

REVIEW PLAN

***LOWER MISSISSIPPI RIVER RESOURCE ASSESSMENT
Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee***

Section 402 WRDA 2000 Watershed Assessment

Memphis District

MSC Approval Date: 12 December 2012

Last Revision Date:



**US Army Corps
of Engineers®**

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1. PURPOSE AND REQUIREMENTS

Purpose. This Review Plan defines the scope and level of peer review for the *LOWER MISSISSIPPI RIVER RESOURCE ASSESSMENT, Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee, Section 402 WRDA 2000 Watershed Assessment.*

a. References

- (1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- (5) PMP for the *LOWER MISSISSIPPI RIVER RESOURCE ASSESSMENT, Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee; Section 402 WRDA 2000 Watershed Assessment*
- (6) EC 1105-2-411, Planning: Watershed Plans

b. Requirements. This review plan was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-209) and planning model certification/approval (per EC 1105-2-412).

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

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

3. STUDY INFORMATION

a. Document. The Lower Mississippi River Resource Assessment; Arkansas, Kentucky, Illinois, Louisiana, Mississippi, Missouri and Tennessee is a watershed assessment authorized under Section 402 of WRDA 2000. It is not a decision document. It will assess the information needed for river-related management, natural resource habitat needs, and river-related recreation and access needs on the Lower Mississippi River. Each of these assessments will be addressed in a separate document. The documents will be done sequentially and each will be reviewed separately. They will each generate a Chief's Report and be submitted to Congress.

b. Study/Project Description.

Study Area

The study area begins at RM 953 of the mainstem Mississippi River channel south of Cairo, Illinois, and extends downstream to RM 0 (Head of Passes) in Louisiana at the Gulf of Mexico. It encompasses the main channel of the river and the area between the existing Mississippi River and Tributaries project levees, including the mouths of all tributaries between the levees. The boundaries extend up the following rivers and canals that have existing commercial navigation (i.e. commercial barge traffic) to the point of direct influence between each channel and the mainstem Mississippi River. These areas are the White River upstream to Clarendon, Arkansas; the Arkansas Post Canal upstream to Norrell Lock and Dam, Arkansas; the Yazoo River upstream to Greenwood, Mississippi; the Red River upstream to Lock and Dam No. 2 in Louisiana; the Ouachita/Black River upstream to Columbia Lock and Dam in Louisiana; and the Old River from the Old River Lock to its confluence with the Red and Atchafalaya Rivers in Louisiana. The Atchafalaya Basin in Louisiana is also included within the project area.

Study Authorization

SEC. 402. LOWER MISSISSIPPI RIVER RESOURCE ASSESSMENT.

(a) ASSESSMENTS.—The Secretary, in cooperation with the Secretary of the Interior and the States of Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee, shall undertake for the Lower Mississippi River system—

- (1) an assessment of information needed for river-related management;
- (2) an assessment of natural resource habitat needs; and
- (3) an assessment of the need for river-related recreation and access.

(b) PERIOD.—Each assessment referred to in subsection (a) shall be carried out for 2 years.

(c) REPORTS.—Before the last day of the second year of an assessment under subsection (a), the Secretary, in cooperation with the Secretary of the Interior and the States of Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee, shall transmit to Congress a report on the results of the assessment to Congress. The report shall contain recommendations for—

- (1) the collection, availability, and use of information needed for river-related management;
- (2) the planning, construction, and evaluation of potential restoration, protection, and enhancement measures to meet identified habitat needs; and
- (3) potential projects to meet identified river access and recreation needs.

(d) LOWER MISSISSIPPI RIVER SYSTEM DEFINED.—In this section, the term “Lower Mississippi River system” means those river reaches and adjacent floodplains within the Lower Mississippi River alluvial valley having commercial navigation channels on the Mississippi mainstem and tributaries south of Cairo, Illinois, and the Atchafalaya basin floodway system.

(e) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated \$1,750,000 to carry out this section.

Problems/Opportunities

Relative to the upper portion of the Mississippi River and other watersheds of similar size and importance, most of the Lower Mississippi River (LMR) has not received a comparable level of study and strategic planning. The area suffers from a lack of recreational opportunities and coordinated approach to habitat development and management. Opportunities in the study area include:

compiling a comprehensive natural resource database for the study area, developing an integrated plan for managing the LMR to protect and restore natural resources and habitat, and provide additional public recreation opportunities.

Planning Goal/Objective

The planning goal for the study is to develop a comprehensive framework to help guide future management decisions towards more holistic, integrated, and sustainable approaches to land and water resource management that do not adversely impact authorized navigation and flood risk management activities. The vision of the effort is aligned with the MVD/MRC 200-year vision for the Mississippi River.

The objectives of the effort are to develop a watershed plan that includes integrated recommendations for future management actions related to the following:

1. Restore wetland, stream, river, lake, and riparian habitat
2. Improve public recreation and ecotourism opportunities.
3. Promote recreational safety
5. Protect rare/unique aquatic resources
6. Strategically manage sediment in the river
7. Support programs to improve water quality, reduce hypoxia, and improve coastal habitats
8. Collect resource, technical and economic data necessary to make river-related management decisions

Type of Product Required

The first assessment will generate an assessment of information needed for river-related management. The assessment will identify the information that is available to support strategic decision-making. It will include a plan with recommendations for acquiring this information.

The second assessment will analyze habitat needs. The third assessment will consider river-related recreation and access needs. Assessments two and three will make recommendations for future studies and projects to enhance both resources. Together the three assessments will form a watershed plan.

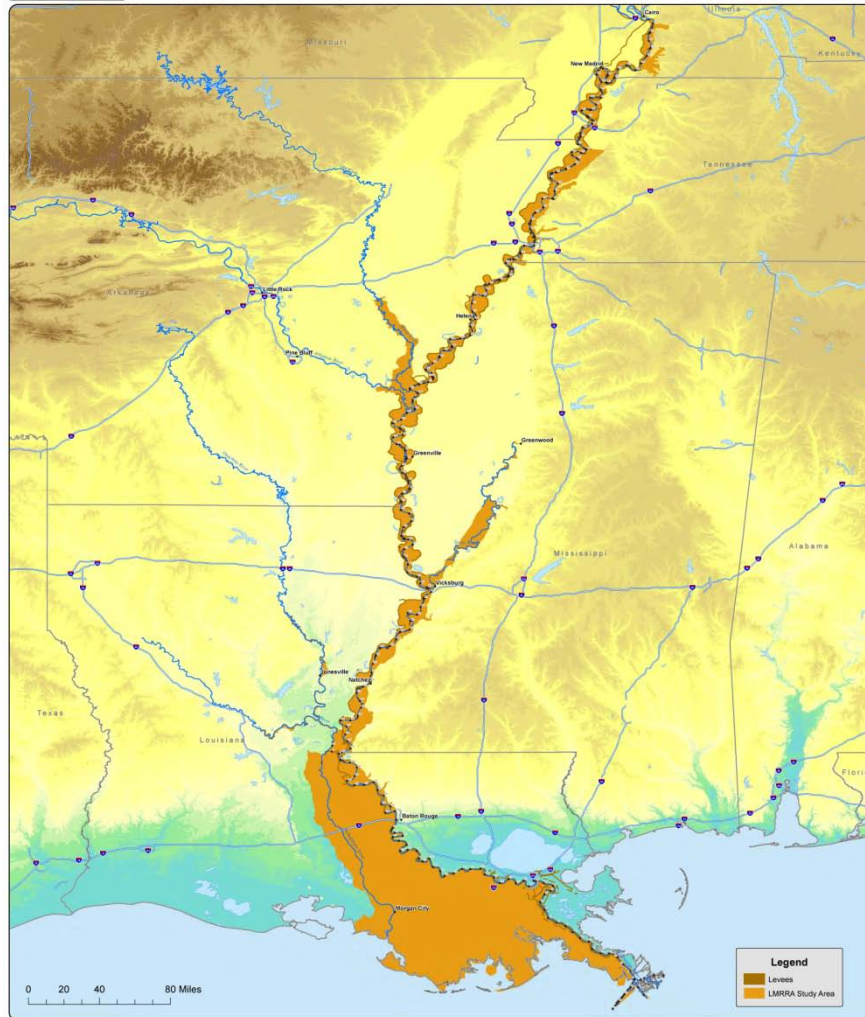
c. Factors Affecting the Scope and Level of Review.

- The study will not produce a decision document.
- The study team includes members from several NGOs, state agencies, and federal agencies.
- The study team will utilize universities, COE Centers of Expertise and ERDC through contracts and MiPRs.
- During the reconnaissance phase, flood control and navigation interests expressed concern that the study might propose changes to other authorized purposes along the Mississippi River. One of the tenets of the study is “no change to authorized purposes.”
- The study cost is mandated to not exceed \$1,750,000.

d. In-Kind Contributions. Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. The Sponsors and partners will be providing in-kind services for all parts of all of the assessments. Their work will be fully integrated with COE produced work. All products in the assessments will receive appropriate review.



LOWER MISSISSIPPI RIVER RESOURCE ASSESSMENT STUDY - OVERVIEW



4. DISTRICT QUALITY CONTROL (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC.

- a. **Documentation of DQC.** DrChecks will be used to document all reviews. ATR teams will be provided with all comments and responses from the DQC review.
- b. **Products to Undergo DQC.** Each of the three assessments with all appendices will undergo DQC on the draft report prior to ATR.

- c. **Required DQC Expertise.** The first assessment will require senior level biologists, hydrologists, river engineers, archaeologists, economists, et al. The expertise required for the second and third assessment will be determined later, but will likely be similar.

5. AGENCY TECHNICAL REVIEW (ATR)

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

a. Products to Undergo ATR.

- Draft of the Information Needs Assessment
- Draft of the Habitat Needs Assessment
- Draft of the River-related Recreation and Access Assessment

b. Required ATR Team Expertise.

ATR Team Members/Disciplines	Assessment #	Expertise Required
ATR Lead	1, 2 & 3	The ATR lead should be a senior professional with experience in conducting watershed studies and ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead may also serve as a reviewer for a specific discipline.
Planning	1, 2 & 3	The Planning reviewer should be a senior water resources planner experienced in comprehensive studies.
Economics	1 & 3	The economics reviewer should have experience in valuing recreation and tourism opportunities.
Cultural Resources	1,2 & 3	The cultural resources reviewer should have experience with Mississippi River resources and tribal issues.
Hydrology/ Water Quality	1, 2 & 3	The hydrologist reviewer should have extensive experience with water quality issues.
River Engineering	1, 2 & 3	The river engineering reviewer should have extensive experience with river training structures, side channels, back waters and other features typical of the LMR.
Terrestrial Wildlife Biologist**	1 & 2	The terrestrial biologist reviewer should have experience in mammalian species habitat, especially

		deer, bear and invasive species; avian species habitat; and bottomland hardwood forests.
Fisheries Biologist	1, 2 & 3	The fisheries biologist should be a senior level biologist with experience in large river systems, recreational fishing and freshwater mollusks.
Wetland Biologist*	1 & 2	The wetland biologist should have knowledge of wetland functions and values in the Lower Mississippi Alluvial Valley.
Waterfowl Biologist*	1, 2 & 3	The waterfowl reviewer should have experience in duck and goose habitat and knowledge of duck hunting.
Coastal Specialist*	1, 2 & 3	This reviewer should understand the link between the Mississippi River and all of the coastal projects and issues.

* These reviews and disciplines have significant overlap. It is anticipated that some reviewers will be able to do more than one review.

** This review may require more than one reviewer to cover everything.

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

- (1) The review concern – identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;
- (2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not 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.

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

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

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

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

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

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

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

- **Type I IEPR.** Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.
- **Type II IEPR.** Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the

adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

a. Decision on IEPR.

The Lower Mississippi River Resource Assessment is a watershed study. Its purpose is to develop a comprehensive framework to help guide future management decisions towards more holistic, integrated and sustainable approaches to land and water resource management that do not adversely impact authorized navigation and flood risk management activities. The assessment will not recommend specific projects for authorization. Although the geographic scale is large, the budget constraints will limit the project to using existing data and models. The PDT includes NGOs, state agencies, and other federal agencies. ERDC, the ECOPCX and academia will be involved. For these reasons the PDT determined that IEPR is not necessary. The Vertical Team agreed to this during an IPR 17 July 2012. We will pursue a waiver to this effect and modify the Review Plan if necessary.

b. Products to Undergo Type I IEPR. None

c. Required Type I IEPR Panel Expertise: Not Applicable

d. Documentation of Type I IEPR. Not Applicable

7. POLICY AND LEGAL COMPLIANCE REVIEW

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

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

Not Applicable

9. MODEL CERTIFICATION AND APPROVAL

EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making. The use of a certified/approved planning model does not constitute technical review of the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR.

The first assessment will not use any models. It may identify models that would be useful for further studies. The second assessment may use landscape level models to display/describe existing conditions. These models will be peer-reviewed and are likely to be certified for use over at least part of the project area, e.g. Hydrogeomorphic Model (HGM). If these models are deemed useful, the assessment may recommend pursuing certification for use in feasibility studies. The third assessment may use existing economic models, similar to the way models are used in the second assessment. The RP will be updated to reflect any decisions on modeling.

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost.

The Information Needs Assessment has begun and is scheduled to submit a report to Congress in January 2014. The schedule for the second two assessments depends on the completion of the first assessment and availability of funds. Those schedules will be determined later.

ATR for the Information Needs Assessment is scheduled for December 2012. It is anticipated to take 2 weeks to complete and will cost \$20,000.

ATR for the Habitat Needs Assessment will begin approximately 10 months after the assessment begins. It is anticipated to take 2 weeks and will cost \$25,000.

ATR for the River-related Recreation Assessment will begin approximately 6 months after the assessment begins. It is anticipated to take 2 weeks and will cost \$15,000.

b. Type I IEPR Schedule and Cost. Not Applicable

c. Model Certification/Approval Schedule and Cost. The first assessment will not require any models. At this time the second and third assessments are not envisioned to require certification of any models. If the need arises to certify a model for one of these assessments, a schedule and cost will be developed and the review plan will be amended.

11. PUBLIC PARTICIPATION

Public review will be done for each assessment after MVD/HQUASCE reviews the draft and approves it for release to the public.

12. REVIEW PLAN APPROVAL AND UPDATES

The Mississippi Valley Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUASCE members) as to the appropriate scope and level of review for the decision document. Like the PMP, the Review Plan is a living document and may change as the study progresses. The home district is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last MSC Commander approval are documented in Attachment 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander

following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, should be posted on the Home District's webpage. The latest Review Plan should also be provided to the RMO and home MSC.

13. REVIEW PLAN POINTS OF CONTACT

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

- Marsha Raus, Planner, 901-544-3455 Memphis District
- Mike Warren, MVD District Support Team, 601-634-5070
- Jodi Creswell, ECO-PCX Operational Director, 309-794-5448

ATTACHMENT 1: TEAM ROSTERS

Name	Functional Area	Organization	email	phone
Kevin Pierson	Biologist	Audubon - Arkansas	kpierson@audubon.org	479-527-0700
Angeline Rodgers	Biologist	Lower Mississippi River Conservation Committee	angeline_rodgers@fws.gov	601-629-6621
Bruce Reid	Outreach Specialist	Lower Mississippi River Conservation Committee	Bruce_Reid@lmrcc.org	601-629-6604
Diana Threadgill	President	MS River Corridor - TN	dianathreadgill@comcast.net	901-278-8459
Glenn Cox	Community Planner	MS River Corridor - TN	wglenncox@comcast.net	901-628-3527
Gretchen Benjamin	Program Director	TNC – Great Rivers Partnership	gbenjamin@tnc.org	608-397-1140
Steve Haase	Biohydrologist	TNC – Great Rivers Partnership	shaase@tnc.org	865-809-4719
Alex Littlejohn	Conservation Director – FW	TNC - Mississippi	alittlejohn@tnc.org	601-709-0018
Jeff Fore	West Tenn – FW specialist	TNC - Tennessee	jfore@tnc.org	573-884-8534
Darian Chasteen	Channel Improvement	USACE - Memphis	Darian.S.Chasteen@usace.army.mil	901-544-3218
Derrick Smith		USACE - Memphis	Derrick.A.Smith@usace.army.mil	901-544-3481
Jason Schaefer	Project Manager	USACE - Memphis	Jason.E.Schaefer@usace.army.mil	901-544-0726
Mark Smith	Supv Biologist	USACE - Memphis	Mark.R.Smith@mvm02.usace.army.mil	901-544-0670
Marsha Raus	Planner	USACE - Memphis	Marsha.L.Raus@usace.army.mil	901-544-3455
Mike Thron	Biologist	USACE - Memphis	John.M.Thron@usace.army.mil	901-544-0708
Shawn Phillips	Planner	USACE - Memphis	Ronald.S.Phillips@usace.army.mil	901-544-3321
Andrew Perez	Outdoor Rec Planner	USACE - New Orleans	Andrew.R.Perez@usace.army.mil	504-862-1442
Debra Wright	Outdoor Rec Planner	USACE - New Orleans	Debra.A.Wright@usace.army.mil	504-862-1732
Kelly McCaffrey	Landscape Architect	USACE - New Orleans	Kelly.P.Mccaffrey@usace.army.mil	504-862-2552
Daniel Sumerall	Biologist	USACE - Vicksburg	Daniel.C.Sumerall@usace.army.mil	601-631-5428

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

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

SIGNATURE
Name
ATR Team Leader
Office Symbol/Company _____ Date _____

SIGNATURE
Name
Project Manager
Office Symbol _____ Date _____

SIGNATURE
Name
Architect Engineer Project Manager¹
Company, location _____ Date _____

SIGNATURE
Name
Review Management Office Representative
Office Symbol _____ Date _____

CERTIFICATION OF AGENCY TECHNICAL REVIEW

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

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

SIGNATURE
Name
Chief, Engineering Division
Office Symbol _____ Date _____

SIGNATURE
Name
Chief, Planning Division
Office Symbol _____ Date _____

¹ Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>
AFB	Alternative Formulation Briefing
ASA(CW)	Assistant Secretary of the Army for Civil Works
ATR	Agency Technical Review
DQC	District Quality Control/Quality Assurance
EC	Engineer Circular
EIS	Environmental Impact Statement
EO	Executive Order
ER	Engineer Regulation
FSM	Feasibility Scoping Meeting
HGM	Hydrogeomorphic Model
Home District/MSD	The District or MSD responsible for the preparation of the decision document
HQUSACE	Headquarters, U.S. Army Corps of Engineers
IEPR	Independent External Peer Review
ITR	Independent Technical Review
LMRRA	Lower Mississippi River Resource Assessment
MSD	Major Subordinate Command
NEPA	National Environmental Policy Act
OMB	Office of Management and Budget
PCX	Planning Center of Expertise
PDT	Project Delivery Team
PMP	Project Management Plan
PL	Public Law
QMP	Quality Management Plan
QA	Quality Assurance
QC	Quality Control
RMO	Review Management Organization
USACE	U.S. Army Corps of Engineers
WRDA	Water Resources Development Act