1020	\$14,400.00
ECON1000	Provide SOW for Economic Analysis			1.0d	08-Feb-2013 A	01-Apr-2013	A1030	PM1000, ECON0990	\$0.00
ECON1010	Build HarborSYM Model			49.0d	28-Mar-2013 A	06-Jun-2013	PM1000	ECON1020, ECON	\$45,000.00
ECON1020	Identify Channel Features			36.0d	09-Apr-2013	29-May-2013	ECON1010	ECON1030	\$10,000.00
ECON1030	Commerce Analysis/Commodity Forecast			44.0d	28-Mar-2013 A	29-May-2013	ECON1020	ECON1060	\$45,600.00
ECON1040	Obtain Fleet Details			10.0d	08-Feb-2013 A	02-Apr-2013	PM1000	ECON1050	\$28,800.00
ECON1050	Develop Fleet Forecast			56.0d	02-Apr-2013	19-Jun-2013	ECON1040	ECON1060	\$48,000.00
ECON1060	Determine Vessel Opreations			5.0d	07-Jun-2013	13-Jun-2013	ECON1010, ECON1050, ECON1030	ECON1070, ECON1065	\$19,200.00
ECON1065	IPR			3.0d	25-Jun-2013	27-Jun-2013	ECON1060	ECON1070, ATR0990, ATR1010, ATR1020, ATR1000	\$0.00
ECON1070	Run Alternative Analysis			20.0d	28-Jun-2013	26-Jul-2013	ECON1060, ECON1065	ECON1080	\$15,000.00
ECON1080	Determine Average Annual NED Benefits			5.0d	26-Jul-2013	01-Aug-2013	ECON1070	ECON1090	\$5,000.00
ECON1090	Adjust Construction/OM Cost to Avg. An. NE			5.0d	05-Aug-2013	09-Aug-2013	ECON1080	ECON1100	\$4,800.00
ECON1100	Determine Net NED Ben and B/C Ratios			5.0d	12-Aug-2013	16-Aug-2013	ECON1090	ECON1110	\$20,000.00
ECON1110	Prepare Econ. Appendix & Report Main Input			30.0d	16-Aug-2013	27-Sep-2013	ECON1100	ECON1120	\$5,000.00
ECON1120	Conduct DQC of Econ.			5.0d	30-Sep-2013	04-Oct-2013	ECON1110	ECON1130	\$0.00
ECON1130	Conduct ATR of Econ.			12.0d	07-Oct-2013	23-Oct-2013	ECON1120, ECON0990	Report1000	\$0.00
400956.22R00 Plan Formulation				10.0d	28-Jun-2013	12-Jul-2013			\$42,000.00
ATR0990	Receive Draft Report/ EA from PHA			1.0d	28-Jun-2013	28-Jun-2013	ECON1065	Report1000	\$0.00
ATR1000	Plan/Eng/RE Report ATR			5.0d	28-Jun-2013	05-Jul-2013	ECON1065	Report1000	\$29,000.00
ATR1010	Cost Engineering ATR (Approval/Certification)			10.0d	28-Jun-2013	12-Jul-2013	ECON1065	Report1000	\$6,000.00
ATR1020	Environmental ATR of EA's			10.0d	28-Jun-2013	12-Jul-2013	ECON1065	Report1000	\$7,000.00
400956.22S00 Draft Report Phase				47.0d	24-Oct-2013	02-Jan-2014			\$0.00
Report1000	IPR of Final Report			10.0d	24-Oct-2013	06-Nov-2013	ECON1130, ATR1000, ATR1010, ATR1020, ATR0990	Report1010	\$0.00
Report1010	Legal Review of Report			3.0d	07-Nov-2013	12-Nov-2013	Report1000	Report1020	\$0.00
Report1020	PHA Submits Report to HQ/ASA			3.0d	13-Nov-2013	15-Nov-2013	Report1010	Report1030	\$0.00
Report1030	Decision Document Approval			1.0d	02-Jan-2014	02-Jan-2014	Report1020, PM1020		\$0.00

Activity ID	Activity Name	MS Constr	MS - CW	Original Duration	Start	Finish	Predecessors	Successors	Budgeted Total Cost
400956.1 SWG/Bayport 408 Report Schedule				76.0d	15-Mar-2013 A	17-Jul-2013			\$0.00
400956.1.1 SWG/ Bayport 408 Report Schedule				76.0d	15-Mar-2013 A	17-Jul-2013			\$0.00
A1040	Bayport Team Meeting			0.0d	15-Mar-2013 A	01-Apr-2013		A1050	\$0.00
A1050	408 package submittal			0.0d	02-Apr-2013	02-Apr-2013	A1040	A1060	\$0.00
A1060	Geotech Review			16.0d	02-Apr-2013	23-Apr-2013	A1050	A1070	\$0.00
A1070	H&H review			16.0d	02-Apr-2013	23-Apr-2013	A1060	A1080	\$0.00
A1080	Real Estate review			14.0d	02-Apr-2013	19-Apr-2013	A1070	A1090	\$0.00
A1090	Environmental review			0.0d	02-Apr-2013	02-Apr-2013	A1080	A1100	\$0.00
A1100	Comments incorporated resubmitted to SWG			6.0d	02-Apr-2013	09-Apr-2013	A1090	A1110	\$0.00
A1110	Legal review			7.0d	10-Apr-2013	18-Apr-2013	A1100	A1120	\$0.00
A1120	SWG Approval			2.0d	19-Apr-2013	22-Apr-2013	A1110	A1130	\$0.00
A1130	SWD review and Approval			30.0d	23-Apr-2013	04-Jun-2013	A1120	A1140, A1150	\$0.00
A1140	Comments incorporated			0.0d	05-Jun-2013	05-Jun-2013	A1130		\$0.00
A1150	HQ review and Approval			30.0d	23-Apr-2013	04-Jun-2013	A1130	A1160	\$0.00
A1160	Comment Incorporated			0.0d	05-Jun-2013	05-Jun-2013	A1150	A1170	\$0.00
A1170	SWG construction Approval			30.0d	05-Jun-2013	17-Jul-2013	A1160		\$0.00