



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

27 Aug 2011

MEMORANDUM FOR Commander, New Orleans District

SUBJECT: Review Plan for the MR&T Morganza to the Gulf of Mexico Hurricane Protection Project, Post Authorization Change Decision Document

1. References:

a. EC 1165-2-209, Civil Works Review Policy, 31 Jan 2010.

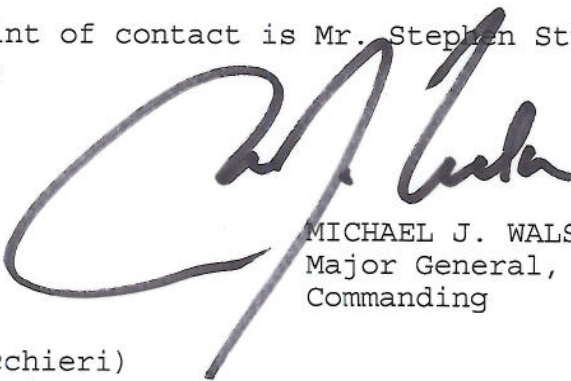
b. Memorandum, CEPCX-CSDR, 16 Aug 2011, subject: Mississippi River and Tributaries, Morganza to the Gulf of Mexico Hurricane Protection Project, LA Post Authorization Change Decision Document (encl).

2. I hereby approve subject Review Plan (RP) as enclosed and concur with the conclusion that an independent external peer review of this project is necessary. The proposed RP has been coordinated with the National Planning Center of Expertise for Coastal Storm Damage Reduction (PCX-CSDR) and they recommend approval. The RP, in accordance with EC 1165-2-209, 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. As the RP is a living document, it should be monitored and amended as appropriate to incorporate additional review requirements if the project moves into the implementation phase. Non-substantive changes to this RP do not require further approval.

3. The District should post the RP to its web site and provide a link to the PCX-CSDR for their use.

4. The MVD point of contact is Mr. Stephen Stuart, CEMVD-PD-N, at (601) 634-5829.

Encl


MICHAEL J. WALSH
Major General, USA
Commanding

CF:

CEPCX-CSDR (Cocchieri)

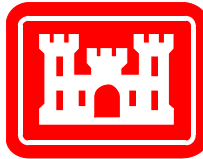
CEMVN-PM-W (Sims)

CECW-MVD

**Review Plan
for the
Post Authorization Change Decision Document
of the
Mississippi River and Tributaries,
Morganza to the Gulf of Mexico Hurricane Protection Project,
LA**

By

**U.S Army Corps of Engineers
New Orleans District
CEMVN-PM-ORP
New Orleans, LA**



Sponsored by

**Office of Coastal Protection and Restoration (OCPR)
State of Louisiana
&
Terrebonne Levee and Conservation District (TLCD)
Terrebonne & Lafourche Parish**

Last Revision Date: 16 August 2011



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*MR&T, Morganza, Louisiana to the Gulf of Mexico Hurricane Protection Project
Review Plan for Post Authorization Change*

1. Project Information

- a. Name of Authorized Project: MR&T, Morganza, Louisiana to the Gulf of Mexico Hurricane Protection Project
- b. Name of Separable Element: N/A
- c. PWI Number: 012875. P2#: 118926
- d. Authorizing Document: WRDA 2007
- e. Law/Section/Date of Project Authorization (attach copy to checklist):
WRDA Act of 2007 (PL 110-114, Sec 1001), Nov 9, 2007
- f. Laws/Sections/Dates of Any Post-Authorization Modification: N/A
- g. Non-Federal Sponsor: Louisiana Coastal Protection and Restoration Authority
- h. Project Purpose: Storm Damage Reduction
- i. Congressional Interests (Senator(s), Representative(s) and District(s)):
Senators Vitter and Landrieu, (LA)
Congressmen Landry (LA-3), Cassidy (LA-6) and Boustany (LA-7)
- j. Purpose of Decision Document: Post Authorization Change (PAC) submission due to authorized project (WRDA 2007) exceeding the Section 902 Limit per WRDA 1986 and release of the Revised Programmatic Environmental Impact Statement.
- k. Reviewer requirements: multi-disciplined team of Civil, Structural and Hydraulic Engineers, Economists, Biologists, Modelers (HEC-RAS, ADCIRC, UNET, System-wide) and those professionals with extensive experience in water resource based projects constructed in fresh/saltwater mixed basins subject to major tropical weather events. This effort will require ATR and recommend an IEPR level of review. Coordination is on-going between PCX-CSDR and other PCXs as appropriate.
- l. POC is Elaine M. Stark, PM, USACE-MVN-PM-OP, 504-862-1965 (Elaine.M.Stark@usace.army.mil).

2. Purpose of Review Plan

This review plan defines the scope and level of peer review as part of the Project Management Plan (PMP) to validate the need to reauthorize the Morganza to the Gulf of Mexico Risk Reduction Project and ensure that a cost-effective solution, that meets the local sponsor's requirements, is developed. A Post Authorization Change (PAC) will document the need for reauthorization. In addition, the Revised Programmatic Environmental Impact Statement (RPEIS) is being developed in combination with the PAC.

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The Morganza to the Gulf Post Authorization Change (PAC) Report will address changes required to the authorized project due to the implementation of new post-Katrina design criteria. As a result of these criteria changes, both the project cost estimate and the project footprints will increase substantially. Based on the parametric cost estimate conducted in October 2010 and presented to MVD, the various alternatives were evaluated based on various levels of risk reduction and range between \$3B and \$9B. Selecting the authorize alignment alternative and with clear direction to proceed to develop a PAC, the project costs exceed authorization by more than a 20% increase, so a PAC report is required (WRDA 1986, Section 902). This report is cost shared with the Louisiana Coastal Protection Authority (LACPRA). Once final approval is received, the approved plan will be posted on the Flood Risk Management, Mississippi Valley Division, and New Orleans District websites.

It should validate the following:

- Assumptions.
- All Risks associated with construction such a large, complex risk reduction system.
- Methods, procedures, and material used in analyses based on the level of analyses
- Safety concerns when construction in a wetland environment.
- Alternative evaluated is reasonable.
- Appropriateness of data used, and level of data obtained
- Reasonableness of results.
- Can be implemented in accordance with environmental laws and statutes;
- Are in compliance with EC 1165-2-209.
- RPEIS addressing environmental, social, cultural, tribal, fish & wildlife, and endangered and threatened species impacts.
- PAC decision document appropriately represents the views of the Corps of Engineers, the US Army, and the President.

3. Components of the Review Plan

The Review Plan consists of three major components. First is the District Quality Control (DQC) which incorporates a team of reviewers similar in experience and structure to the PDT (disciplines outlined in Table 3) but who have not worked on the project prior to the review. The DQC will assure accountability for the technical quality of the PAC. Second will be the Agency Technical Review (ATR) similar in structure to the DQC but performed outside of MVN by another Corps District in coordination with MVD and the Planning Center of Expertise (PCX). Finally, the Independent External Peer Review (IEPR must be approved by MVD Commander) will act as a completely outside evaluation to confirm the purpose, scope and recommendations from the PAC decision documents.

The intent of each review objective will be satisfied through a seamlessly escalating review process performed in house (DQC), outside of the District (ATR) and Independent External Peer Review (IEPR), MVD (QA) and HQUSACE (policy review).

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Finally, a Revised Programmatic Environmental Impact Statement (RPEIS) is being developed in combination with the PAC. The RPEIS went out to the Public for the final 30 day review in March of 2002 under the Feasibility Study. This document covered the authorized alignment at pre-Katrina heights and standards. A RPEIS will examine the impacts from, the Authorized Alignment at new 100-year standard and pre-Katrina Elevations. The RPEIS will include constructible features (i.e. HNC Lock complex) in detail so that no further environmental clearances will be needed for those features upon signing of the Record of Decision (ROD). Supplemental NEPA documents will have to be produced for all other features before construction of that feature. A separable Environmental Assessment (EA) entitled Mississippi River and Tributaries Morganza, Louisiana to the Gulf Of Mexico Hurricane Protection Levee, Reach J, Segment 1 Terrebonne Parish, Louisiana Ea #406 was produced to cover construction authorized by the Energy and Water Development FY 2004 Appropriations Bill, PL108-137; Section 158 of the House Report (HR108-2754). There will be two formal public comment periods for the RPEIS in close association with the review levels of the PAC.

Specifically, the Programmatic EIS will discuss the impacts of an overall risk reduction system for this area and the related mitigation plan that includes environmental, social, cultural, tribal, fish/wildlife and endangered/threatened species. However, additional NEPA and other environmental documentation are needed to fully disclose the various components and impacts when designs become finalized. The Wetland Value Assessment (WVA) analysis performed by the interagency Habitat Evaluation Team (HET) showed that overall impacts from either of the action alternatives would have a positive effect on the coastal wetlands in the study area. This was due to gains in intermediate marsh habitat units. However, fresh, brackish, and saline marsh would be adversely impacted. The HET decided that mitigation in brackish marsh could serve as a substitute for saline marsh during mitigation planning and evaluation. It was calculated that 211 Average Annual Habitat Units (AAHUs) were needed for fresh marsh and 804 AAHUs were needed for brackish and saline marsh. The selected mitigation plan would entail the Minor Canal enlargement for fresh marsh along with 1352 acres of marsh restoration in subarea C13 for brackish and saline marsh.

Fifteen previously recorded cultural resource sites are located within the proposed project right-of-way. Ten of these cultural resource sites are not significant due to past disturbance, lack of cultural evidence and/or they have no research potential. Some sites could be easily avoided by a slight change in the levee alignment. Placement of these sites inside of the levee would help preserve them by reducing saltwater intrusion and erosion. If they can not be avoided expensive data recovery efforts would be needed to mitigate the construction impacts. Under the provisions of the Native American Graves Protection and Repatriation Act of 1990, the Chitimacha tribe would be directly involved in the development and approval of the final mitigation plan. Sixty five percent of the project right-of-way is located in areas that have a high potential for the presence of cultural remains. Twenty nine percent of these areas have been previously surveyed. The remaining 36 percent (2,717 acres)

need to be surveyed prior to construction. Five to six additional potentially significant cultural resource sites can be expected in these areas.

4. Issues and Project Risks to be addressed during the Reviews

There are a number of areas of risk that might be encountered during the process of developing the PAC that could be challenged during the various levels of review. All the issues have been satisfactorily resolved in the documents; however, the challenges and risks may include:

- a. Disagreements as to the methodology used in the updated hydraulic modeling (ADCIRC, UNET, and System-wide), certification and approval: higher still-water and storm surge elevations based on reanalysis of storm conditions that materially effect cost and resource requirements and the potential of challenges to the ways and means.
- b. Creation of impounded wetlands with induced development and indirect impacts (flooding/freshwater into wetlands) has been and continues to be a controversial issue within the environmental community of Southern Louisiana.
- c. The feasibility and safety of constructing levees in unstable sediments (marine environment) with multiple lifts.
- d. Risk reduction approach of building a 77 mile series of levees, locks and floodgates for approximately 150,000 local residents of Terrebonne and Lafourche Parishes.
- e. At this time, the PAC Report is not expected to contain any influential scientific information or highly influential scientific assessments; however, should such information be encountered the Review Plan will be so modified to reflect the high level of scrutiny required.
- f. The RPEIS has generated significant interagency interest up to this point with the full involvement of the Louisiana Department of Transportation and Development, the Louisiana Office of Coastal Protection and Restoration, the Habitat Evaluation Team (HET) and Terrebonne Levee and Conservation District (TLCD). Other outside agencies or NGO's could become involved when the RPEIS goes public. The RPEIS will be part of the PAC submission.
- g. Due to costs, the authorized alignment at the Pre-Katrina elevations may be considered as a locally preferred plan (LPP); however, those elevations will not provide 100-year level of risk reduction. Anything other than 100-year risk reduction will negate the insurance coverage by FEMA and cause significant cost increases for resident and commercial insurance policies.
- h. The adverse impacts to the regional and national interests as it relates to the loss to oil-natural gas industry if the project is not constructed to a 100-yr level of risk reduction.
- i. Safety concerns should a significant portion of the risk reduction system fail and endanger human life due to the complexity of the system, model errors, policy deficiencies, construction sequencing, storm preparation prior to completion and lack of redundancy or robustness.
- j. Potential challenges in the analytical methods and conclusions.

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A cost and risk assessment was included in the evaluation leading up to the reauthorization through the PAC. It included reanalysis of the tropical storm history of the region to include the tropical events through 2007, structural inventories of the impacted areas, annualized benefits, costs and risks calculated based on 100-yr flood risk reduction.

The Cost Estimate for developing the Post Authorization Change Decision Documents is included in a summary shown in Table 1.

**Table 1 - Summarized Cost Estimate for Development
of Post Authorization Change Report**

Task	Cost Estimate
Engineering	\$9,723,560
Hydraulics and Hydrology	\$1,558,000
Geotech	\$3,886,075
Levees	\$350,000
Geospatial Engineering (LiDAR)	\$474,000
Cost Engineering	\$153,000
Relocations	\$243,300
Structures	\$2,100,000
Survey	\$679,787
Controls	\$280,000
Economics	\$1,447,280
Environmental	\$1,056,857
Real Estate	\$84,380
Construction	\$10,000
Project Management	\$200,000
PDT/DQC Review	\$20,000
AE for Revised Project Cost Estimate	\$724,026
Agency Technical Review (ATR)	\$85,000
Independent External Peer Review (IEPR)	\$750,000
15% Contingency	\$1,938,915
MVD Commander's Notice	\$10,000
HQ, USACE Approval	\$12,000
Grand Total of PAC Development	\$15,140,692

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The preliminary project cost estimate for the two alternatives (35 Year Level of Risk Reduction and 100 Year Level of Risk Reduction) as compared to the Authorized Project cost estimates are presented in Table 2.

Table 2 – Preliminary Project Cost Estimates

Preliminary Revised Project Cost Estimate Owner's Summary (2008)	100 yr Post Katrina Totals	35 Year Post Katrina Totals	2002 Feasibility Study Totals
	Cost in \$ Millions	Cost in \$ Millions	Cost in \$ Millions
01 Lands and Damages	\$107.5	\$50.7	\$17
02 Relocations			
Utility Relocations	\$101.9	\$80.1	\$23
05 Lock			
Houma Navigational Canal Lock Complex	\$447.4	\$401.2	\$211
06 Fish and Wildlife			
Drainage Structures	\$267	260.8	\$96
<i>Reach B: Drainage Structure</i>	\$14.2	\$14.1	\$8
<i>Reach E-1: Drainage Structures</i>	\$17.9	\$17.3	\$9
<i>Reach E-2: Drainage Structures</i>	\$18.2	\$17.6	\$9
<i>Reach G-2: Drainage Structures</i>	\$13.9	\$13.5	\$8
<i>Reach H-1: Drainage Structures</i>	\$26.5	\$26.1	\$13
<i>Reach J-2: Drainage Structures</i>	\$35.8	\$34.6	\$22
<i>Reach K: Drainage Structures</i>	\$20.1	\$18.8	\$13
<i>Reach L: Drainage Structures</i>	\$19.7	\$18.5	\$15
<i>Barrier Plan Drainage Structures</i>	\$100.7	\$100.3	n/a
Mitigation	\$524.6	\$330.8	\$367
<i>Mitigation, Excavation, Placement (1st lift)</i>	\$373.5	\$236.5	
<i>Additional Mitigation*</i>	\$151.1	\$94.3	\$47

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11 Levees and floodwalls			
Levees (Excluding Mitigation)	\$5130.4	\$1,985.8	\$1,126
<i>Mob & Demob</i>	\$200.7	\$103.8	\$31
<i>Clearing & Grubbing</i>	\$119.8	\$49.8	\$7
<i>Embankment (Hauled In)</i>	\$4099.8	\$1,355.1	\$397
<i>Embankment (Borrow Pit)</i>	\$117	\$68.5	\$71
<i>Excavation (5'-25' BORROW)</i>	\$260.4	\$150.8	\$248
<i>Fertilizing & Seeding</i>	\$48.4	\$20.2	\$8
<i>Geotextile</i>	\$126	\$105.4	\$97
<i>Levee Degraded and Replaced</i>	\$39.3	\$30.2	n/a
<i>Turf Reinforcement Mat</i>	\$119	\$102	n/a
Highway Gates	\$11.8	\$11.8	\$10
<i>Reach E-2: HWY 315-Dularge</i>	\$2.4	\$2.4	\$3
<i>Reach G-1: Four Point Road</i>	\$1.3	\$1.3	\$1
<i>Reach H-1: HWY 56</i>	\$2.7	\$2.7	\$2
<i>Reach J-1: Isle De Jean Charles Road</i>	\$2.7	\$2.7	\$2
<i>Reach J-3: HWY 665</i>	\$2.7	\$2.7	\$2
Fronting Protection & Butterfly Valves	\$12.6	\$12.6	\$5
<i>Upper Bayou Dularge</i>	\$2.6	\$2.6	\$2
<i>Madison (Nettleton)</i>	\$2.6	\$2.6	\$2
<i>Pointe Aux Chenes</i>	\$2.2	\$2.2	\$1
<i>Hanson</i>	\$2.6	\$2.6	n/a
<i>Elliot</i>	\$2.6	\$2.6	n/a
15 Floodgates			
56' Sector Gates	\$254	\$251.8	\$112
<i>Minors Canal Floodgate</i>	\$21.8	\$21.8	n/a
<i>Bayou Dularge Floodgate</i>	\$30.6	\$30.3	\$17
<i>Lapeyrouse Canal Floodgate</i>	n/a	n/a	\$17
<i>Placid Canal Floodgate</i>	\$31.7	\$31.5	n/a
<i>Reach K': Bayou Petit Caillou Floodgate</i>	\$30.5	\$30.3	\$28
<i>Bayou Terrebonne Floodgate</i>	\$31.3	\$31.1	\$17

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<i>Reach K: Humble Canal Floodgate</i>	\$30.6	\$30.3	\$25
<i>Bayou Pointe Aux Chenes Floodgate</i>	\$30.4	\$30.1	\$16
<i>Shell Canal East Floodgate</i>	\$23.5	\$23.2	n/a
<i>Bayou Black Floodgate</i>	\$23.6	\$23.2	n/a
56' Sector Gates with 46' Tainter Gates	\$162.7	\$158.4	\$104
<i>Falgout Canal Floodgate</i>	\$38.9	\$38	\$17
<i>Reach B': Bayou Grand Caillou Floodgate (Main)</i>	\$40.5	\$39.5	\$26
<i>Bush Canal Floodgate</i>	\$42.6	\$41.4	\$28
<i>Reach L: Grand Bayou Floodgate</i>	\$40.7	\$39.5	\$26
35' Sector Gates	\$17.6	\$17.4	n/a
<i>Shell Canal West Floodgate</i>	\$17.6	\$17.4	n/a
35' Roller Gates	\$6.2	\$5.8	n/a
<i>NAFTA</i>	\$6.2	\$5.8	n/a
20' Sector Gate	\$12.5	\$12.3	n/a
<i>Elliot Jones Canal Floodgate</i>	\$12.5	\$12.3	n/a
20' Stop Log Structure	\$12.5	\$12.3	n/a
<i>Humphries Canal</i>	\$12.5	\$12.3	n/a
175' Sector Gates	\$181.5	\$180.5	\$98
<i>GIWW (west of Houma)</i>	\$103.2	\$102.9	\$64
<i>GIWW (Lafourche)</i>	\$78.3	\$77.6	\$33
30 E&D			
Engineering & Design (Levees 7%, Structures 12%)	\$414.6	\$227.7	\$139
4% for HNC Lock			\$8
12% on Northern Floodgate w/HNC Lock			
31 CM			
Construction Management (Levees 6%, Structures 10%)	\$352.8	\$192.7	\$132
10% for HNC Lock			\$21
Alignment Totals (millions in \$)	\$8,018	\$4,193	\$2,486

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Work-in-Kind Contributions

As contained in the supplement to the Chief's Report dated 22Jul03, the approved in-kind services include the following features that may be designed, constructed or managed during construction by the sponsor:

- 56' floodgate at Bayou Pointe aux Chene
- 56' floodgate on Bush Canal
- 14' high by 12 mile levee and appropriate floodgates from Bayou Pointe aux Chene floodgate to Humble Canal Floodgate
- 14' high by 6.5 mile levee and appropriate floodgates from Bayou Petite Caillou floodgate to the Bush Canal floodgate
- 14' high by 3 mile levee and appropriate floodgates from Bush Canal floodgate to the Bayou Terrebonne floodgate

The initial review of the Work-in-Kind (WIK) submissions will be through internal analysis in MVN. The WIK efforts will be constructed as an integral part of the main project and incorporated into the overall scheme for the final product. As such, it will be part of the review of the entire project and any mitigation from the WIK will be included in the RPEIS update as appropriate.

Public Participation

There has been an ongoing public outreach program to the Terrebonne and Lafourche Parish Communities since the start of the Feasibility Study through public meetings, media day events, briefings to Parish Council Board Meetings and other public presentations and discussions. Critical members of the PDT consist of the Local Sponsor Representatives from the State and local communities and they are involved in the key decisions discussed and developed by the Team.

Two formal periods for public review of the project documents are incorporated into the project schedule. The first Public Review of the draft feasibility report will be concurrent with IEPR and the second will be concurrent with the Final NEPA Review. Significant comments will be provided to other reviewers if relevant to their review.

5. District Quality Control (DQC) and Agency Technical Review (ATR)

Morganza to the Gulf PAC will undergo DQC and ATR to ensure the quality and credibility of the government's scientific information are in accordance with the appropriate circulars and the quality management procedures of the Mississippi Valley Division (MVD). The level of review should be commensurate with the significance of the information being reviewed.

A. DQC – Quality control of products and services consists of a number of processes and procedures to ensure quality products are realized. Basic quality control tools

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include a Quality Control Plan providing for seamless review, quality checks and reviews, supervisory reviews, PDT reviews, etc.

1. Quality checks and reviews occur throughout the development process and may be performed by supervisors, team leaders, or other qualified personnel, so long as reviews are not performed by the same person doing the original work.
2. PDT reviews are performed by members of the PDT to ensure consistency and coordination across all project disciplines, including any reports, appendices and recommendation before approval by the District Commander.

DQC will be managed by the Project Management team and conducted by New Orleans District staff not involved on the work product being reviewed in accordance with Mississippi Valley Division and New Orleans District Quality Management Plans. DQC Review Members will be from the functional areas within Planning, Programs, and Project Management Division (PPPMD) and Engineering Division (ED). Members will be from Project Management, Economics and Social Analysis Branch, Environmental Planning and Compliance Branch, Engineering Branch and Civil Branch, Cost Engineering Branch, Design Services Branch, General Engineering Branch, Geotechnical Branch, Hydraulics & Hydrologic Branch, and Structures Branch (ED). Each functional area will be represented by one or more reviewers on the Review Team from the various disciplines and coordinated with MVD. Thus, a minimum of two members from Planning, Programs, and Project Management Division will reside on the Review Team for each level of review.

Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home Major Subordinate Command (MSC). For each section of ATR, the ATR team will examine the relevant DQC records and provide written comments in the ATR report regarding the adequacy of the DQC effort for the associated work product. At minimum, a signed statement of completion of DQC from the appropriate functional chief will be required prior to initiating an ATR event.

B. ATR for the PAC:

1. The purpose of agency review in the reauthorization process for Morganza to the Gulf of Mexico is to verify that the PAC meet the needs and expectations of the local sponsor and that competent technical resources are utilized throughout the design and review process. Coastal Storm Damage Reduction is the lead PCX, located at the North Atlantic Division. Larry Cocchieri (347-370-4571) is the deputy of the PCX-CSDR and the prime contact. An ATR lead and an IEPR lead for this study will be selected by the PCX. The Center may conduct the ATR utilizing Corps specialists from within USACE or manage the review conducted by experts external to the Corps.

2. Definition of Success. The corporate intent is for an ATR to not only ensure technical analyses are correct, but to also ensure compliance with all pertinent USACE guidance in order to achieve adequate quality early in studies and help shift HQUSACE policy compliance review to a more confirmatory role and a less confrontational, less corrective role. The scope, extent and type of subsequent HQUSACE policy compliance review comments may be considered a measure of the effectiveness of the PDT and ATR efforts.

3. Supporting Principles.

- (a) The MVN /PM is responsible for assuring that the PAC decision document complies with all applicable statutory and policy guidance prior to forwarding the document to higher authority.
- (b) The PDT is responsible for project success and for delivering a quality product in accordance with ER 5-1-11. The PDT is responsible for developing documents in accordance with the procedures and policies set forth in USACE engineering regulations and circulars.
- (c) The PDT, supported by the MVN Communities of Practice, is knowledgeable of USACE water resources policies and procedures.
- (d) MVN Office of Counsel is responsible for the legal review of each decision document and signing a certification of legal sufficiency.
- (e) MVD Commander is responsible for ensuring policy and legal compliance, and documenting technical, policy and legal compliance for decision documents that have been delegated to MVD for review and approval in accordance with ER 1165-2-502.
- (f) At the Civil Works Review Board briefing, the MVN District Commander will address the review, including the major concerns expressed and how they were resolved. The MVD Commander will present the certifications of technical, legal and policy compliance, and any MVD quality assurance observations. The MVD Commander will summarize the field QA/QC efforts, specifically the certifications of technical, legal and policy compliance. They should discuss the review process and results, including the involvement of the Planning Centers of Expertise, IEPR team, and any significant and/or unresolved technical, legal or policy compliance concerns. The leader of the ATR team will participate in the CWRB to address review concerns.
- (g) HQUSACE is responsible for confirming the technical, policy and legal compliance of planning products; supporting the resolution of issues requiring HQUSACE, ASA (CW) or OMB decisions; continuously evaluating the overall project development process, including the review and policy compliance processes (including responsibilities delegated to MVD); and recommending appropriate changes when warranted.

4. Policy

- (a) The ATR will examine the previous Feasibility Scoping Meeting (FSM) and Alternative Formulation Briefing (AFB) submittal materials, draft and final decision documents, supporting documents, and other supporting analyses to ensure the

adequacy of the presented methods, assumptions, criteria, decision factors, applications, and explanations.

(b) Policy compliance is explicitly within the scope of ATR. The corporate intent is for ATR to identify and resolve common policy concerns early and prior to HQUSACE policy compliance reviews. The scope, extent and type of subsequent HQUSACE policy compliance review comments may be considered a measure of the efficacy of the study and ATR efforts.

5. Planning for ATR.

(a) The ATR tasks and related resource, funding and schedule needs will be addressed in the Review Plan before the Federal Cost Sharing Agreement (FCSA) is executed. The ATR efforts should be integrated into the report development schedule to avoid and minimize impacts on the schedule as much as possible; and to avoid rework and delays that would likely occur if reviews are deferred to the end of the study. The ATR should be a relatively continuous process with reviews synchronized with the PDT's production of products and supporting analyses.

(b) The PDT will coordinate the RP with the appropriate PCX to ensure that ATR activities are reasonably represented in the PMP, particularly the schedule and resource needs.

(c) Models used for development of the project include: HEC-RAS, ADCIRC, UNET and the System-wide models. All have been reviewed, coordinated with and certified through the Engineer Research and Development Center (ERDC).

6. ATR Team.

(a) The disciplines represented on the ATR team will reflect the significant disciplines involved in the reauthorization effort on the PDT as indicated below. Each team member will be senior or equal in experience to the analyst or production person of the PDT. MVN will nominate a list of potential team members. The Walla Walla District Director of Expertise for Civil Works Cost Engineering (WW DX) will also participate in the ATR. There should be a minimum of 14 reviewers participating in the ATR including members with expertise in the following disciplines:

- Biologists (wetland values, NEPA process)
- Cultural Resources (Archeologist familiar with local tribes)
- Economics (Civil Works Benefit to Cost ratio)
- Environmental (wetlands benefits, aesthetics, compliance)
- Hydraulic Engineering (coastal restoration, storm surge, modeling)
- Modelers (4 members: HEC-RAS, ADCIRC, UNET, System-wide)
- Civil Engineering – Cost, General, Projects, Operations
- Structural Engineering (navigable locks, floodgates, water control structures)
- Geotechnical Engineering (strata of the Lower Mississippi Project area)
- Real Estate – Acquisition and Appraisal
- Water Resource Planners (civil works projects for storm risk reduction)

(b) DrChecks. ATR of the PAC will be conducted using the online DrChecks system (www.projnet.org). Use of DrChecks will document all ATR comments, responses and associated resolution accomplished through the PAC review process.

7. ATR Timing

- (a) Each application of ATR should build upon any and all prior cycles of review for the PAC.
- (b) The scheduling of the ATR as part of the overall PAC Development Schedule (Appendix E) will require monitoring and oversight like the other components of the PAC Development. In addition, interim ATR reviews should occur for key technical products as they are developed, such as hydrology, surveys, geotech investigations, economic and environmental inventories, and prior to performing subsequent analyses that depend on these products. This is in partial compliance with the MVD Letter of November 4, 2008 which directed MVN to brief the MVD Commander once the Cost Analysis for the authorized alignment had been developed. Currently ATR on the H&H package is expected to begin in August 2011, while the remaining project will begin ATR December 2011 and end February 2012.
- (c) The final report and supporting analyses warrant ATR because they will provide the basis for the Chief of Engineers interagency coordination and the Chief's approval or further recommendation of the PAC to the Secretary of the Army and Congress.

8. Review Criteria for ATR.

- (a) Recognizing that the quality of the PAC has a direct and immediate impact on the credibility of the Corps of Engineers and the Department of the Army, the ATR should address the basic communication aspects of the design document. Quality decision documents allow the public and stakeholders to understand the thought process, planning considerations and enable the Chain of Command to reach the same conclusions as the reporting officers. Quality decision documents are not a simple reporting of PDT findings or a record repository of PDT activities.
- (b) The main PAC and appendices should form an integrated and consistent product.
- (c) As a guide, the ATR team should use the Project Study Issue Checklist in Appendix A (Exhibit H-2, Appendix H, ER 1105-2-100), which includes many of the more frequent and sensitive policy areas encountered.
- (d) Other key considerations include:
 - (1) Are the existing and future without-project conditions reasonable and appropriate?
 - (2) Are the project goals, constraints and assumptions consistent with the without-project conditions?
 - (3) Do the alternative approaches provide a reasonably complete array of solutions, make sense relative to the project requirements and the without-project conditions, and are they complete, effective, efficient and acceptable?
 - (4) Are sufficient plans formulated to determine the optimum combination of measures and the optimum scale the selected plan (the National Economic Development (NED)?
 - (5) Are the required plans included, such as nonstructural flood risk management plans?

- (6) Are alternatives safe, functional, constructible, economical, reasonable and sustainable?
- (7) Are calculations and results of analyses essentially correct?
- (8) Is the engineering content at a feasibility level-of-design, and is it sufficiently complete, to provide an adequate basis for the revised project cost estimate (ER 1110-2-1150)?
- (9) Are comparable cost estimates used for comparing, screening and selecting alternative plans, and has a reasonable project cost estimate been developed for the NED Plan?
- (10) Are analyses for the engineering, economic, environmental, real estate and other disciplines fully described, technically correct, and do they comply with established policy requirements and accepted practices within USACE?
- (11) Is the appropriate plan selected based on the National Objectives and evaluation criteria expressed in Principles and Guidelines and USACE policy?
- (12) Does the implementation plan have an appropriate division of responsibilities?
- (13) If there is a failure of the system, would this lead to significant threat to human life.
- (14) Are any novel methods\complexity\ precedent-setting models\policy changing conclusions, innovative materials or techniques being used?
- (15) Does the design possess redundancy, resiliency and robustness?
- (16) Is the sequence of phased construction coordinated with the design efforts?

9. ATR Comments.

- (a) Each review comment should be succinct and enable timely resolution of the concern. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment 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, ASA (CW)/USACE policy, guidance or procedure that has not been 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.
- (b) In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist. In such situations, the comments generally would defer identifying a probable solution as indicated under dispute resolution below.
- (c) ATR comments should generally not include:
 - (1) Attempts to enforce personal preferences over otherwise acceptable practices, i.e. alternate solutions or analysis methods when the practitioners have already used appropriate methods to develop an adequate solution;

- (2) Any other issues that do not add value towards the planning decisions and recommendations, or do not make the recommended plan safe, functional, or more economical.

10. ATR Process.

- (a) The ATR process will be conducted using the DrChecks review software. The ATR team will provide a written summary of its actions and written specific concerns to the PDT.
- (b) Upon receipt of the ATR comment memorandum, the PDT will develop responses to the specific concerns and coordinate those responses with the ATR team.
- (c) Dispute Resolution. The ATR team will complete its review and provide written comments to the PDT. Thereupon, the PDT will develop and coordinate responses with the ATR team for each comment. The responses and the ensuing discussion are to seek resolution of the ATR concerns to the mutual satisfaction of the PDT and the ATR team. When resolution is not readily achievable, the ATR team should engage the PCX or MVD subject matter experts (SMEs) to help facilitate resolution, and they in turn may choose to engage HQUSACE SMEs. If a specific concern still remains unresolved, MVN is to pursue resolution through the policy issue resolution process described in Appendix H, ER 1105-2-100. HQUSACE may choose to defer the issue to the policy compliance review process or address it directly. The ATR documentation will include the text of each ATR comment, the PDT response, a brief summary of the pertinent points in the ensuing discussion, including any vertical coordination, and the agreed upon resolution. The ATR shall be certified in accordance with ER 1110-1-12 when all ATR concerns are documented as either resolved or deferred by HQUSACE to a separate process.
- (d) The Agency Technical Review team will identify significant issues that they believe are not satisfactorily resolved and will note these concerns in the Technical Review Certification documentation. The ATR team will prepare a Review Report which includes a summary of each unresolved issue. Review Reports will be considered an integral part of the ATR documentation.
- (e) Significant unresolved ATR concerns that are documented by the PCX will be forwarded through MVD to the HQUSACE RIT, including basic research of USACE guidance and an expression of desired outcome, for further resolution in accordance with the policy issue resolution process described in Appendix H, ER 1105-2-100. HQUSACE may choose to defer the issue to the policy compliance review process or address it directly. At this point the ATR documentation for the concern may be closed with a notation that the concern has been elevated for resolution by HQUSACE. Subsequent submittals of reports for MVD and/or HQUSACE review and approval shall include documentation of the issue resolution process.
- (f) 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 ensuing discussion, including any vertical coordination, and lastly the agreed upon resolution.
- (g) ATR may be certified when all ATR concerns are either resolved or referred to HQUSACE for resolution and the ATR documentation is complete.

- (1) Certifications of ATR should be completed, based on PAC documents reviewed to date. A sample certification is included in ER 1110-1-12. MVN may modify the sample to add PDT members, ATR team members, other functional chiefs, or the District Commander. When ATR is preformed by contract, the appropriate members of the contractor's staff shall sign the statement.
- (2) By signing the ATR certification, the leader of the MVN Quality Community of Practice certifies policy compliance of the PAC submission.

11. ATR Reporting in Submittals. See Exhibits H-3 through H-7, ER 1105-2-100.

- (a) For PAC submittal, MVN will describe the status of all review activities and present any review documentation completed to date, including the status of unresolved issues and the most likely resolution. Technical work products that support the submittal materials (e.g.; surveying & mapping, hydraulics & hydrology, environmental/NEPA documentation, average annual damage and benefit computations, cost estimates, etc.) should have been subjected to review. The documentation should address the PCX and Cost Engineering Directory of Expertise (DX) coordination and the application of the Cost Engineering DX technical review checklist. It should also address the heightened review of real estate costs.
- (b) For final report submittal, MVN will provide the documentation and certification of review and the IEPR. The documentation should address the PCX and Cost Engineering DX coordination and the application of the Cost Engineering DX technical review checklist. It should also address the heightened review of real estate costs.
- (c) The project summary accompanying the final report will present the dates of the certifications of the technical and legal adequacy of the final PAC report, describe the involvement of the PCX, and summarize the involvement of the Cost Engineering DX in the approval of the total project cost estimate and similar efforts in the approval of the real estate cost estimates.

6. Independent External Peer Review (IEPR)

Independent External Peer Review will be conducted for Morganza to the Gulf of Mexico Risk Reduction Project due to the complexity of design, overall cost, risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of the Corps and not involved in the day-to-day production of the technical product is necessary. Costs of the project are expected to surpass \$45 million dollars which also regulates the use of IEPR (EC 1165-2-209). It will be performed outside of the New Orleans District. PCX-CSDR will coordinate the Type I IEPR which will be managed by an Outside Eligible Organization (OEO). It will be the decision of the PCX whether to use a panel, individual or alternative procedure to complete this peer review, based upon an analysis of the level of IEPR required for this reauthorization and vertical team discussions, as necessary. The cost to conduct the IEPR will not be cost shared and is 100% federally funded.

A. Planning Center of Expertise (PCX). The Morganza to the Gulf of Mexico Risk Reduction Project primarily falls under the PCS business program “Coastal Storm Damage Reduction,” but is also considered relevant to the “Flood Risk Management” and “Ecosystem Restoration” programs. Because the project has multiple purposes, the Planning Advisory Board, comprised of the Leaders of the Planning Community of Practice at Headquarters and Mississippi Valley Division, will assign a PCX to manage the review. This PCX will coordinate with other PCX and offices to ensure that a review team with appropriate expertise is assembled.

B. Independent External Peer Review Team (IEPRT). As with the ATR, the IEPRT will be comprised of similar disciplines on the PDT (as indicated in Table 3), and will have experience in the type of analyses in which they are responsible for reviewing. Each IEPRT member will be senior to or equal in experience to the corresponding analyst found on the PDT. They will be independent of USACE (not current employees) and have no affiliations or activities that could potentially lead to conflicts of interest. It is anticipated that a minimum of 10 reviewers participating in the IEPR including members with expertise in similar disciplines as on the ATR (See ATR Team Composition). The initial coordination with the PCX has been initiated.

In accordance with EC 1165-2-209, the Louisiana Water Resources Council (LWRC) review will be required. The OEO should provide review documents to LWRC panel members.

1. IEPR reviewers shall be selected by the OEO based on expertise, experience, and skills, including specialists from multiple disciplines as necessary to ensure comprehensive review. The group of qualified reviewers shall be formed into panels that are sufficiently broad and diverse to fairly represent the relevant scientific and engineering perspectives and fields of knowledge and will address all underlying analysis. No public nomination for reviewers will be requested other than through the normal staffing through the IEPR process.

Table 3 – PDT Disciplines

Economics – team member will have extensive experience in related flood damage reduction projects, and have a thorough understanding of HEC-FDA
Environmental – team members will have extensive experience in NEPA policies, cultural resources, recreational resources and HTRW
Hydraulic Engineering – the team members (two) will be an expert in the field of urban hydrology & hydraulics, have a through understanding of the dynamics of open channel flow systems and enclosed systems, and have an understanding of computer modeling techniques that will be used for this project.
Civil Engineering – team member will have experience in utility relocations, positive closure requirements and internal drainage for levee construction, projects

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engineering, operations, and application of non-structural flood damage reduction, specifically flood proofing.
Cost Engineering – team member will be familiar with cost estimating for similar projects using MCACES.
Geotechnical Engineering – team member will have extensive experience in levee & floodwall design, post-construction evaluation, and rehabilitation
Safety Assurance Review – team member will review submittals for compliance with current safety practices and procedures.
Water Resources Planner – team member will be familiar with watershed level projects, current flood damage reduction planning and policy guidance and have experience in plan formulation. This discipline will also play the role of planner.
General - address all underlying analysis to include Work-in-Kind efforts by the local sponsor and safety assurance factors

Reviewers shall pay particular attention to one’s discipline but may also comment on other aspects as appropriate. Reviewers that do not have any significant comments pertaining to their assigned discipline shall provide a comment stating this. Public review comments will be made available to the IEPR Team prior to initiation of the review. There are two public review comment periods: during the initiation of the ATR Review; and during the final report and NEPA review process.

All communication of comments between the panel of experts and the PDT will be documented by the PCX. In addition, any communication between the experts individually or collectively with members of the interagency team or any other party will be fully documented by the PCX. No communication will take place outside the presence of the PCX. The PCX will document the review in a report format. The report will include a certification statement that experts will be required to sign.

Grammatical and editorial comments should be submitted to IEPR manager via electronic mail using tracked changes feature in the Word document or as a hard copy mark-up. The IEPR manager shall provide these comments to the Project Manager, MVN.

Review comments shall contain these four principal elements:

- A clear statement of the concern;
- The basis for the concern, such as law, policy, or guidance;
- Significance for the concern; and
- Specific actions needed to resolve the comment

The PDT Team responsibilities are as follows:

The team shall review comments provided by the IEPR and provide responses to each comment. Responses should include any action taken and/or the basis for the response to the comment or clarification of the concern.

Conference calls shall be used to resolve any conflicting comments and responses. The IEPR team members will be urged to contact appropriate members of the project delivery team to seek comment resolution or better understanding of the report development perspective. The PDT is not to contact the IEPR team directly. Contact should be made only when issue resolution is being conducted and led by the PCX.

Reviewers may “agree to disagree” with any comment response with a detailed explanation. IEPR team members shall keep the IEPR manager informed of problematic comments. The vertical team will be informed of any policy variations or other issues that may cause concern during Headquarters review.

2. Reviewers' Rotation. PCX shall avoid repeated use of the same reviewer on multiple studies or reports unless essential and comparable expertise cannot be obtained elsewhere.

3. Reviewers' Conflicts. PCX shall ensure that reviewers serving as Federal employees (including special government employees) comply with applicable Federal ethics requirements. In selecting reviewers who are not Federal government employees, PCX shall adopt or adapt the National Academy of Sciences' policy for committee selection with respect to evaluating the potential for conflicts (e.g., those arising from investments; agency, employer, and business affiliations; grants, contracts and consulting income).

4. Reviewers' Independence. Type I IEPR must be performed by subject matter experts from outside of USACE. The IEPR will be managed by an Outside Eligible Organization (OEO) external to the Corps of Engineers. Peer reviewers shall not have participated in development of the report, appendix, or other work product to be reviewed. PCXs are encouraged to rotate membership on standing panels across the pool of qualified reviewers. OEOs shall bar participation of scientists employed by USACE.

5. Reviewers' Privacy. Peer reviewers will be advised whether information about them (name, credentials, and affiliation) will be disclosed. The PCX shall comply with the requirements of the Privacy Act.

6. Reviewers' Compensation. Reviewers will be paid labor and any necessary travel and per diem expenses in accord with their contract with the OEO. Projected cost of the IEPR is \$500,000.

7. Milestones and Schedule:

The major milestones in the review schedule are presented in Table 4.

Table 4 – Review Plan Milestones

Milestone	Date
DQC Initiation	4 th Qtr FY 11
Draft PAC Submittal	1 st Qtr FY 12
DQC Certification	1 st Qtr FY 12
ATR Initiation	1 st Qtr FY 12
1 st Public Review	3 rd Qtr FY 12
IEPR Initiation	3 rd Qtr FY 12
ATR Certification	4 th Qtr FY 12
Final NEPA Public Review	1 st Qtr FY 13
IEPR Certification	4 th Qtr FY 13
Final Submittal	1 st Qtr FY 13
MSC Commanders Public Notice	1 st Qtr FY 13

8. Public Involvement. Since this project has previously undergone extensive public review and comment and the authorized alignment remains the selected alternative, no extensive public involvement is anticipated at this time. However, there are two opportunities for public comment in the PAC/RPEIS review process not including the Division Commander’s Public Notice.

D. Final Report. To fully document the IEPR process, a statement of technical review will be prepared. Certification by the IEPR manager and the Project Manager will occur once issues raised by the reviewers have been addressed to the review team’s satisfaction. Indication of this concurrence will be documented by the signing of a certification statement. A summary report of all comments and responses will follow the statement and accompany the report throughout the report approval process. The PAC with RPEIS and all related documentation will be forwarded to HQs for submission to Congress and publication on the USACE Website.

7. Model Certification and Approval

A. Planning Models: The following planning models are anticipated to be used:

Environmental Models

WVA: Undergoing Certification Process

CASM or Other Fisheries Models: Newly developed, just beginning approval process

Economic Models

HEC-FDA Version 1.2.4: Certified

Tool for Analysis of Nonstructural Alternatives (TANA): Undergoing
Certification Process

@Risk program: Newly developed, beginning approval process

**B. Engineering Models: The following hydraulic models are anticipated to be
used:**

ADCIRC: Community of Practice (COP) Preferred

STWAVE: COP Preferred

HEC-RAS: COP Preferred

TABS-MD: COP Preferred

SMS: COP Preferred

HEC-HMS: COP Preferred

HEC-UNET COP Allowed for use

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8. Morganza Project Delivery Team

The following are the projected members of the Project Delivery Team (PDT) for the Morganza, Louisiana to the Gulf of Mexico Hurricane Protection Project.

Table 5 – Morganza to the Gulf PDT Members

Members	Office Symbol	Office	Functional Responsibilities	Email
Stephanie Hall	PM-ORP	Protection and Restoration Office	Regional Project Branch Chief	Stephanie.L.Hall@usace.army.mil
Joey Wagner	PM-ORP	Protection and Restoration Office	Senior Project Manager	Herbert.Joey.Wagner@usace.army.mil
Elaine Stark Amanda Landry	PM-ORP	Protection and Restoration Office	Project Manager	Elaine.M.Stark@usace.army.mil Amanda.D.Landry@usace.army.mil
James McMenis Ismail Merhi	OCPR	Project Sponsor	Manager, OCPR Assistant	James.mcmenis@la.gov Ismail.merhi@la.gov
Reggie Dupre Mitch Marmande	TLCD	Project Sponsor	Regional Manager AE Consultant	rudpre@tlcd.net mitchM@tbsmith.com
Shane Caldwell Jay Carney	LDEQ	State Department of Environmental Quality	Water Quality Modelers	Shane.caldwell@la.gov Jay.carney@la.gov
Greg Ducote	LDNR	State Department of Natural Resources	HET	GregDu@dnr.state.la.us
Barry Hebert Heather Finley	LDWF	Louisiana Department of Wildlife and Fisheries	Biologist	bhebert@wlf.louisiana.gov hfinley@wlf.louisiana.gov
John Ettinger	EPA	US Environmental Protection Agency	HET	Ettinger.john@epa.gov
Ronny Paille	FWS	US Fish and Wildlife Service	HET	Ronald.paille@fws.gov
Patrick Williams	NOAA	NOAA/NMFS	HET	Patrick.Williams@noaa.gov
Rickey Brouillette	OCPR	LA Office of Coastal Protection & Restoration	Geotech Team Member	Rickey.Brouillette@LA.gov
Summer Martin	OCPR	LA Office of Coastal Protection & Restoration	Environmental Manager	Summer.martin@la.gov
Todd Baker	LDWF	Louisiana Department of Wildlife and Fisheries	Pointe Aux Chenes Wildlife Management Area	tbaker@wlf.la.gov
Loland Broussard	USDA	US Department of Agriculture	HET	Loland.Broussard@la.usda.gov
Karen Vidrine	DEQ	LA Dept. of Environmental Equality	HET	karen.vidrine@la.gov
Ricardo Flores	CD-C	Construction Management	Civil Engineer	Ricardo.Flores@usace.army.mil
Ronnie Duke Bobby Quebedeaux	OD-SW	Operations Division	Civil Engineer	Ronnie.W.Duke@usace.army.mil Bobby.D.Quebedeaux@usace.army.mil
Robert Fuqua	ED-E	Engineering Division	Project Engineer	Robert.H.Fuqua@usace.army.mil
Jeremy Laster	ED-T	Structures Branch	Lead Structure	Jeremy.D.Laster@usace.army.mil

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			Engineer	
Dave Lovett	ED-T	Structures Branch	Structures Team Member	David.P.Lovett@usace.army.mil
Dave Ramirez	ED-HE	Hydraulics Branch	Hydraulics Team Lead	David.A.Ramirez@usace.army.mil
Danielle Washington	ED-H	Hydraulics Branch	Project Hydrologist (interior drainage)	Danielle.M.Washington@usace.army.mil
Boone Larson	ED-H	Hydraulics Branch	Project Hydrologist (storm surge)	Boone.F.Larson@usace.army.mil
Kim Tullier	ED-FD	Geotech Branch	Geotech Team Lead	Kim.J.Tullier@usace.army.mil
Marco Rosamano	OC	Office of Counsel	Lead Project Counsel	Marco.A.Rosamano@usace.army.mil
Lee Mueller	PA-O	Public Affairs Office	Public Outreach Coordinator	Lee.E.Mueller@usace.army.mil
Brian Maestri Crystal Braun	PM-AW	Economic Analysis	Economists	Brian.T.Maestri@usace.army.mil Crystal.C.Braun@usace.army.mil
Paul Hughbanks	PDR-RN	Natural and Cultural Resources Analysis Section	Archeologist	Paul.J.Hughbanks@usace.army.mil
Richard Radford	PDR-RN	Natural and Cultural Resources Analysis Section	Aesthetics	Richard.Radford@usace.army.mil
Andrew Perez	PDR-RN	Natural and Cultural Resources Analysis Section	Recreation	Andrew.R.Perez@usace.army.mil
Nathan Dayan	PM-RS	Environmental Planning & Comp Branch	Environmental Planning	Nathan.S.Dayan@usace.army.mil
Mekava Addison	RM-AB	Budget, Manpower and Management Analysis Branch	Budget Analyst	Mekava.K.Addison@usace.army.mil
Alex Jimenez	ED-SR	Engineering Branch	Relocations	Alexander.L.Jimenez@usace.army.mil
John Petitbon	ED-SC	Engineering Branch	Cost Engineering	John.B.Petitbon@usace.army.mil
Judi Gutierrez	RE-L	Real Estate Section	Lead Realty Specialist	Judith.Y.Gutierrez@usace.army.mil

Source: USACE New Orleans District. PDT, Morganza, Louisiana to the Gulf of Mexico, Louisiana. December 2009.

Note that this Post Authorization Change Report addresses cost increases only for an authorized project. There is no formulation of plans, and therefore no requirement for a full-time plan formulator on PDT.

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9. STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Post Authorization Change Report for Morganza to the Gulf. 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 DrChecks.

[Name]
ATR Team Leader
[Office Symbol]

Date

Elaine Stark
Project Manager
CEMNV-PRO-ORP

Date

[Name]
Review Management Office Representative
[Office Symbol]

Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows:

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

Walter Baomy
Chief, Engineering Division (home district)
CEMVN-ED

Date

Troy Constance
Chief, Planning Division2 (home district)
CEMVN-PD

Date

Appendix A Review Plan Checklist For PAC Decision Document

Date: 16 August 2011

Originating District: New Orleans District, Mississippi Valley Division

Project/Study Title: MR&T, Morganza, Louisiana to the Gulf of Mexico Risk Reduction Project

PWI #: 012875. P2#: 323234

District POC: Elaine M. Stark, PM, 504-862-1965

PCX Reviewer: Eric Thaut, PCX-FRM, 415-503-6852

REQUIREMENT	REFERENCE	EVALUATION
1. Is the Review Plan (RP) a stand alone document?	EC 1105-2-410, Para 8a	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it include a cover page identifying it as a RP and listing the project/study title, originating district or office, and date of the plan?</p> <p>b. Does it include a table of contents?</p> <p>c. Is the purpose of the RP clearly stated and EC 1105-2-410 referenced?</p> <p>d. Does it reference the Project Management Plan (PMP) of which the RP is a component?</p> <p>e. Does it succinctly describe the three levels of peer review: District Quality Control (DQC), Agency Technical Review (ATR), and Independent Technical Peer Review (IEPR)?</p> <p>f. Does it include a paragraph stating the title, subject, and purpose of the decision document to be reviewed?</p> <p>g. Does it list the names and disciplines of the Project Delivery Team (PDT)?*</p> <p><i>*Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating</i></p>	<p>EC 1105-2-410, Appendix B, Para 4a</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>f. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>g. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments: 1d - Did not find any reference to the PMP.</p> <p>Response: See page 3 of the Review Plan.</p> <p>AH backcheck 11/19 - OK</p>

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<p><i>as team members change or the RP is updated.</i></p>		
<p>2. Is the RP detailed enough to assess the necessary level and focus of peer review?</p>	<p>EC 1105-2-410, Appendix B, Para 3a</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it indicate which parts of the study will likely be challenging?</p> <p>b. Does it provide a preliminary assessment of where the project risks are likely to occur and what the magnitude of those risks might be?</p> <p>c. Does it indicate if the project/study will include an environmental impact statement (EIS)?</p> <p><i>Is an EIS included? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>d. Does it address if the project report is likely to contain influential scientific information or be a highly influential scientific assessment?</p> <p><i>Is it likely? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>e. Does it address if the project is likely to have significant economic, environmental, and social affects to the nation, such as (but not limited to):</p> <ul style="list-style-type: none"> • more than negligible adverse impacts on scarce or unique cultural, historic, or tribal resources? • substantial adverse impacts on fish and wildlife species or their habitat, prior to implementation of mitigation? • more than negligible adverse 	<p>EC 1105-2-410, Appendix B, Para 3a</p> <p>EC 1105-2-410, Appendix B, Para 3a</p> <p>EC 1105-2-410 Para 7c & 8f</p> <p>EC 1105-2-410, Appendix B, Para 4b</p> <p>EC 1105-2-410, Para 6c</p> <p>EC 1105-2-410 Para 8f</p> <p>EC 1105-2-410 Para 8f</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments: Revised Programmatic Environmental Impact Statement is being developed in combination with the PAC.</p> <p>-----</p> <p>Very few of the points under question 2 have been addressed.</p> <p>2b - Does not explicitly identify and discuss risks (some of which are implied in the discussion of challenges on page 4). Response: See page 4 and "Issues and Project Risks to be Addressed during the Reviews" on page 6.</p> <p>2c - The statement above about the revised EIS being developed needs to go in the text of the RP. Response: See Page 3 under "Purpose of</p>

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<p>impact on species listed as endangered or threatened, or to the designated critical habitat of such species, under the Endangered Species Act, prior to implementation of mitigation?</p> <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>f. Does it address if the project/study is likely to have significant interagency interest?</p> <p><i>Is it likely? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>g. Does it address if the project/study likely involves significant threat to human life (safety assurance)?</p> <p><i>Is it likely? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>h. Does it provide an estimated total project cost?</p> <p><i>What is the estimated cost: <u>\$3B - \$9B</u> (best current estimate; may be a range)</i></p> <p><i>Is it > \$45 million? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>i. Does it address if the project/study will likely be highly controversial, such as if there will be a significant public dispute as to the size, nature, or effects of the project or to the economic or environmental costs or benefits of the project?</p> <p><i>Is it likely? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>j. Does it address if the information in the decision document will likely be based on novel methods, present complex challenges for interpretation, contain precedent-setting methods or</p>	<p>EC 1105-2-410 Para 8f</p> <p>EC 1105-2-410, Para 6c</p> <p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410,</p>	<p>Review Plan” and “Components of the Review Plan” on page 5.</p> <p>2d - Does not address whether there will be influential scientific info/analysis. Response: See page 6, sub para e. under “Issues and Project Risks to be Addresses during the Reviews”.</p> <p>2e - RP does not address environmental, social, cultural, tribal, fish & wildlife, and endangered and threatened species impacts. Appendix B addresses some of these factors nicely, but these discussions need to be brought into the body of the main RP. Response: See “Components of the Review Plan” on page 5, 2nd Paragraph and “Purpose of Review Plan” on page 4.</p> <p>2f - Does not address whether there will be notable interagency interest. Response: See “Issues and Project Risks to be Address during the Reviews” on page 6, para f.</p> <p>2g - Does not address safety. Response: See page 3, “Purpose of Review</p>
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<p>models, or present conclusions that are likely to change prevailing practices?</p> <p><i>Is it likely? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i> <i>If yes, IEPR is required.</i></p>	<p>Appendix D, Para 1b</p>	<p>Plan”.</p> <p>2h - Does not include estimated cost, other than statement that it will exceed \$45 million. This is an important issue since Section 902 is the reason for the current efforts. Response: See “Issues to be Addressed during the Review” on page 8</p> <p>2i - Does not address potential controversy. Response: See Issues and Project Risks to be Address during the Reviews” on page 6.</p> <p>2j - Does not address potential challenges in the analytical methods and conclusions. Response: See Issues and Project Risks to be Address during the Reviews” on page 6.</p> <p>AH backcheck 11/19 - On 2h, I still do not find any cost estimate. A very large range of costs is referred to on p. 4. I could not tell if one of these alternatives has been selected at this point. If there is a selected plan, isn't there an estimate for it? If so, please include it.</p> <p>The other points under question 2 have been addressed by the</p>
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		<p>revisions.</p> <p>AH backcheck 12/16 - Comment on costs is resolved.</p> <p>f. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>g. Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>h. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>i. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>j. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments:</p>
<p>3. Does the RP define the appropriate level of peer review for the project/study?</p>	<p>EC 1105-2-410, Para 8a</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it state that DQC will be managed by the home district in accordance with the Major Subordinate Command (MSC) and district Quality Management Plans?</p> <p>b. Does it state that ATR will be conducted or managed by the lead PCX?</p> <p>c. Does it state whether IEPR will be performed?</p> <p><i>Will IEPR be performed?</i> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Does it provide a defensible rationale for the decision on IEPR?</p> <p>e. Does it state that IEPR will be managed by an Outside Eligible Organization, external to the Corps of Engineers?</p>	<p>EC 1105-2-410, Para 7a</p> <p>EC 1105-2-410, Appendix D, Para 3a</p> <p>EC 1105-2-410, Appendix B, Para 4b</p> <p>EC 1105-2-410, Para 7c</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>Comments:</p> <p>3a - Should state that DQC will be managed in coordination with the MSC.</p> <p>Response: See District Quality Control (DQC) and Agency Technical Review (ATR) on page 11.</p> <p>3e - Although it is</p>

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		<p>implied in a couple of places, RP should explicitly state that IEPR will be managed by OEO.</p> <p>Response: See "Independent External Peer Review (IEPR) on page 17.</p> <p>AH backcheck 11/19 - OK</p>
4. Does the RP explain how ATR will be accomplished?	EC 1105-2-410, Appendix B, Para 4l	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it identify the anticipated number of reviewers?</p> <p>b. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)?</p> <p>c. Does it indicate that ATR team members will be from outside the home district?</p> <p>d. Does it indicate that the ATR team leader will be from outside the home MSC?</p> <p>e. Does the RP state that the lead PCX is responsible for identifying the ATR team members and indicate if candidates will be nominated by the home district/MS?</p> <p>f. If the reviewers are listed by name, does the RP describe the qualifications and years of relevant experience of the ATR team members?*</p> <p><i>*Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.</i></p>	<p>EC 1105-2-410, Appendix B, Para 4f</p> <p>EC 1105-2-410, Appendix B, Para 4g</p> <p>EC 1105-2-410, Para 7b</p> <p>EC 1105-2-410, Para 7b</p> <p>EC 1105-2-410, Appendix B, Para 4k(1)</p> <p>EC 1105-2-410, Appendix B, Para 4k(1)</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>f. Yes <input type="checkbox"/> No <input type="checkbox"/> n/a <input checked="" type="checkbox"/></p> <p>Comments:</p> <p>4b - Section 3f on page 6 lists the necessary disciplines but needs more discussion of the specific expertise needed in each case. Response: See "B. Independent External Peer Review Team (IEPRT) on page 18.</p> <p>4e - Will the District nominate ATR team candidates? Response: See "6. ATR Team" on page 13.</p> <p>AH backcheck 11/19 -</p>

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		OK
5. Does the RP explain how IEPR will be accomplished?	EC 1105-2-410, Appendix B, Para 4k & Appendix D	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/>
<p>a. Does it identify the anticipated number of reviewers?</p> <p>b. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)?</p> <p>c. Does it indicate that the IEPR reviewers will be selected by an Outside Eligible Organization and if candidates will be nominated by the Corps of Engineers?</p> <p>d. Does it indicate the IEPR will address all the underlying planning, safety assurance, engineering, economic, and environmental analyses, not just one aspect of the project?</p>	<p>EC 1105-2-410, Appendix B, Para 4f</p> <p>EC 1105-2-410, Appendix B, Para 4g</p> <p>EC 1105-2-410, Appendix B, Para 4k(1) & Appendix D, Para 2a</p> <p>EC 1105-2-410, Para 7c</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments: 5b - RP discusses 3 disciplines needed for the IEPR, but also states that at least 10 reviewers will be needed - what are the other disciplines? If referring the reader back to the discussion of ATR team disciplines, remember that specific expertise is not discussed in any detail there, either. Response: See "1. IEPR" on page 18.</p> <p>5d - Does not indicate that IEPR will address all underlying analyses. Response: See "1. IEPR" page 18.</p> <p>AH backcheck 11/19 - OK</p>
6. Does the RP address peer review of sponsor in-kind contributions?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
a. Does the RP list the expected in-kind contributions to be provided by the sponsor?	EC 1105-2-410, Appendix B,	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a</p>

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<p>b. Does it explain how peer review will be accomplished for those in-kind contributions?</p>	<p>Para 4j</p>	<p align="center"><input type="checkbox"/></p> <p>Comments: 6a and 6b - RP does not mention in-kind work at all, except in Appendix B. Appendix B says that there is WIK but gives no specifics and does not address review of WIK. These issues should be include in the main body of RP.</p> <p>AH backcheck 11/19 - 6b ok. Did not find where 6a was addressed. Response: See "Issues and Project Risks to be Addressed during the Reviews" on page 10 under "Work-in-Kind Contributions".</p> <p>AH backcheck 12/16 - 6a comment is resolved.</p>
<p>7. Does the RP address how the peer review will be documented?</p>		<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does the RP address the requirement to document ATR and IEPR comments using DrChecks?</p> <p>b. Does the RP explain how the IEPR will be documented in a Review Report?</p> <p>c. Does the RP document how written responses to the IEPR Review Report will be prepared?</p> <p>d. Does the RP detail how the district/PCX will disseminate the final IEPR Review Report, USACE</p>	<p>EC 1105-2-410, Para 8g(1)</p> <p>EC1105-2-410, Appendix B, Para 4k(13)(b)</p> <p>EC 1105-2-410, Appendix B, Para 4l</p> <p>EC 1105-2-410, Para 8g(2) &</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p>

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<p>response, and all other materials related to the IEPR on the internet and include them in the applicable decision document?</p>	<p>Appendix B, Para 4l</p>	<p>Comments: 7b, 7c, 7d - RP does not explain how IEPR and written responses to it will be documented, or discuss dissemination of final report.</p> <p>AH backcheck 11/19 - Did not find where 7c and 7d were addressed. 7b is ok. Response: See page 19-21 under "Independent External Peer Review Team (IEPRT)".</p> <p>AH backcheck 12/16 - Comments resolved except for 7d. Please include a statement concerning dissemination of the final IEPR report on the internet. Response: Modified last statement under "Final Report" on page 21.</p>
<p>8. Does the RP address Policy Compliance and Legal Review?</p>	<p>EC 1105-2-410, Para 7d</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments:</p>
<p>9. Does the RP present the tasks, timing and sequence (including deferrals), and costs of reviews?</p>	<p>EC 1105-2-410, Appendix B, Para 4c & Appendix C, Para 3d</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it provide a schedule for ATR including review of the Feasibility Scoping Meeting (FSM) materials, Alternative Formulation Briefing (AFB) materials, draft report, and final report?</p>	<p>EC 1105-2-410, Appendix C, Para 3g</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p>

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<p>b. Does it include interim ATR reviews for key technical products?</p> <p>c. Does it present the timing and sequencing for IEPR?</p> <p>d. Does it include cost estimates for the peer reviews?</p>	<p>EC 1105-2-410, Appendix C, Para 3g</p>	<p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments: 9a - The milestones/schedule table in the IEPR section does not include ATR schedule. Response: See page 20-21 for Milestones and Schedule.</p> <p>9d - Did not find cost estimate for the reviews. Response: See page 7 under "Summarized Cost Estimate for Development of Post Authorization Change."</p> <p>AH backcheck 11/19 - OK</p>
<p>10. Does the RP indicate the study will address Safety Assurance factors?</p> <p>Factors to be considered include:</p> <ul style="list-style-type: none"> • Where failure leads to significant threat to human life • Novel methods\complexity\precedent-setting models\policy changing conclusions • Innovative materials or techniques • Design lacks redundancy, resiliency of robustness • Unique construction sequence or acquisition plans • Reduced\overlapping design construction schedule 	<p>EC 1105-2-410, Para 2 & Appendix D, Para 1c</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>Comments: 10 - RP needs to address this important issue. Would project failure or exceedance endanger human life, for example? Suggest including the factors at left in your discussion of the safety review that will be done.</p> <p>AH backcheck 11/19 - Revisions do not seem to have addressed this issue very much, other than a very brief reference on p. 6. Response: See page 6 under "Issues and Project Risks to be Addressed during the</p>

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		Reviews.” AH backcheck 12/16 - Comment is resolved.
11. Does the RP address model certification requirements?	EC 1105-2-407	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it list the models and data anticipated to be used in developing recommendations (including mitigation models)?</p> <p>b. Does it indicate the certification/approval status of those models and if certification or approval of any model(s) will be needed?</p> <p>c. If needed, does the RP propose the appropriate level of certification/approval for the model(s) and how it will be accomplished?</p>	EC 1105-2-410, Appendix B, Para 4i	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>Comments: 11a, 11b, 11c -RP needs to list planning models that will be used, along with certification status of those models and how approval will be accomplished if needed</p> <p>AH backcheck 11/19 - Did not find any revisions addressing these issues. Response: See page 6 under 'Issues and Project Risks to be Addressed during the Reviews.”</p> <p>AH backcheck 12/16 - Did not find any relevant text on page 6, but page 14 has it. Comment is resolved.</p>
12. Does the RP address opportunities for public participation?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it indicate how and when there will be opportunities for public comment on the decision document?</p> <p>b. Does it indicate when significant and relevant public comments will be</p>	EC 1105-2-410, Appendix B, Para 4d EC 1105-2-	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>

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<p>provided to reviewers before they conduct their review?</p> <p>c. Does it address whether the public, including scientific or professional societies, will be asked to nominate potential external peer reviewers?</p> <p>d. Does the RP list points of contact at the home district and the lead PCX for inquiries about the RP?</p>	<p>410, Appendix B, Para 4e</p> <p>EC 1105-2-410, Appendix B, Para 4h</p> <p>EC 1105-2-410, Appendix B, Para 4a</p>	<p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments: 12b - Does not discuss opportunities for significant public comments to be provided to reviewers prior to review. The RP may be implying (p. 13) that no further public involvement is anticipated. If so, this decision needs to be coordinated with the PCX, and they may not agree. Response: See page 11 under "Issues and Project Risks to be Addressed during the Reviews." 12c - Does not indicate whether there will be an opportunity for reviewer nominations by the public. Again, if the answer is no, make sure the PCX is in agreement. AH backcheck 11/19 - 12b is OK. 12c does not appear to have been addressed. Response: See page 18 & 20 under "B. Independent External Peer Review Team (IEPRT)" for a short discussion of the independent membership required of the IEPR (professionals from the general public independent of USACE).</p>
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		<p>AH backcheck 12/16 - The referenced text does not address the question. Simply, will the public be asked to nominate IEPR reviewers?</p>
<p>13. Does the RP address coordination with the appropriate Planning Centers of Expertise?</p>	<p>EC 1105-2-410, Para 8a</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it state if the project is single or multi-purpose? Single <input type="checkbox"/> Multi <input checked="" type="checkbox"/></p> <p>List purposes: Project protects properties in the basin from storm surge and excessive runoff due to tropical storm events and to sustain and enhance the economic stability and development of the area consistent with environmental sensitivity.</p> <p>b. Does it identify the lead PCX for peer review? Lead PCX: CSDR</p> <p>c. If multi-purpose, has the lead PCX coordinated the review of the RP with the other PCXs as appropriate?</p>	<p>EC 1105-2-410, Appendix D, Para 3c</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> c. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> n/a <input type="checkbox"/></p> <p>Comments: 13c - Does not mention that any coordination of the RP between PCXs has in fact occurred. Response: See page 18 under "A. Planning Center of Expertise (PCX)."</p> <p>AH backcheck 11/19 - OK</p>
<p>14. Does the RP address coordination with the Cost Engineering Directory of Expertise (DX) in Walla Walla District for ATR of cost estimates, construction schedules and contingencies for all documents requiring Congressional authorization?</p>	<p>EC 1105-2-410, Appendix D, Para 3</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it state if the decision document will require Congressional authorization?</p> <p>b. If Congressional authorization is required, does it state that coordination will occur with the Cost Engineering DX?</p>		<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>Comments: Reauthorization</p>

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<p>15. Other Considerations: This checklist highlights the minimum requirements for an RP based on EC 1105-2-410. Additional factors to consider in preparation of the RP include, but may not be limited to:</p> <p>a. Is a request from a State Governor or the head of a Federal or state agency to conduct IEPR likely?</p> <p>b. Is the home district expecting to submit a waiver to exclude the project study from IEPR?</p> <p>c. Are there additional Peer Review requirements specific to the home MSC or district (as described in the Quality Management Plan for the MSC or district)?</p> <p>d. Are there additional Peer Review needs unique to the project study?</p>	<p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410, Appendix D, Para 1d</p>	<p>a. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>b. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>c. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>d. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Comments:</p>
<p>Detailed Comments and Backcheck: 1st Submission - 10Jul09. 2nd Submission - 19Nov09. 3rd Submission - 8Dec09. Backchecks - 12Aug09 & 19Nov09</p>		

Review Checklist

I. BASIC INFORMATION:

a. Name of Authorized Project: MR&T, Morganza, Louisiana to the Gulf of Mexico Risk Reduction Project

b. Name of Separable Element: . N/A .

c. PWI Number: 012875. P2#: 118926/343234

d. Authorizing Document: WRDA 2007

e. Law/Section/Date of Project Authorization (attach copy to checklist):

WRDA Act of 2007 (PL 110-114, Sec 1001), Nov 9, 2007

f. Laws/Sections/Dates of Any Post-Authorization Modification: . N/A .

g. Non-Federal Sponsor(s): Louisiana Coastal Protection and Restoration Authority

h. Project/Separable Element Purpose(s): Storm Damage Risk Reduction

i. Congressional Interests (Senator(s), Representative@) and District(s):

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Senators Vitter and Landrieu, (LA); Congressmen Landry (LA-3), Cassidy (LA-6) and Boustany (LA-7).

II. PROJECT DOCUMENTS:

- a. Type of Decision Document: Post Authorization Change Decision Document
- b. Approval Authority of Decision Document: Mississippi Valley Division
- c. Project Management Plan Approval Date: Sept 2009
- d. Independent External Peer Review (IEPR) Approval Date: N/A
- e. Mitigation Required: X Yes ___ No Cost of Mitigation: TBD
- f. Current Estimate: \$3 - \$9 billion Date Prepared and Price Level: October 2010
- g. Section 902 Cost Limit: \$1,353,340,000 Fully Funded as of 1 Oct FY N/A
- h. Date of Latest Economic Analysis: October 2010
- i. Current Economics: BCR N/A @ ___% FY (Note: list period of analysis)
RBRCR N/A %FY

III. COST SHARING SUMMARY:

Table 20: Budget Share Breakout for Authorized Project (FY08 Price Level)						
Purpose(s)	Non-Fed Cash	Non-Fed LERRD	Non-Fed Const	Total Non-Fed (35%)	Federal Share (65%)	Total Project Cost
Hurricane Protection	\$283,563,000	\$9,126,000	\$46,111,000	\$338,800,000	\$629,200,000	\$968,000,000

Total

- a. Projected Credit for Section 215 Work and Date 215 Agreement Signed:

N/A

- b. Projected Credit for Section 104 or Other Authorized Creditable Work and Date Work Approved by ASA (CW) or Agreement Addressing Work Signed:

N/A

- c. Annual Non-Fed OMRR&R Costs (1 Oct FY__08__ Price Levels):

IV. FUNDING HISTORY

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a. Appropriations History for Project/Separable Element: To date the total cost of investigations of MR&T for reconnaissance, feasibility and PED phases is \$53.1 million.

V. CERTIFICATION FOR DELEGATED DECISION DOCUMENTS: YOU MUST ANSWER "YES" TO ALL OF THE FOLLOWING QUESTIONS TO APPROVE THE DECISION DOCUMENT UNDER DELEGATED AUTHORITY.

a. PROJECT PLAN

Has the project study issue checklist been completed and all issues resolved?

YES X NO _____.

Does the non-Federal sponsor concur in the project plan as submitted?

YES X NO _____.

b. AUTHORITY

Has authority been delegated to the MSC for approval of the project report?

YES X NO _____.

Is authority adequate to complete the project as proposed?

YES X NO _____.

c. POLICY/LEGAL/TECHNICAL COMPLIANCE

Has the District Counsel reviewed and approved the decision document for legal sufficiency?

Yes (Certification included in decision document package submittal) _____

NO _____.

Have all aspects of ATR been completed with no unresolved issues remaining?

YES _____ NO _____.

Has the District Commander documented policy/legal/technical compliance of the decision document? YES X NO _____.

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VI. AUTHENTICATION

Elaine Stark
Project Manager
Date: _____

Tom Podany
Chief, Protection and Restoration Office (PRO)
Date: _____

District Counsel
Date: _____

Colonel Alvin B. Lee
District Engineer
Date: _____

MVD DST Leader
Date: _____

MVD Counsel
Date: _____

MVD Division Commander
Date: _____

**Appendix B
Project Study Issue Checklist**

Project Name: Mississippi River and Tributaries, Louisiana, Morganza to the Gulf of Mexico Hurricane Protection Project (Terrebonne and Lafourche Parishes).

Project Description: The intent of this project is to protect parts of Terrebonne and Lafourche Parishes from the damage caused by hurricane and tropical storm surges and to protect fragile and rapidly deteriorating coastal wetlands. Some of the damages caused by hurricanes and tropical storms are to residential and commercial structures, while other damages occur to wetlands. Damages to wetlands happen when storms push saltwater and waves into marches and swamps. The project would protect the homes and businesses of approximately 69,000 residents in addition to protecting wetlands from the damaging effects of storm surges. Further, the project has incorporated structural features that would allow for the optimization of freshwater and nutrients within the project area to replenish wetlands that are currently deteriorating, and thus, environmental benefits would become evident in those areas.

Cost Sharing: The total PED effort is scheduled to be \$88,000,000 under the work share with the Louisiana Coastal Protection and Restoration Authority - LACPRA of 75 percent - 25 percent ratio (Federal to Non-Federal). Upon project authorization, this cost share will be adjusted to 65 percent to 35 percent (Federal to Non-Federal) with two sponsors (Terrebonne Levee and Conservation District – TLCD and LACPRA) during construction.

* Response where a "*" requires coordination through vertical team and complete description of issues under "Remarks", before decision to approve project/report can be delegated.

1. Has a NEPA document been completed?

Response: YES X NO

Remarks: A Final Programmatic Environmental Impact Statement (PEIS) (http://www.mvn.usace.army.mil/prj/mtog/Downloads/FS_PEIS_FULL.pdf) went out to the Public for the final 30 day review in March of 2002. This document covers the authorized alignment at pre-Katrina heights and standards. A Revised PEIS will examine the impacts from, the Authorized Alignment at new 100-year standard, the Feasibility Alternative #5 at new 100-year standard, the Multiple Lines of Defense at new 100-year standard, and the Authorized Alignment with Pre-Katrina Elevations. The RPEIS will include constructible features (i.e. HNC Lock complex) in detail so that no further environmental clearances will be needed for those features upon signing of the Record of Decision (ROD). Supplemental NEPA documents will have to be produced for all other features before construction of that feature. A separable EA entitled

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Mississippi River and Tributaries Morganza, Louisiana to the Gulf Of Mexico Hurricane Protection Levee, Reach J, Segment 1 Terrebonne Parish, Louisiana Ea #406.

(<http://www.mvn.usace.army.mil/prj/mtog/EAS/MtoG%20Reach%20J1%20EA406%20final.pdf>) was produced to cover construction authorized by the Energy and Water Development FY 2004 Appropriations Bill, PL108-137; Section 158 of the House Report (HR108-2754).

2. Will the NEPA Documentation be more than 5 years old at the time of PCA signing or construction initiation?

Response: YES NO

Remarks: The initial FPEIS will be over 5 years old, but the RPEIS should not be, also supplemental NEPA documents will be produced as needed before construction of individual features.

3. Will the ESA Findings be more than 3 years old at the time of PCA signing or construction initiation?

Response: YES NO

Remarks: Updates to the ESA finding will be prepared as part of the RPEIS and supplemental NEPA documents.

4. Is ESA coordination complete?

Response: YES NO

Remarks: See above

5. If an EIS/EA was completed for the project, has the Record of Decision/Finding of No Significant Impact been signed?

Response: YES NO

Remarks: A Record of Decision (ROD) was not signed for the FPEIS at the time it was finished due to lack of congressional authorization. When authorization occurred in WRDA of 2007 the cost of the project looked to exceed the 902 limit and again the ROD was not signed. A Finding of No Significant Impact was signed July 29, 2005 for Reach J1 of MtoG

6. Is the proposed project consistent with the ROD/FONSI?

Response: YES NO

Remarks: A signed ROD or FONSI does not exist for this project. The feasibility report was submitted with a Programmatic EIS (not an EA) in 2002, but the ROD was never signed. The ROD is expected to be executed in 2014, following the 2013 submittal of the PAC report.

7. Have there been any changes in Federal environmental laws or Administration or Corps policy since original project authorization that makes updating necessary? [e.g., change to the Clean Air Act status for the project area...going from attainment to nonattainment]

Response: YES NO

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Remarks: There has been a change in the 100-yr storm event standard for height as well as changes in standards on quality of levee material. WRDA of 2007 has some changes to the method of mitigation, but HQ guidance has not been provided so the impact to the project is not known. Bald Eagles have been delisted, but are still protected under other laws.

8. Is there a mitigation plan?

Response:

- a. Fish and Wildlife: YES NO
- b. Flood Damage: YES NO
- c. Cultural and Historic Preservation: YES NO
- d. Recreation: YES NO

Remarks: Due to the fact the document was a Programmatic EIS the impacts of an overall hurricane risk reduction system for this area and a mitigation plan were presented with as much detail as possible. However, additional NEPA and other environmental documentation are needed to fully disclose the various components and impacts when designs become finalized. The Wetland Value Assessment (WVA) analysis performed by the interagency Habitat Evaluation Team (HET) showed that overall impacts from either of the action alternatives would have a positive effect on the coastal wetlands in the study area. This was due to gains in intermediate marsh habitat units. However, fresh, brackish, and saline marsh would be adversely impacted. The HET decided that mitigation in brackish marsh could serve as a substitute for saline marsh during mitigation planning and evaluation. It was calculated that 211 Average Annual Habitat Units (AAHUs) were needed for fresh marsh and 804 AAHUs were needed for brackish and saline marsh. The selected mitigation plan would entail the Minor Canal enlargement for fresh marsh along with 1352 acres of marsh restoration in subarea C13 for brackish and saline marsh.

Fifteen previously recorded cultural resource sites are located within the proposed project right-of-way. Ten of these cultural resource sites are not significant due to past disturbance, lack of cultural evidence and/or they have no research potential. Some sites could be easily avoided by a slight change in the levee alignment. Placement of these sites inside of the levee would help preserve them by reducing saltwater intrusion and erosion. If they can not be avoided expensive data recovery efforts would be needed to mitigate the construction impacts. Under the provisions of the Native American Graves Protection and Repatriation Act of 1990, the Chitimacha tribe would be directly involved in the development and approval of the final mitigation plan. Sixty five percent of the project right-of-way is located in areas that have a high potential for the presence of cultural remains. Twenty nine percent of these areas have been previously surveyed. The remaining 36 percent (2,717 acres) need to be surveyed prior to construction. Five to six additional potentially significant cultural resource sites can be expected in these areas.

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The authority for cost sharing is contained in signed agreement dated June 15, 1995 between Department of the Army and the Louisiana Coastal Protection and Restoration Authority

9. Are the mitigation plans that are now being proposed the same as the authorized plan?

Response:

- a. Fish and Wildlife YES ___ NO X
- d. Flood Damage YES ___ NO X
- e. Cultural and Historic Preservation YES ___ NO X
- f. Recreation YES * NO X

Remarks: Due to the changes in post Katrina standards on the foot print of the levee there is a need to change the mitigation plan. This plan will be developed in detail in the RPEIS and supplemental NEPA documents. The basic plan for marsh restoration is to build marsh berms on the unprotected side of the levee where practicable. This would be accomplished with the top organic layer from the adjacent borrow areas. There also may be some changes after we receive HQ guidance on WRDA 2007 mitigation section. Increase in footprint will require a larger area that will need to be surveyed for cultural resources.

10. Is there an incremental analysis/cost effectiveness analysis of the fish and wildlife mitigation features based on an approved method and using an accepted model?

Response: YES X NO ___

Remarks: Cost effectiveness and incremental analysis (CE/IA) of the possible mitigation plans were conducted using the methods outlined in Orth 1994 and Robinson et al. 1995.

11. Is it expected that the project's fully funded cost would exceed the cost limit of Section 902 of WRDA 1986? [Note: for hurricane and storm damage reduction projects there are two separate 902 limits, one for initial project construction and one for periodic renourishment]

Response: YES X* NO ___

Remarks: The current cost of the authorized project is \$1.3B (Oct 2010 dollars). Current cost estimates are \$4.2B for the 35 year alternative (pre-Katrina Stillwater elevation with post-Katrina criteria) and \$8.0B for the 100 year alternative (post-Katrina 100 year Stillwater elevations and criteria).

12. Does the project involve HTRW clean-up?

Response: YES ___ NO X

Remarks: The HTRW section will be updated using the 2005 ASTM standards in the RPEIS and supplemental NEPA documents.

13. Does the work involve CERCLA covered materials?

Response: YES ___ NO X

Remarks:

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14. Are the project purposes now being proposed different than the authorized project? [Note: different than specifically noted in authorization or noted in Chiefs report and is it measured by project outputs]

Response: YES __ NO X

Remarks:

15. Are there any proposed scope changes to the authorized project?

[Reference: ER 1105-2-100]

Response: YES * NO X

Remarks: The project was authorized for construction under WRDA 2007, and only the authorized alignment (pre-Katrina 100 year and post-Katrina 100 year) are being considered.

16. Is Non-Federal work-in-kind included in the project? [Note: Credit to a non-Federal sponsor for work-in-kind must be based upon having an existing authority. Need to identify the authority and if not a general authority such as Sec 215, provide a copy of the authority.]

Response: YES X* NO __

Remarks: The Chief of Engineers Report was signed in 2003, specifying Reaches H-2, H-3, J-1, J-2 and J-3 as WIK. PL 108-137 authorized the first lift of Reach J-1 ahead of the federal project.

17. Does project have work-in-kind authority? [Note: If there is no existing authority, as determined in conjunction with District Counsel, the only other vehicle is to propose work-in-kind and rationale in the decision document and submit to HQUSACE for specific Congressional authorization.]

Response: YES X NO __

Remarks: PL 108-137 authorized the first lift of Reach J-1 ahead of the federal project.

18. Are there multiple credit authorities (e.g., Sec. 104 & 215) including LERRDs, Work-In-Kind and Ability to Pay? [Note: See App. B of ER 1165-2-131. Describe the authority for work-in-kind and if authority exists, the PM should submit a completed App. B through the vertical team.]

Response: YES * NO X

Remarks: The Chief's Report supplemented for WIK in 2003. Currently attempting to enter into a Section 221 MOU with non-federal sponsor.

19. Is an Ability to Pay cost sharing reduction included in the proposed project? [If yes, fully describe the proposal, citing how this authority is applicable. Include a table showing the cost sharing by project purpose and expected Ability to Pay reductions.]

Response: YES * NO X

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Remarks: No Ability to Pay cost sharing reduction is included in this project.

20. Is the recommended plan different from the NED plan? [Note: if this answer is yes, then a series of questions arise that will need to be addressed in the Remarks section...is plan less costly than NED plan, is the plan more costly with the same cost sharing as NED plan (exception), is plan more costly with all costs exceeding the cost of the NED plan at 100% non-Federal cost, or has ASA (CW) already granted an exception]

Response: YES* NO

Remarks: The NED plan (referred to as the Highway 57 Alignment) was identified as the recommended plan in the Feasibility report and authorized for construction in the 2007 WRDA.

21. Was a standard accepted Corps methodology/model used to calculate NED benefits?

Response: YES NO

Remarks:

22. Are there non-standard benefit categories? [Reference ER 1105-2-100].

Response: YES NO

Remarks: No non-standard benefit categories are included in this project.

NAVIGATION COMPONENT (INLAND OR HARBOR)

23. Is there a navigation component in the project?

Response: YES NO (If Yes, answer each of the following questions)

24. Is there land creation?

Response: YES NO

Remarks: Dredged material from the creation of the By-pass channel will be used to construct the Closure Dam once the Lock and Sector Gates are constructed.

25. Is there a single owner and/or beneficiary which is not a public body? [Public body as defined by Section 221 of WRDA 1970]

Response: YES NO Remarks:

26. Are there proposals for Federal cost sharing of Local Service Facilities [e.g., dredging of non-Federal berthing areas] work?

Response: YES NO

Remarks:

27. Is there sediment remediation proposed under Sec. 312 authority? [i.e., Section 312 of WRDA 1990 as amended by Section 205 of WRDA 1996]

Response: YES NO

Remarks:

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28. Is there dredged material placement on beaches where the use is not the least costly environmentally acceptable plan?

Response: YES * NO

Remarks:

29. Will the dredged material be used for ecosystem restoration where the recommended plan is not the least costly environmentally acceptable plan?

Response: YES * NO

Remarks:

30. Does the project have recreation navigation benefits?

Response: YES * NO

Remarks:

31. Does the project involve inland navigation harbor development?

Response: YES * NO

Remarks:

32. Can the resale or lease of lands used for disposal of excavated material recover the cost of the improvements?

Response: YES NO

Remarks:

33. Will acquisition of land outside the navigation servitude be necessary for construction of the improvements (either the project or non-Federal facilities that will use or benefit from the project) and will thus permit local entities to control access to the project. [The latter case is assumed to exist where the proposed improvement consists of a new channel cut into lands.]

Response: YES NO

Remarks:

FLOOD DAMAGE REDUCTION COMPONENT

34. Is there a flood damage reduction component in the project?

Response: YES NO (If Yes, answer each of the following questions)

35. Is the project for protection of a single property or beneficiary?

Response: YES * NO

Remarks:

36. Is the project producing land development opportunities/benefits? [If land creation benefits are expected to occur, describe whether special cost sharing should apply.]

Response: YES * NO

Remarks:

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37. Is there any recommendation to cost share any interior drainage facilities?

Response: YES * NO

Remarks:

38. Are there any windfall benefits that would accrue to the project sponsor or other parties? [If windfall benefits are expected to occur, describe whether special cost sharing should apply.]

Response: YES * NO

Remarks:

39. Are there non-structural buyout or relocation recommendations?

Response: YES NO

Remarks: [If yes list the authority and describe what is proposed]

40. Are the reallocation studies likely to change the existing allocated storage in lake projects?

Response: YES * NO

Remarks:

HURRICANE AND STORM DAMAGE REDUCTION COMPONENT

41. Is there a Hurricane and Storm Damage Reduction component in the project?

Response: YES NO [If Yes, answer each of the following questions]

42. Does the project provide for protection of privately owned shores?

Response: YES NO

Remarks:

43. Does the project provide for protection of undeveloped lands?

Response: YES NO

Remarks:

44. Does the project provide for protection of federally owned shoreline at Federal cost? [If yes, describe what is to be protected and who bears the federal cost.]

Response: YES NO

Remarks:

45. Does the project involve tidal or fluvial flooding i.e. is it clear what the project purpose is and has the project been formulated as a hurricane and storm damage reduction project or flood damage reduction project?

Response: YES NO

Remarks:

46. Is there any recommendation to cost share any interior drainage facilities?

Response: YES NO

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Remarks:

47. Is recreation > 50% of total project benefits needed to justify the project?

Response: YES ___ NO X

Remarks:

48. Are there any parking or public access issues [no public access or none provided within 1/2 mile increments]?

Response: YES ___ NO X

Remarks:

49. Are easements being provided to ensure public use and access?

Response: YES ___ NO X

Remarks:

50. Is there a Sec. 934 of WRDA 1986 extension of the period of authorized Federal participation?

Response: YES ___ NO X

Remarks:

51. Are there any Sec. 111 of Rivers and Harbors Act of 1958, as amended proposals?

Response: YES ___ NO X

Remarks:

ECOSYSTEM RESTORATION COMPONENT

52. Is there an ecosystem restoration component of the project?

Response: YES X NO ___ (If Yes, answer each of the following questions)

53. Has the project been formulated using cost effectiveness and incremental analysis techniques?

Response: YES ___ NO X

Remarks: During the original plan formulation quantification of the habitat value that would be achieved due to the prevention of saltwater intrusion was limited. The RPEIS will use the finalized system wide model to provide a quantification of environmental benefits.

54. Was "IWR Plan" used to do cost effectiveness/incremental analysis?

Response: YES ___ NO X

Remarks:

55. Are all the benefits aquatic?

Response: YES ___ NO X

Remarks:

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56. Is the project purpose for restoration of cultural or historic resources as opposed to ecosystem restoration?

Response: YES ___ NO X

Remarks

57. Is there mitigation authorized or recommended?

Response: YES X NO ___

Remarks

58. Are there recommendations for other than restoring a degraded ecosystem [e.g., creating new habitat where it has never been]?

Response: YES ___ NO X

Remarks

59. Has the significance of the habitat been clearly identified? [Note: Under Remarks, describe the basis for determining the significance.]

Response: YES X NO ___

Remarks: There has been significant wetland loss in the basin.

60. Has the restoration project been formulated for biological/habitat values? As opposed to, for example, water quality.

Response: YES ___ NO X

Remarks: This is planned for the RPEIS.

61. Is the project on non-public lands?

Response: YES ___ NO X

Remarks

62. Does the project involve land acquisition where value > 25% of total project cost?

Response: YES ___ NO X

Remarks

63. Are all the proposed recreation features in accordance with ER 1105-2-100, Appendix E, Exhibit E-3?

Response: YES ___ NO X

Remarks

64. Are there recommendations to include water quality improvement?

Response: YES X NO ___

Remarks: Reduction of saltwater intrusion will help the Houma City FW intake.

65. Is the monitoring & adaptive management period proposal beyond 5 years after completion of construction?

Response: YES X NO ___

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Remarks: Monitoring of salinities in the HNC and Bayou Grand Caillou below and above the proposed lock location would be critical. These stations would also need the ability to monitor temperature and flow. Monitoring stations in Bayou Decade, lower Minors Canal, the marsh north and south of Falgout Canal to the west of the HNC, Bayou Dulac, Robinson Canal, northern, and Grand Bayou and marsh to the east would also be needed. The monitoring would be done continuously before, during, and the first five years after construction. After the five years, continuous monitoring would continue in the HNC for the project life. In the other locations, monitoring could be reduced to monthly sampling.

Vegetation zones would be monitored biennially before, during, and for the first five years after construction. After that, surveys would continue on a triennial basis for the project life. Wetland loss or gain, including SAV in the study area would be monitored on a biennial basis before, during and five years after construction. The study area would be monitored using aerial photography, the vegetation survey information, and Geographic Information Systems to map changes and quantify wetland areas. After that, the analyses would continue on a triennial basis for the project life. These investigations should be designed to correspond with year 3 after mitigation restoration areas have been constructed to determine if the restoration worked as expected.

Juvenile fish would be sampled quarterly in the Lake Boudreaux area to determine numbers and species composition before, during, and after construction. Salinity, temperature, and other pertinent environmental data would be collected at the same time. After that, the sampling would be reduced to a biannual schedule.

Continuous measurement of flows and water levels west and east of the GIWW floodgate would be needed to ensure that flow moves through the floodgate with little resistance so that water levels to the west of the floodgate do not rise above the assumed 3-4 inches. Flow and water levels would also need to be measured at the HNC lock, Bayou Grand Caillou floodgate, Minors Canal, and the Grand Bayou Floodgate. Water elevations should be measured inside and outside of all environmental structures to ensure that ponding does not occur in the system (unless that is the expected condition under an existing management plan). Flow and water level measurements should continue throughout the project life.

66. Does the proposal involve land acquisition in other than fee title?

Response: YES___ NO X

Remarks

67. Are there recommendations for non-native species?

Response: YES___ NO X

Remarks

68. Does the project propose the use of navigation servitude?

Response: YES___ NO X

Remarks

RECREATION COMPONENT

69. Is there a recreation component as part of the project?

Response: YES___ NO X (If Yes, answer each of the following questions)

70. Is the cost of proposed recreation development > 10 % of the Federal project cost without recreation. [except for nonstructural flood damage reduction and hurricane, and storm damage projects]?

Response: YES___ NO X

Remarks

71. Are there recreation features located on other than project lands?

Response: YES___ NO X

Remarks

72. Does the project involve/provide for waterfront development?

Response: YES___ NO X

Remarks

73. Does the project involve the need to reallocate authorized storage [Sec III, App E, ER 1105-2-100J]?

Response: YES___ NO X

Remarks

74. Does the project include non-standard recreation facilities? [refer to ER 1105-2-100, Appendix E, Exhibit E-2J]

Response: YES___ NO X

Remarks

WATER SUPPLY COMPONENT

75. Is there a water supply component as part of the project?

Response: YES___ NO X (If Yes, answer each of the following questions)

76. Does the project use non-standard pricing for reallocated storage?

Response: YES___ NO X

Remarks

77. Are there exceptions to model contract/agreement language?

Response: YES___ NO X

Remarks

