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

12 DEC 12

MEMORANDUM FOR COMMANDER, New Orleans District

SUBJECT: Louisiana Coastal Area Demonstration Program Implementation Plan, Review Plan Approval

1. References:

a. Memorandum, CEMVN-PM-B, 3 December 2012, SAB.

b. Engineering Circular (EC) 1165-2-209, Change 1, Civil Works Review Policy, dated 31 January 2012.

2. The subject Review Plan (RP)(encl) provided under reference 1.a. was reviewed by Mississippi Valley Division staff. The RP includes agency technical review and independent external peer review through the Louisiana Water Resources Council and is consistent with the purpose and policy of EC 1165-2-209. I hereby approve this RP which is subject to change as circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this RP or its execution will require new written approval from this office.

3. The RP is to be posted to the District website.

4. The POC for this action is Mr. Jim Wojtala, CEMVD-PD-N, at (601) 634-5931.

EDWARD E. BELK, Jr., P.E., SES
Director of Programs

Encl

CF:
CECW-MVD (J. Redican)

REVIEW PLAN

Louisiana Coastal Area
Demonstration Projects
New Orleans District

MSC Approval Date: 12 December 2012
Last Revision Date: 12 December 2012

US Army Corps
of Engineers ®

REVIEW PLAN

Louisiana Coastal Area
Demonstration Projects
New Orleans District

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ACRONYMS AND ABBREVIATIONS

Term	Definition
ASA(CW)	Assistant Secretary of the Army for Civil Works
ATR	Agency Technical Review
CE	Corps of Engineers
DE	District Engineer
DQC	District Quality Control/Quality Assurance
DX	Cost Engineering Directory of Expertise
EC	Engineer Circular
ECO-PCX	National Ecosystem Restoration Planning Center of Expertise
EDR	Engineering Documentation Report
ER	Engineer Regulation
HQUSACE	Headquarters, U.S. Army Corps of Engineers
IEPR	Independent External Peer Review
LCA	Louisiana Coastal Area
MSC	Major Subordinate Command
MVD	Mississippi Valley Division
MVN	New Orleans District
NFS	non-Federal Sponsor
PCX	Planning Center of Expertise
PDT	Project Delivery Team
PgMP	Program Management Plan
PIP	Program Implementation Plan
RP	Review Plan
RMO	Review Management Organization
USACE	U.S. Army Corps of Engineers
WRDA	Water Resources Development Act

1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan (RP) defines the scope and level of peer review for the Louisiana Coastal Area (LCA) Demonstration Projects. The study is authorized in Title VII, Section 7006(b) of the Water Resources Development Act (WRDA), enacted November 8, 2007 (Public Law 110-114). The purpose of this RP is to establish the appropriate level and independence of review and present the detailed requirements for review documentation. The RP, a stand-alone document, is a component of the study's Program Implementation Plan (PIP), which serves as the Program Management Plan (PgMP). This RP is only for the PIP. Each proposed demonstration project will have its own Project Management Plan and associated RP.

b. References.

(1) Engineer Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2012
(2) EC 1105-2-412, Assuring Quality of Planning Models, 30 Dec 2009
(3) Engineer Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
(4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
(5) New Orleans District (MVN) PgMP.

c. Requirements. This RP was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for all project reviews. The EC outlines four review levels: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review/certification (per EC 1165-2-209) and planning model certification/approval (per EC 1105-2-412).

2. REVIEW MANAGEMENT ORGANIZATION COORDINATION (RMO)

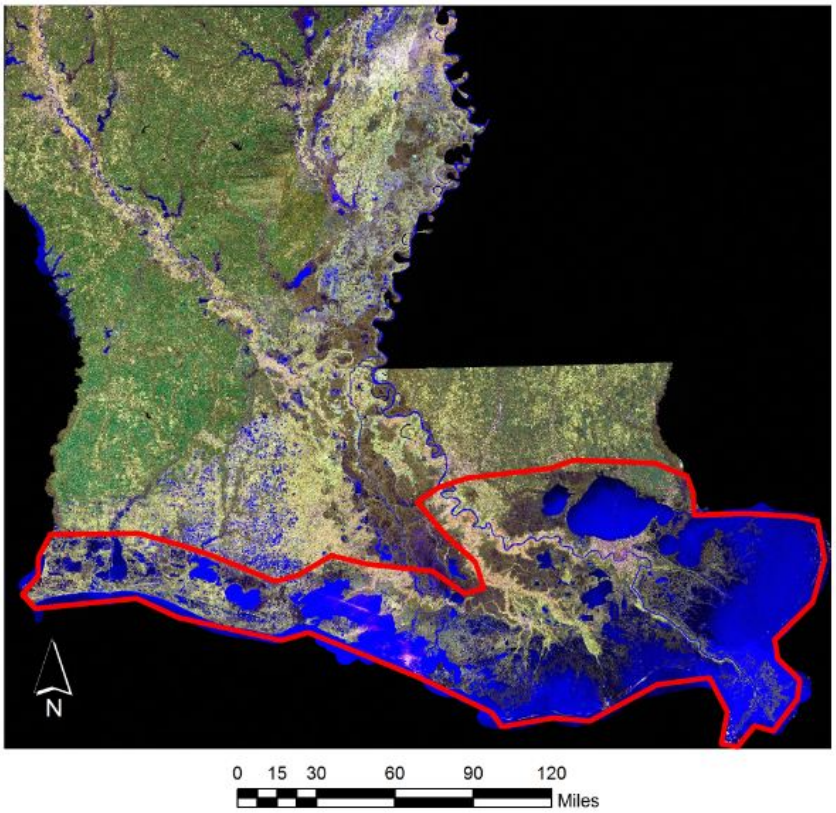
The RMO is responsible for managing the overall peer review effort described in this RP. The RMO for decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center, depending on the primary purpose of the decision document. The RMO for the peer review effort described in this RP is the Ecosystem Restoration (ECO)-PCX.

3. STUDY INFORMATION

a. Decision Document. The decision document covered by this review plan is the PIP that will be produced as part of the LCA Demonstration Program. The LCA program area (see Figure 1) encompasses Louisiana's 1st, 2nd, 3rd, and 6th Congressional Districts. The demonstration program is a multi-purpose effort geared to build projects to demonstrate solutions to wetland ecosystem restoration uncertainties. The results and data will be used to increase the

efficiency of benefits that could be realized in existing projects and projects under study in coastal Louisiana. Example demonstration projects can be found in Attachment 3.

Figure 1. LCA Ecosystem Restoration Project Boundary



b. Study/Project Description. Title VII of the WRDA of 2007 authorizes the LCA program. The Authority includes provisions for comprehensive coastal restoration planning, program governance, project modification investigations, restoration project construction, a program for beneficial use of dredged material, feasibility studies for restoration plans, and other elements. In total, the LCA program includes 25 elements falling into the investigations, research, demonstration, and construction categories. The LCA Demonstration Projects Program is addressed in Section 7006(b) of the WRDA 2007 presented below.

SEC. 7006 CONSTRUCTION

(b) DEMONSTRATION PROJECTS.—

(1) IN GENERAL. — Subject to paragraph (2), the Secretary may carry out demonstration projects substantially in accordance with the restoration plan and within the coastal Louisiana ecosystem for the purpose of resolving critical areas of scientific or technological uncertainty related to the implementation of the comprehensive plan.

(2) MAXIMUM COST.—

(A) TOTAL COST. — The total cost for planning, design, and construction of all projects under this subsection shall not exceed $100,000,000.

(B) INDIVIDUAL PROJECT. — The total cost of any single project under this subsection shall not exceed $25,000,000…

c. Factors Affecting the Scope and Level of Review. The PIP lays out a process to identify projects that are intended to resolve critical areas of scientific, technical, or engineering uncertainty related to the implementation of the LCA Ecosystem Restoration Plan. Engineering Documentation Reports (EDR) will be the feasibility level decision document, but will follow the outline of a traditional Continuing Authority Program reporting outline. Unless or until authority is delegated to MVD or MVN, approval of decision documents is at the discretion of the Assistant Secretary of the Army for Civil Works (ASA(CW)). National Environmental Policy Act (NEPA) compliance and documentation will be addressed for each demonstration project approved for further investigation.

d. In-Kind Contributions. The PIP is being developed as a policy guidance document at full Federal expense. Any future products and analyses provided by the non-Federal Sponsor (NFS) as in-kind services are subject to DQC, ATR, and IEPR. The NFS is the Coastal Protection and Restoration Authority of Louisiana.

4. DISTRICT QUALITY CONTROL

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC. Reference: EC 1165-2-209, Civil Works Review Policy, 31 Jan 2012; MVN PgMP.

DQC for key uncertainty development and project recommendation process selection will be managed at the MVN and may be conducted by MVN staff in the home district as long as they are not involved in the study (including contracted work). Basic quality control tools include a Quality Management Plan providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. Additionally, the PDT is responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before approval by the CEMVN DE. Verification from Regional Planning and Environment Division South, Programs and Project Management Division, Engineering Division, Real Estate Division, Construction Division and Operations Division products will occur before the release of data or final products to another office/division, but may include reviewers and PDT members from other functional areas.

Verifications will be documented and become part of the project's records. See Attachment 1 for sample verification 'Statement of District Quality Control'.

5. AGENCY TECHNICAL REVIEW

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC.

A scaled ATR will be conducted on the PIP. The number of disciplines will be limited and it will be conducted after the document is staffed through the ASA(CW), but prior to the execution of an follow-on agreements for the demonstration projects. The RP will be revised to reflect the ATR team roster, schedule, and funding needs as the information is determined.

6. INDEPENDENT EXTERNAL PEER REVIEW

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- Type I IEPR. Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.

- Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

a. Decision on IEPR. Once the PIP is approved by the ASA(CW), a limited IEPR will be carried out before any Feasibility Cost Sharing Agreement can be entered into with a non-Federal Sponsor.

b. Products to undergo IEPR. Limited IEPR will be carried out on those sections of the PIP where key uncertainties are developed and candidate projects are selected to be recommended to the ASA(CW) for construction.

c. Required IEPR Panel Expertise. Any IEPR conducted under the LCA Demonstration Projects program will be lead by the Louisiana Water Resources Council[1]. Panel Expertise may include members with, but not limited to, substantial experience in the fields of plan formulation, engineering, economics, monitoring and adaptive management and environmental impact analysis.

d. Documentation of IEPR. The IEPR summary document approved by the MSC will be posted on the MVN website.

7. POLICY AND LEGAL COMPLIANCE REVIEW

All decision documents will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents. The PIP will be reviewed for consistency with the WRDA 2007, section 7006 authorization.

8. COST ENGINEERING DIRECTORY OF EXPERTISE REVIEW AND CERTIFICATION

[1] The Louisiana Water Resources Council (LWRC) was established in accordance with Section 7009 of Public Law 110-114, the WRDA of 2007, and as directed by memorandum from the ASA(CW), dated April 15, 2010, to conduct independent reviews of USACE activities in Louisiana locations declared to be major disaster areas following Hurricanes Katrina and Rita.

Because the PIP presents a process for the selection of projects and not the actual feasibility level investigation of selected demonstration projects, the PIP will not undergo a cost certification review. Cost certification will be carried out on demonstration projects as they are investigated. The cost of any individual demonstration project can range in any dollar amount up to $25 million. Therefore, coordination between the RMO and the DX on cost certification will be carried out during the preparation of RPs for projects selected to go to an EDR. This will ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction scheduled and contingencies.

9. MODEL CERTIFICATION AND APPROVAL

The PIP will not employ or indicate the use of any models.

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost. To be determined.

b. IEPR Schedule and Cost. To be determined.

c. Model Certification/Approval Schedule and Cost. Not applicable.

11. PUBLIC PARTICIPATION

Because the PIP is an internal policy guidance document there will not be any public participation. NEPA compliance and documentation will be addressed individually for each demonstration project approved for further investigation.

12. REVIEW PLAN APPROVAL AND UPDATES

The Mississippi Valley Division (MVD) Commander is responsible for approving this RP. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the PgMP, the RP is a living document and may change as the study progresses. The MVN is responsible for keeping the RP up to date. Minor changes to the RP approved by the MVN Commander will be documented as presented in Attachment 2. Significant changes to the RP (such as changes to the scope and/or level of review) should be re-approved by the MVD Commander following the process used for initially approving the plan. The latest version of the RP, along with the Commanders' approval memorandum, should be posted on the MVN webpage. The latest RP should also be provided to the RMO and the CEMVD.

13. REVIEW PLAN POINTS OF CONTACT

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

- Sean Mickal, Senior Plan Formulator, MVN 504-862-2319
- Tim Axtman, Supervisory Plan Formulator, MVN, 504-862-1921
- Darrel Broussard, Supervisory Project Manager, MVN, 504-862-2702
- Jodi Creswell, ECO-PCX Program Manager, 309-794-5448

ATTACHMENT 1: STATEMENT OF DISTRICT QUALITY CONTROL

CEMVN-PD MONTH YEAR

MEMORANDUM FOR RECORD

SUBJECT: District Quality Control – Louisiana Coastal Area WRDA 2007, Section 7006 (b) Program Implementation Plan

1. Reference: EC 1165-2-209, 31 Dec 2009, subject: Civil Works Review Policy.

2. EC 1165-2-209 Paragraph 5(d) requires that all civil works planning, engineering, and Operations & Maintenance products must undergo District Quality Control (DQC).

3. MVN has conducted a DQC review of the subject product in accordance with EC 1165-2-209 Paragraph 8. The Project Delivery Teams have conducted a review of the product (including appendices). It has also been reviewed by the Plan Formulation Branch Chief. It meets the requirements of technical sufficiency for a Final Feasibility Report.

4. CEMVN-PD recommends transmittal and approval of the report.

Troy G. Constance
Chief, Regional Planning and
Environment Division South

ATTACHMENT 2: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 3: EXAMPLE DEMONSTRATION PROJECTS

- **Nourishment of Permanently Flooded Cypress-Tupelo Swamps/Restoration of Cypress Cypress-Tupelo Swamps:**

This project is intended to demonstrate how the deposition of differing amounts (depths) of dredged material within a cypress/tupelo swamp would affect the growth of cypress trees and how that would affect the ability of those cypress trees to naturally regenerate. Several methods of planting small cypress trees in newly deposited dredged material would be tested, as would their survival rates. The project would test the ability of using dredged material in subsiding cypress swamps. Project(s) could be designed to keep project implementation costs below the $25 million cap.

- **Subsidence Reversal/Marshland Restoration (Polder Construction):**

The project consists of a temporary dike system to draw down the water table to a level at or just below the enclosed bottom surface elevation in an open water area, creating a "polder" and stimulating plant growth. The lowered water table is anticipated to allow marshland vegetation to grow and allow build up of organic rich sediments. Once sufficient increase of bed level has occurred, open water connections with surrounding wetlands/water can be reinstated. This project would evaluate the best construction methodologies, test operational protocols to maximize peat production and peat quality, assess above and below ground vegetative biomass and follow species composition and successional changes. Estimated project implementation cost is below the $25 million cap.

- **Demonstrate Sediment Transport Mechanisms along Coastal Barrier Island Shorelines to Enhance Sediment Placement:**

A significant amount of sediment being transported along coastal barrier islands is lost to the system or ends up in areas that are less desirable for barrier island sustainability. This project would demonstrate where sediments along a barrier shoreline are transported. Demonstrating existing pathways of natural sediment transport and mechanically placed material transport could help develop a more efficient placement method for barrier island sustainability efforts. This may also help locate more cost reasonable and reliable alternatives for sediment sources to be used as borrow for barrier island restoration. Estimated project implementation cost is below the $25 million cap.