



DEPARTMENT OF THE ARMY
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
P.O. BOX 80
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

CEMVD-PD-N

10 May '08

MEMORANDUM FOR Commander, New Orleans District

SUBJECT: Houma Navigation Canal Deepening, Louisiana Feasibility Study, Peer Review Plan (PRP)

1. References:

a. EC 1105-2-408, Peer Review of Decision documents, 31 May 2005.

b. Memorandum CECW-CP, 30 March 2007, subject: Peer Review Process.

c. Memorandum, March 2007, subject: Supplemental information for the "Peer Review Process."

d. Subject Peer Review Plan submitted via email, 1 May, 2008.

2. I hereby approve subject Peer Review Plan and concur with recommendations for conducting independent technical and external peer reviews. The proposed PRP has been coordinated with the National Deep Draft Navigation Planning Center of Expertise (DDN-PCX) and concurred in by the DDN-PCX. The PRP complies with all applicable policy and provides an adequate independent technical review of the plan formulation, engineering and environmental analyses, and other aspects of the plan development. Non-substantive changes to this PRP do not require further approval.

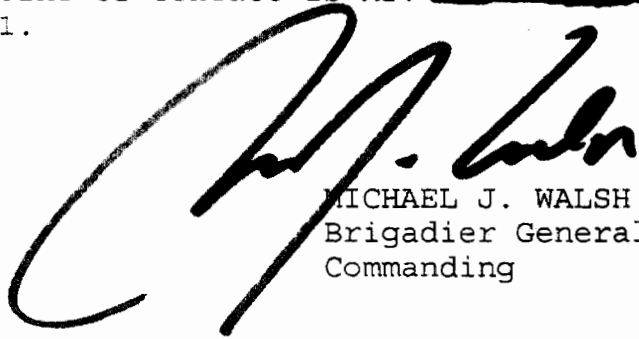
3. The District should take steps to post the PRP to its web site and to provide a link to the DDN-PCX for their use. Before posting to the web site, you are required to remove the names of Corps/Army employees in accordance with reference 1.c. above.

CEMVD-PD-N

SUBJECT: Houma Navigation Canal Deepening, Louisiana Feasibility Study Peer Review Plan (PRP)

4. The MVD point of contact is Mr. [REDACTED], CEMVD-PD-N, (601) 634-5931.

Encl



MICHAEL J. WALSH
Brigadier General, USA
Commanding

CF:
CESAM-PD-FE (ATTN: [REDACTED])
CECW-CP

STUDY AUTHORIZATION AND COST HISTORY

1. NAME OF STUDY/INTERIM REPORT: Amite River & Tributaries Ecosystem Restoration, Louisiana CWIS: 014358

2. AUTHORIZATION:

DATE	ACT/RESOLUTION	HOUSE/SENATE	REMARKS
14-Apr-67	Act		
23-Jul-98		House	

14-Apr-67 Act

"RESOLVED BY THE COMMITTEE ON PUBLIC WORKS OF THE UNITED STATES SENATE, That the Board of Engineers for Rivers and Harbors, created under Section 3 of the River and Harbor Act approved June 13, 1902, be, and is hereby requested to review the report of the chief of Engineers on Amite River and Tributaries, Louisiana, published as House Document Numbered 419, Eighty-fourth Congress, and other pertinent reports, with a view to determining whether the existing project should be modified in any way at this time with particular reference to additional improvements for flood control and related purposes on Amite River, Bayou Manchac, and Comite River and their tributaries."

23-Jul-98 House

Initial study authorization, sponsored by Congressman Baker of Louisiana.

3. COST HISTORY (PB-6 REVISIONS AND UPDATES)

DATE	COST ESTIMATE	REMARKS
13-Jun-00	\$4,000,000	Initial preliminary cost estimate

13-Jun-00 \$4,000,000

Initial preliminary cost estimate



**US Army Corps
of Engineers®**
New Orleans District

Peer Review Plan

Houma Navigation Canal Deepening Feasibility Study

**September 2007
Revised April 2008**

REVIEW PLAN

HOUMA NAVIGATION CANAL DEEPENING FEASIBILITY STUDY

1. General. This review plan was developed in accordance with EC 1105-2-408, "Peer Review of Decision Documents," dated 31 May 2005. The EC establishes procedures to ensure the quality and credibility of Corps decision documents. It applies to all feasibility studies and reports and any other reports that lead to decision documents that require authorization by Congress.

2. Purpose. This Peer Review Plan is for the Houma Navigation Canal (HNC) Deepening Feasibility Study. The purpose of the plan is to ensure the quality and credibility of assessments and solutions for the navigation improvement in investigation. This plan defines the review process, what will be reviewed, when the review is planned to occur and which technical expertise will be required to complete that process.

3. Project Description.

a. The Houma Navigation Canal (HNC) study area is located in Terrebonne Parish and includes the city of Houma, approximately 50 miles southwest of New Orleans, Louisiana. The HNC is an approximately 41-mile navigation channel that begins at the Gulf Intracoastal Waterway (GIWW) in Houma, Louisiana and extends southward to the Gulf of Mexico. Terrebonne Parish constructed the Canal in 1962 to provide direct access to the nearby resources of the Gulf of Mexico. Per the River and Harbor Act of October 23, 1962, maintenance by the United States was initiated on November 27, 1964. Subsequently in 1974, the Gulf entrance channel (from Mile 0.0 to the Gulf) was widened and deepened by the Corps of Engineers to -18 ft Mean Low Gulf (MLG) by 300 ft as authorized by Section 5 of the R&H Act of 1915 (33 USC, Sec 562), which allows for channel dimension increases *"at the entrances, bends, sidings, and turning places as may be necessary to allow of the free movement of boats."* The current authorized channel dimensions for the HNC are -15 feet MLG by 150 feet in bottom width from the GIWW to mile 0.0 and -18 feet MLG by 300 feet in bottom width, between mile 0.0 and the Gulf of Mexico.

b. MVN is preparing a feasibility level study to determine if improvements to deepen the HNC are economically justified. Two alternatives are being considered. The first alternative would deepen the Canal from an elevation of -15 feet MLG to -18 feet North American Vertical Datum 1988 [NAVD88 (2004.65)]. The second alternative would deepen the Canal from an elevation of -15 feet MLG to -20 feet NAVD88 (2004.65). A draft GRR was prepared by MVN in October of 2003. The draft GRR has undergone an independent technical review (ITR) and

was submitted to MVD and HQUSACE for policy compliance review. MVN is nearing completion of its responses to the ITR comments submitted to Dr. Checks between November of 2003 and March of 2004, and is addressing HQUSACE's policy compliance comments received in March 2005. The most significant action resulting from these reviews was a re-examination of the economic benefits of the alternative plans is required, in accordance with PL 109-13 (Sec 6009) which directs the Chief of Engineers to *"measure and include in the National Economic Development calculation the value of future energy exploration and production fabrication contracts and transportation cost savings that would result from larger navigation channels"* for navigation projects involving offshore oil and gas fabrication ports. Other modifications to the GRR and NEPA document are necessary to incorporate the new economic analysis. A draft economics report summarizing the preliminary NED benefits (to include fabrication benefits) was submitted to MVD for review in May of 2007.

c. The HNC study area is within the Morganza, Louisiana to the Gulf of Mexico (MTG) Hurricane Protection project area. The MTG Hurricane Protection project was recommended for construction by the Chief of Engineer's report dated August 23, 2002. One feature of the MTG Hurricane Protection project is a lock and floodgate complex located at approximately Mile 20, just south of the town of Dulac, Louisiana. The lock sill depth is being designed to an elevation of -23 feet NAVD88 (2004.65) in anticipation of accommodating future navigation improvements to the HNC. Should the HNC deepening not proceed to construction, the non-Federal sponsor has agreed to pay the incremental costs of any betterment to keep the lock sill depth at -23.0. Detailed design of the Houma lock and floodgate complex was authorized in the Energy and Water Development Appropriations Act for 1998, Public Law 105-62, and Reach J-1 of the Morganza to the Gulf project was authorized for construction in the December, 2003 E&WDA:

SEC. 3321. MORGANZA , LOUISIANA TO THE GULF OF MEXICO.

(a) IN GENERAL- The Secretary may carry out the project for hurricane and storm damage reduction, Morganza , Louisiana, to the Gulf of Mexico, including Reach J as referred to in section 158 of Public Law 108-137 (117 Stat. 1846), substantially in accordance with the Report of the Chief of Engineers dated August 23, 2002, as supplemented by the Report of the Chief of Engineers dated July 22, 2003, at a total cost of \$719,000,000, with an estimated Federal cost of \$467,000,000 and non-Federal cost of \$252,000,000.

(b) OPERATION AND MAINTENANCE- The Federal Government shall be responsible for operation and maintenance and repair, replacement, and rehabilitation of the Gulf Intracoastal Waterway floodgates and the lock, floodgate, and associated structures on the Houma Navigation Canal.

4. Product Delivery Team (PDT). The New Orleans District, Corps of Engineers and the Louisiana Department of Transportation and Development (LADOTD) are partnering together to undertake this study. The Corps' project manager, is the primary point of contact for the PDT. Contact the project manager by telephone at (504) 862-1281.

The PDT comprises the following members:

<u>Name</u>	<u>Phone Number</u>	<u>Office</u>
[REDACTED]	[REDACTED]	Operations
[REDACTED]	[REDACTED]	Operations
[REDACTED]	[REDACTED]	PM
[REDACTED]	[REDACTED]	Civil Engr
[REDACTED]	[REDACTED]	Environmental
[REDACTED]	[REDACTED]	Engineering
[REDACTED]	[REDACTED]	Economics
[REDACTED]	[REDACTED]	Cost Engr
[REDACTED]	[REDACTED]	PM
[REDACTED]	[REDACTED]	Real Estate
[REDACTED]	[REDACTED]	Cultural
[REDACTED]	[REDACTED]	Geotech

5. Review and Quality Control.

a. Independent Technical Review (ITR) is the primary method of quality control. ITR is a critical examination by a qualified person or team that was not involved in the day-to-day technical work that supports the decision document. ITR is intended to confirm that such work was accomplished in accordance with clearly established professional principles, practices, codes, and criteria, and that recommendations are in compliance with laws and policy.

Pursuant to EC1105-2-408, the feasibility study and resultant documents will require review by a Corps Independent Technical Review (ITR) team assigned by the Planning Center of Expertise for Deep Draft Navigation (DDN-PCX). The Director (DX), Deep Draft Navigation Center of Expertise will select this team. As cost engineering must be reviewed by the DX for Cost Engineering in Walla Walla District, the Director will also coordinate with this DX to establish the cost engineering ITR team member.

b. ITR will be ongoing throughout product development, rather than a cumulative review performed at the end of the investigation, and will comprise review of the following technical parts of the report: economic analysis, CH3D hydraulic modeling (being certified), Wetland Value Assessments (being reviewed by ERDC for certification, Coastal Sediment Transport model, Traffic forecast, and the bankline erosion study. ITR will be performed by a team from across the Corps of Engineers, including members from Walla Walla District, Mobile District, Seattle District, and Wilmington District. The ITR team also includes one person from ERDC. The expertise and technical backgrounds of the ITR team members qualify them to provide a comprehensive technical review of the product. The ITR team members are identified in Appendix A:

d. ITR comments and responses will be recorded in the online DRChecks system (www.projnet.org). Documentation of the independent technical review will be included with the submission of the reports to Mississippi Valley Division and HQUSACE. All comments

resulting from the independent technical review will be resolved prior to forwarding the feasibility study to higher authority and local interests. The report will be accompanied by a certification, indicating that the independent technical review process has been completed and that all technical issues have been resolved.

c. Model certification will involve two economic and two environmental models being used to address project planning needs for the study. The first economic study, undertaken by [REDACTED] of GEC, Inc., a contractor for the Corps under contract with PBS&J, developed the model of future conditions for benefits accruing from the deeper channel. The second model, also by [REDACTED], addressed future conditions through a vessel forecast model. This model had two functions: to help assess vessel traffic to address impacts of the deepening, and to capture additional economic benefits related to the deepened channel.

The first of the environmental models involved a prediction of erosion rates based on two inputs: the historic erosion rates from geo-referenced aerial photographs, and the increase in traffic predicted from the traffic forecast model. The other model currently underway by environmental is the multi-agency WVAs - the wetland value assessments - that detail both positive and negative impacts to the system resulting from the project.

The DDN-PCX certification process will include a review of each model's background (purpose, description), technical quality (theory, assumptions), system quality (programming, supporting software), and usability (formatting of output, usefulness of results). All models must meet all of the technical requirements governing the use of the model for the application. If the models meet these criteria, they will be certified.

e. Quality control will also be monitored via internal/District functional element reviews, Local Sponsor reviews, and Higher Authority/vertical team conferences and reviews.

f. The environmental models used for determining wetlands value (WVA) has been certified by ERDC. The hydraulics model being used to model both flow and saltwater intrusion into the channel is a CH3D three-dimensional model developed by West, Inc., and is being reviewed in process by ERDC.

g. The Sponsor will be responsible for quality control over deliverables provided as in-kind contributions. The Corps will verify that such contributions meet negotiated requirements and standards before granting cost-sharing credit for those contributions.

h. External Peer Review (EPR).

An EPR will be conducted for the HNC Deepening study through the coordination of the DDN-PCX. The project at HNC will not result in a high-risk completed project, as there are no new technologies or novel models being proposed to evaluate the impacts of deepening the channel. Risk is low, because the analysis associated with the project reflects traditional methods used in engineering, economic, environmental and design reports. The economic interest to the nation, however, is significant, and the construction costs are high, as estimated

during reconnaissance phase at a pre-Rita first cost of approximately \$140,000,000. Costs updated to reflect current costs are expected to be considerably higher. The vertical team has recommended the review and requested that this plan be presented as part the review process for the HNC Deepening study.

The EPR panel will accomplish a review that will cover the entire GRR Draft, focusing on underlying engineering, economic, and environmental work; it will not focus on one part of the project. The amount of time it will take to conduct the EPR will depend on the DDN-PCX's workload and schedule. The PCX point of contact for the project will be the Deputy Director of the Deep Draft Navigation Planning Center of Expertise (contact by telephone at 251-694-3884) of Mobile District of the Corps of Engineers; he will be responsible for identifying an EPR team and assisting us with the coordination of the review. The PDT will respond to the Deputy Director's direction as to how and by whom the EPR will be conducted. Review will be undertaken on the same technical parts of the report being reviewed by ITR: economic analysis, CH3D hydraulic modeling (being certified), Wetland Value Assessments (being reviewed by ERDC for certification, Coastal Sediment Transport model, Traffic forecast, and the bankline erosion study.

The number of reviewers participating in the EPR Team will be determined at a later date by the PCX, but should include members with expertise in the following disciplines:

Table 1. EPR Team Member Disciplines

First	Last	Discipline	Phone Number
TBD	TBD	Economics	TBD
TBD	TBD	Environmental	TBD
TBD	TBD	Geotechnical	TBD
TBD	TBD	Hydraulics and Hydrology	TBD
TBD	TBD	Waterways	TBD

6. Public Involvement. The public will have several opportunities to comment on the feasibility study through a public involvement plan implemented through a notice of study initiation, public meetings, and workshops. This will give the Corps the opportunity to exchange information with the public and insure that individuals with an inherent interest in the study are identified and contacted allowing them to voice their views and concerns relative to the study process.


Public meetings and workshops will be conducted to gather and provide feedback from the public, formulate a consensus, and generally keep interested parties informed. The first public meeting is scheduled for September of 2008 to present the tentative alternatives, and a public meeting will be scheduled subsequent to the public release of the draft feasibility report and environmental assessment to present the study conclusions. Throughout the study other public meetings and workshops will be held as necessary.

Significant and relevant public comments will be provided to the ITR team prior to certification. Any major changes in the study resulting from these comments, and all pertinent comments, will be made available to the PCX.

7. Schedule. The schedule for study tasks related to review and public input are shown in the following table:

TASKS	START	FINISH
Prepare IPR Submittal Package	9-Apr-07	7-May-07
Submit IPR Package to MVD RIT & ITR	8-May-07	8-May-07
MVD RIT & ITR Rvw IPR Package	9-May-07	29-May-07
Hold IPR	30-May-07	30-May-07
ITR Review Revised Economic Analysis	31-May-07	17-Aug-07
Receive Revised ITR Comments (Econ)	20-Aug-07	20-Aug-07
Prepare Draft Responses to Revised ITR Comments (Econ)	21-Aug-07	10-Sep-07
Close Out Pre-Draft GRR/EIS Comments in Dr. Checks	2-Nov-07	8-Nov-07
Draft GRR/EIS	9-Nov-07	24-Nov-08
Start Draft GRR/EIS	9-Nov-07	9-Nov-07
Receive Draft Technical Sections	29-Apr-08	29-Apr-08
Complete Draft GRR/EIS	30-Apr-08	13-May-08
Submit Draft GRR/EIS for ITR	14-May-08	14-May-08
Perform ITR on Draft GRR/EIS	15-May-08	28-May-08
ITR Submit Comments on Draft GRR/EIS	29-May-08	29-May-08
Prepare Responses to ITR Comments	30-May-08	5-Jun-08
Update Draft GRR/EIS for AFB	30-May-08	12-Jun-08
Prepare AFB Submittal Package (Include Legal Rvw Cert)	13-Jun-08	17-Jun-08
Submit AFB Draft GRR/EIS Package to MVD RIT	18-Jun-08	18-Jun-08
AFB Package Review	19-Jun-08	22-Jul-08
Hold AFB	1-Aug-08	1-Aug-08
Draft AFB PGM	4-Aug-08	15-Aug-08
Prepare Responses to Draft AFB PGM	18-Aug-08	29-Aug-08
Submit Responses to Draft PGM to MVD RIT	1-Sep-08	1-Sep-08
Final AFB PGM Signed	2-Sep-08	8-Sep-08
Receive MVN RIT Apprvl for Draft GRR/EIS – Pub. Review	9-Sep-08	9-Sep-08
Update Draft GRR/EIS for Public Review	27-Aug-08	18-Sep-08
Transmit Draft GRR/EIS to USEPA and EPR (1-Wk Prior to NOA)	19-Sep-08	19-Sep-08
Publish NOA in Fed Register/Init Public Review (Pub. Friday)	29-Sep-08	29-Sep-08
Concurrent EPR & Public Review of Draft GRR/EIS	30-Sep-08	14-Nov-08
Complete EPR & Public Review of Draft GRR/EIS	17-Nov-08	17-Nov-08
Compile EPR & Public Comments on Draft GRR/EIS	18-Nov-08	24-Nov-08
Final GRR/EIS	25-Nov-08	9-Jun-09
Start Final GRR/EIS	25-Nov-08	25-Nov-08
Receive Final Technical Sections	31-Dec-08	31-Dec-08
Incorporate EPR/Public Comments & Prepare Final GRR/EIS	1-Dec-08	9-Jan-09
Submit Final GRR/EIS for ITR	12-Jan-09	12-Jan-09
Perform ITR on Final GRR/EIS	13-Jan-09	26-Jan-09
Prepare Responses to ITR Comments	27-Jan-09	2-Feb-09
Update Final GRR/EIS for CWRB	27-Jan-09	9-Feb-09

8. Point of Contact. For more information about this study, please contact the project manager:


New Orleans District, US Army Corps of Engineers
7400 Leake Avenue
New Orleans, LA 70118

Telephone: (504) 862-1281
e-mail:

9. References.

- CECW-CP, Memorandum dated 30 March 2007, "Peer Review Process"
- EC1105-2-408, "Peer Review of Decision Documents", dated 31 May 2005
- EC1105-2-407, "Planning Models Improvement Program: Model Certification", dated 31 May 2005