



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

REPLY TO
ATTENTION OF:

CEMVD-PD-KM

14 December 2012

MEMORANDUM FOR Commander, Vicksburg District

SUBJECT: Approval of Implementation Review Plan for Delta Headwaters Project, Yazoo River Basin, Mississippi

1. References:

- a. EC 1165-2-209, Civil Works Review Policy, 31 January 2012.
- b. Memorandum, CEMVK-PP-D, 3 December 2012, subject as above (encl 1).
- c. Memorandum, CEMVD-RB-T, 13 December 2012, subject as above (encl 2).

2. The subject Review Plan (RP) as enclosed is approved, and MVD concurs in the conclusion that an independent external peer review of this project is not necessary. In accordance with reference 1.a., the RP 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. Non-substantive changes to this RP do not require further approval.

3. The District should post the RP to its website and provide a link to MVD for its use.

4. The MVD point of contact for this action is Mr. Jamie Triplett, (601) 634-5075.

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

2 Encls

CF (wo encls):
CEMVK-PP-D, Mr. Renacker
CEMVK-PD-D, Mr. Brister



DEPARTMENT OF THE ARMY

VICKSBURG DISTRICT, CORPS OF ENGINEERS
4155 CLAY STREET
VICKSBURG, MISSISSIPPI 39183-3435

REPLY TO
ATTENTION OF:

03 DEC 2012

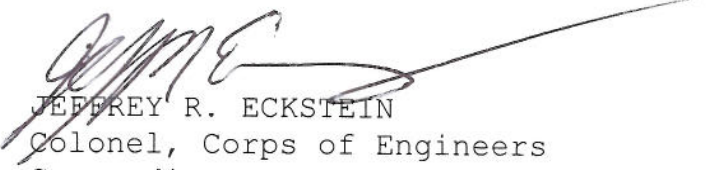
CEMVK-PP-D (110-2-1150a1)

MEMORANDUM FOR Commander, Mississippi Valley Division
(CEMVD-PD-KM/Triplett)

SUBJECT: Approval of Implementation Review Plan for Delta
Headwaters Project, Yazoo River Basin, Mississippi

1. Subject Implementation Review Plan is enclosed for your review and approval (encl 1).
2. CEMVK is requesting an exclusion from Type I Independent External Peer Review (IEPR). The justification for this exclusion is provided in the review plan.
3. An explanation of rationale for recommendation to not conduct a Type II IEPR (Safety Assurance Review) from CEMVK Chief of Engineering and Construction Division, Mr. Henry Dulaney, is enclosed (encl 2).
4. Questions should be directed to Mr. Mike Renacker, Senior Project Manager (ext. 7043).

2 Encls


JEFFREY R. ECKSTEIN
Colonel, Corps of Engineers
Commanding

encl 1



DEPARTMENT OF THE ARMY

VICKSBURG DISTRICT, CORPS OF ENGINEERS
4155 CLAY STREET
VICKSBURG, MISSISSIPPI 39183-3435

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CEMVK-PP-D (110-2-1150a1)

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2 Encls

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Colonel, Corps of Engineers
Commanding

IMPLEMENTATION REVIEW PLAN

MISSISSIPPI RIVER & TRIBUTARIES CONSTRUCTION
MISSISSIPPI DELTA HEADWATERS PROJECT

Vicksburg District

MSC Approval Date: Pending
Last Revision Date: 28 November 2012



**US Army Corps
of Engineers®**

encl 1

IMPLEMENTATION REVIEW PLAN

Mississippi River and Tributaries Construction Mississippi Delta Headwaters Project

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1. Purpose and Requirements.

a. Purpose. This Review Plan defines the scope and level of peer review for implementation documents developed for the Mississippi Delta Headwaters Project (MDHP), Construction projects within the Vicksburg District. Quality Management activities consist of District Quality Control (DQC), Agency Technical Review (ATR) and Type II Independent External Peer Review (IEPR). The project is in the Construction Phase. The related documents are Implementation Documents that consist of Plans and Specifications (P&S).

b. References.

- (1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 January 2010.
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 March 2011.
- (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 September 2006.
- (4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 November 2007.
- (5) RPEDS Quality Management Plan, 10 May 2012.
- (6) 03501-MVD, MSC Review of Planning Products.
- (7) 08502 MVD Review Plans for Technical Products
- (8) 08502.1-MVD Review Plan Checklist for Implementation documents (Attachment 1)

c. 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: The DQC/Quality Assurance; ATR; IEPR; and Policy and Legal Compliance Review. In addition to these levels of review, implementation 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 implementation documents is typically either the Division Head Quarters or the Risk Management Center (RMC), depending on the primary purpose of the implementation document. The Mississippi Valley Division Office (MVD) is the RMO for all current implementation documents covered by this version of this plan. District Quality Control/Quality Assurance will be performed by the Vicksburg District (MVK). The RMO will coordinate with the Cost Engineering Directory of Expertise (DX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules, and contingencies.

3. Study Information.

This Review Plan defines the scope and level of peer review for implementation documents developed for the Mississippi Delta Headwaters Project (MDHP), Construction projects within the Vicksburg District.

4. Description of Projects.

a. Project Purpose. The Mississippi Delta Headwaters Project (MDHP) was authorized to provide a means for the U. S. Army Corps of Engineers and the U. S. Department of Agriculture, Soil Conservation Service, now known as the Natural Resources Conservation Service (NRCS), to work cooperatively and demonstrate various methods to reduce flooding and major sediment and erosion problems in areas of the Yazoo Basin in northwest Mississippi. Technical assistance was obtained by joint agency effort from the U. S. Department of Agriculture Sedimentation Laboratory at Oxford, Mississippi, the United States Geological Survey and the Engineer Research Development Center in Vicksburg, Mississippi.

b. Project Location. MDHP contains 16 watersheds which consist of approximately 1,683,300 acres of land within the Yazoo River Basin in the Lower Mississippi River Valley and consists of the following watersheds: Abiaca Creek, Batupan Bogue, Black Creek, Burney Creek, Cane-Mussacuna Creek, Coldwater River, Hickahala/Senatobia Creek, Hotophia Creek, Hurricane-Wolfe Creek, Long Creek, Otoucalofa Creek, Pelucia Creek, Sherman Creek, Toby Tubby Creek, Town Creek, and Yalobusha River Watershed (Figure 1).

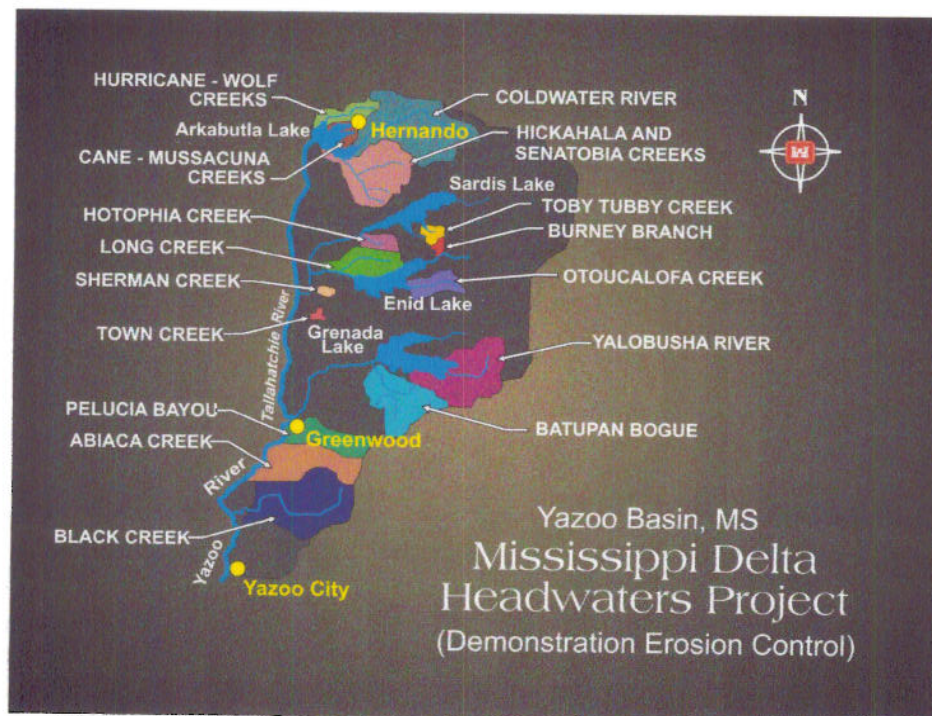


Figure 1 – Mississippi Delta Headwaters Authorized Watersheds

c. Project Plan. The MDHP program uses seven different types of structures to address watershed instabilities in a system-wide watershed approach. Low drops, high drops, box culverts, riser pipes, and rock sills are the five grade control structures used to address channel invert instabilities. Bank stabilization provides bank protection to local instable reaches. Floodwater retarding structures help provide flood protection for downstream cities or towns.

(1) Low Drop Grade Control Structure. Low drop grade control structures are used to intercept upstream migrating head cuts in applications where the vertical drop is less than or equal to 6 feet. A grade control structure can be constructed of a combination of riprap, concrete, sheet piles, treated lumber, soil cement, gabions, and compacted earth fill. The shapes of the structures can vary from sloping to a vertical drop, and the dimensions of the structures can vary. Most of the MDHP low drop structures consist of a vertical drop comprised of sheet pile weirs with concrete caps. The overall structure contains four sections: a riprap lined channel approaching the structure, a control section that removes the grade change, a riprap stilling basin downstream of the structure, and a riprap lined channel transitioning back to the normal channel. There are two general types of low drop grade control structures that have been constructed in MDHP watersheds. The Type I structure is the sloping structure that acts as a hard point in the bed and is effective at stabilizing existing head cuts so they do not move further upstream. The Type II structure has the weir and a vertical drop. The Type II structure is generally built above the existing bed and promotes sediment deposition upstream of the structure. This structure will help unstable reaches as the sediment deposition will provide for a decrease in bank height upstream of the structure. The Type II structure provides better hydraulic performance but is also the most expensive. No matter the type of low drop structure being used, the structure is designed to pass the 100-year flood event.

(2) High Drop Grade Control Structure. High drop grade control structures are used to intercept upstream migration of head-cuts that have a vertical drop of greater than 6 feet. The high drop structures are concrete structures with vertical wing walls and a stilling basin with baffle blocks. The design of the high drop structures were based on the NRCS Type C drop structure design. The high drop structures have been used in the MDHP watersheds to take out as much as 14 feet of vertical drop. For most locations where a high drop grade control structure is needed, the creeks have very unstable banks due to the excessive bank heights and steep bank angles due the incisiveness of the creeks. The high drop grade control structures can raise the elevation of the creek bed and thus greatly reduce the bank heights. The structure is designed to pass the 100-year storm event without water passing over the vertical headwall.

(3) Box Culverts. Box culvert grade control structures are used when a head cut has migrated upstream to a road crossing. The head cut could cause failure to the culvert or bridge piers and thus could affect the integrity and safety of the road. These box culvert structures have been effective in replacing bridges and culverts at the road crossing where channel stability issues are present. These structures perform very similar to low drop and high drop structures in that these structures contain a vertical drop to account for the channel degradation. The box culvert can take up to 8 feet of vertical drop on the upstream side of the road. The box culvert structure is designed to pass the 100-year flood event without water overtopping the roadway embankment. A schematic plan view of a typical box culvert grade control structure is shown in

(4) Riser Pipes. Riser pipe grade control structures are used to control local points of gully erosion. Most of these applications are in farmer's fields where farmers are losing cropland. The riser pipe is a very small structure that addresses an isolated erosion problem. A larger drainage area might require multiple riser pipes at one location. The riser pipes are corrugated metal pipes, and the riser is normally 1.25 times the size of the conduit. Any hydraulic design that is determined to require more than an 84-inch conduit shall be changed to be a multiple pipe design, and two riser pipes will be used at that location instead of a single pipe. The structure is designed to pass a 2-year storm event and the dam is normally 8 to 12 feet wide in order for the landowner to access his property on the other side of the structure. A single riser pipe can eliminate multiple gully erosion locations as long as they are close in proximity. Downstream sediment delivery and changes in a creek will be impacted very minimally by a riser pipe grade control structure. However, with the use of a system-wide watershed approach, if there are a large number of gullies that have been stabilized with riser pipes, then the cumulative effects of these structures could be significant.

(5) Rock Sills. The simplest form of an in-channel grade control structure is a rock sill. A rock sill consists of placement of a certain thickness of riprap across a creek to form a hard point. In some cases, a sheet pile wall can be added towards the upstream end of the rock sill. These structures are used in smaller streams and where the drop height is 3 feet or less. The rock sill can be placed on top of the original bed or it can be placed in a trench. In either application, the key component is to make sure the thickness of the rock sill is designed appropriately. Once the knick point reaches the rock sill, the downstream end of the rock sill will launch into the scour hole created by the head cut. It is important that once the rock sill is launched that there is sufficient thickness and volume to resist future bed degradation, as well as scour around the grade control structure.

(6) Bank Stabilization. Bank stabilization measures are used to provide stability to streambanks and reduce the meandering of streams. These measures help protect bridges, roads, sewage lagoons, buildings, and other man-made structures. Bank stabilization also helps eliminate the loss of valuable farmland due to bank erosion. Along with reducing sediment in the streams, bank stabilization can protect existing wooded area vegetated areas. Typical types of bank stabilization measures include longitudinal stone toe protection, transverse stone dikes, bendway weirs, and bioengineered measures.

Longitudinal stone toe protection is placement of riprap along the toe of the stream. In some applications stone tie-backs are added. Transverse stone dikes are a system of individual structures spaced in the stream in an arrangement which is transverse to the flow. Most all stone dikes are comprised of riprap and look like a weir protruding from the bank into the stream. The riprap toe protection, stone tie-backs, and transverse stone dikes all allow for sediment to be deposited behind the structures, creating a sediment berm which will allow for the establishment of vegetation. The sediment deposition and formation of berms will allow for flatter side slopes. These structures can also be used to modify the stream alignment and enhance the environmental features of the stream. The disadvantages are that the stone tie-backs and transverse stone dikes

are susceptible to damage by debris and vandals. Also until natural stream adjustments are made, the dikes will decrease the stream capacity at higher flows. Vegetation growth is starting to appear on the sediment deposition behind the toe protection.

The main component to bioengineered measures is vegetation. The grassy vegetation, along with the roots of woody vegetation, functions as armor and also provides some stability as they reinforce the soil along the bank. Vegetative measures are very appropriate for environmental sensitive projects and can provide benefits for recreation, esthetics, and wildlife. Along with the environmental attractions, the bioengineered methods are also relatively low cost options. Disadvantages to bioengineered projects include the weather patterns of the region, timing of the project, and the magnitude of the stream flows.

(7) Floodwater Retarding Structures. The floodwater retarding structures serve as an integral part of an erosion control system. They provide flood control storage to reduce peak flows on the streams within the system. The structure also serves as a sediment basin and controls head cutting along upstream streams. The structures normally control at least one-half square mile of drainage area. The floodwater retarding structure is essentially a dam and has multiple hydraulic design features. The new guidance concerning USACE's dam safety programs limits the MDHP ability to construct future floodwater retarding structures.

The floodwater retarding structures contain hazard classifications of low, significant, or high, depending on the possibility of loss of life as well as damage to structures, utilities, residences, and other industry. The low classification is determined by in the event of a failure to the dam there will be no loss of life and minimal property damage in undeveloped or agriculture areas. The significant classification is determined by in the event of a failure to the dam there will a possibility of loss of life and damage will occur to isolated structures, utilities, residences, and industry. The high classification is determined by in the event of a failure to the dam the potential for loss of life is great and there will be extensive property damage in commercial and residential areas. These classifications are compatible to the Class A, Class B, and Class C system that is utilized by the U.S. Soil Conservation Services.

The main features to a floodwater retarding structure include the principal spillway, the emergency spillway, and the embankment. The principal spillway is typically a drop inlet structure consisting of a vertical rectangular box, a circular pipe conduit, and a plunge pool with outlet channel. The elevation of the principal spillway is set to the anticipated sediment pool that will be attained over the design life of the structure. The principal spillway will be designed such that the impounded water will be released and the water level drawn down to an acceptable limit within 10 days. The emergency spillway is designed such that it will pass the design flow with acceptable depth and velocities while at the same time not overtopping the embankment. The emergency spillway is normally set at least 3 feet below the embankment. The embankment helps impound floodwaters during flood events so that the water passes through the principal and emergency spillways and does not flank or overtop the dam. The embankment is designed at an elevation so that the flood event does not overtop the dam. Additional height might be added to the dam to account for wave action.

5. Remaining Project Works.

The remaining project works to be covered under this Review Plan are associated with implementation phase plans and specification (P&S). The main components of the implementation phase are detailed engineering design, construction, and inspection of the seven types of structures previously discussed. Detailed engineering design would include structural design of structure, computations of riprap size, design of safety features, typical details, contract specifications, and other specific details requiring engineering design and construction drawings. Most of the MDHP projects are constructed by private contractors. Inspection normally follows standard guidelines and is mostly done by U.S. Army Corps of Engineers (USACE) project office personnel.

6. Factors Affecting the Scope and Level of Review.

a. Because the vast majority of the engineering documents covered by this Review Plan are routine in nature, most engineering products will undergo DQC reviews only. However, each decision and implementation document included, or to be included in this plan, will be reviewed and screened against the criteria of EC 1165-2-209 to assure the proper levels of review are planned and accomplished based on the following guidance.

b. No impacts to threatened or endangered species or any adverse impacts on fish and wildlife species or their habitats are expected. The presence of listed species are constantly monitored by USACE and U.S. Fish and Wildlife Service (FWS) biologists and addressed as necessary in all P&S packages prepared. Additionally, CEMVD Districts hold annual environmental meetings to obtain FWS clearance on proposed work.

c. Due to the nature of work, work items are constantly added and deleted due to factors such as funding availability, changing priorities, etc. This Review Plan may not be all-inclusive of work within the project, but is a current snapshot to date. Additional decision and implementation documents will be added to this plan as work requirements for the projects develop over time.

7. District Quality Control (DQC).

All implementation documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. The DQC will be performed at 65, 90, and 95 percent P&S. The 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 Major Subordinate Command (MSC).

Documentation of DQC. The DQC is the review of basic science and engineering work products focused on fulfilling the review of project quality requirements. It will be managed by the Vicksburg District in accordance with the Major Subordinate Command (MSC) and district Quality Management Plan (QMP). The DQC may be conducted by the Vicksburg District as long as the reviewers are not involved in the study. Basic quality control tools provided will

include quality checks and reviews, supervisory reviews, PDT reviews, etc. Additionally, the PDT will be responsible for a complete review of the P&S to assure overall integrity of the report, technical appendices, and the recommendations before approval by the District Commander. Signed DQC Certification will be provided to the Agency Technical Review (ATR) team members.

Required DQC Review Expertise. The quality control/technical reviewers will be chosen from a pool of reviewers submitted by appropriate technical elements. The team will be made up of individuals who are familiar with the project and documents being produced. A copy of QCPs for each product will be distributed to each member of the Quality Assurance/Technical Review Team. The Team will be comprised of the selected disciplines that have experience in the type of analysis in which they are responsible for reviewing. The makeup of the review team may be modified as the work progresses to meet review requirements.

8. Agency Technical Review (ATR).

The ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). The ATR will be performed at 65, 90, and 95 percent P&S. 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 Corps guidance, and 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. All implementation documents are required to undergo ATR, regardless of the originating organization (Planning Engineering, Construction, or Operations). In deciding whether to undertake ATR for other work products not considered implementation documents, each work product will have a risk analysis conducted, including answering the criteria questions as outlined in EC-1165-2-209 and documenting the reasoned thought and judgment applied in determining the necessity of the ATR.

b. As this project progresses and new implementation documents and other work products are developed to meet the needs of the projects, each new document will be reviewed to assure all necessary reviews are planned for and conducted in accordance with EC 1165-2-209 and this plan will be updated accordingly to include any new implementation document. Any implementation products that involve one or more of the factors established by EC 1165-2-209 will be screened by the Chief of Engineering and Construction Division to assure a risk informed analysis and decision is accomplished in accordance with EC 1165-2-209 as to whether or not an ATR will be required, and the project file will be documented accordingly and this review plan will be updated. When an ATR is deemed appropriate for any new implementation document for these projects, the RMO will be requested to establish and manage an ATR team to accomplish appropriate reviews scaled to the complexity and scope of the new work.

c. Required ATR Team Expertise. Table 1 depicts the ATR team members and the expertise required for their position.

TABLE 1
ATR TEAM MEMBERS AND EXPERTISE

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with extensive experience in preparing implementation documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead may also serve as a reviewer for a specific discipline (such as planning, design, economics, environmental resources, etc).
Planning	The Planning reviewer should be a senior water resources planner with experience in water resources policy issues.
Economics	The Economics reviewer should have strong experience involving multipurpose projects.
Environmental Resources	The Environmental reviewer should have strong experience involving projects involving fish habitat, T&E species, invasive species, and water quality and water quantity/flow issues.
Engineering/Hydrology	The reviewer should have extensive experience applying construction design standards and qualifications.
Cost Engineering	The reviewer should have significant experience in estimating costs for work on construction projects in CEMVK..
Real Estate	The reviewer should have a strong background in Real Estate issues involving multipurpose projects in CEMVK.
NEPA Compliance	The NEPA compliance reviewer should be a senior biologist with experience involving all aspects of aquatic restoration regarding policy, regulation, and compliance.

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

(1) The review concern – Identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;

(2) The basis for the concern – Cite the appropriate law, policy, guidance, or procedure that has not be properly followed;

(3) The significance of the concern – Indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and

(4) The probable specific action needed to resolve the concern – Identify the action(s) that the reporting officers must take to resolve the concern.

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

The ATR 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.

The 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.

9. Independent External Peer Review.

The IEPR may be required for implementation documents under certain circumstances. The 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 the Corps is warranted. A risk-informed decision, as described in EC 1165-2-209, is made as to whether IEPR is appropriate. The IEPR panels will consist of independent, recognized experts from outside the Corps 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 Corps 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 (SAR)) 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 SAR, is managed outside the Corps 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. For those projects where the PDT is unsure whether IEPR would be required, based primarily on the criteria of significant threats to human life/safety, the following checklist of items has been covered to assist the Vertical Team in the decision making for the need of an IEPR. Based on the items below, it has been determined that an IEPR is not needed for this project.

(1) Project improvements include basic channel improvements and flood risk management. No major challenges are foreseen with implementing the project features.

(a) Based on an evaluation of potential risks and uncertainties with the project, minimal impacts were identified. It was determined that none of the identified factors would jeopardize project implementation. Any environmental impacts would be mitigated for. The only concern for economic feasibility would result from significant unforeseen increases in project cost items.

(2) No influential scientific information has been identified associated with the study or project.

(3) No specific interagency interests or issues have been identified (e.g., with Environmental Protection Agency (EPA), etc.).

(4) No threats to human life/safety were identified.

(5) Should failure or project design exceedance occur, no major life safety related issues or consequences have been identified. Safety assurance factors are described in EC 1165-2-209.

(6) No significant impacts have been identified in regard to economic, environmental, and/or social effects to the Nation.

(7) There are no highly controversial components to this project.

(8) No changes in methodology or methods were used in evaluating this project. Thus, no unapproved or controversial methodology or procedures were used.

(a) The information in the Implementation Document is not based on novel methods, nor does it present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices.

(b) All procedures were based on approved Corps methods based on ER 1105-2-100 and supporting regulations.

b. Should any project develop an implementation document for an engineering work product, the PDT will perform a risk based analysis in accordance with EC 1165-2-209 and document such decisions in the project files, updating this plan appropriately to include any required IEPRs.

c. **Required Type I IEPR Panel Expertise.** Disciplines that are anticipated to conduct the IEPR are listed in below with experience and qualifications equal or above the ATR member requirements.

TABLE 2
IEPR PANEL MEMBERS AND EXPERTISE

IEPR Panel Members/Disciplines	Expertise Required
Economics	The Economics reviewer should have strong experience involving multipurpose projects and 5-10 years of experience in related projects.
Environmental Resources	The Environmental reviewer should have strong experience involving multipurpose projects involving fish habitat, T&E species, invasive species, and water quality and water quantity/flow issues and 5-10 years of experience in related projects.
Hydrology /Hydraulics	The reviewer should have extensive experience applying construction design standards and qualifications and 5-10 years of experience in related projects.
Planning	The Planning reviewer should be a senior water resources planner with experience in water resources policy issues and 5-10 years of experience in related projects.

d. **Documentation of Type I IEPR.** The IEPR panel will be selected and managed by an Outside Eligible Organization (OEO) per EC 1165-2-209, Appendix D. Panel comments will be compiled by the OEO and should address the adequacy and acceptability of the economic, engineering and environmental methods, models, and analyses used. IEPR comments should generally include the same four key parts as described for ATR comments in Section 8.d above. The OEO will prepare a final Review Report that will accompany the publication of the final decision document and shall:

(1) Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;

(2) Include the charge to the reviewers;

(3) Describe the nature of their review and their findings and conclusions; and

(4) 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.

10. Policy and Legal Compliance Review.

All implementation documents will be reviewed throughout the 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. The 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.

11. Cost Engineering Directory of Expertise (DX) Review and Certification.

All implementation documents shall be coordinated with the Cost Engineering DX, located in the Walla Walla District. The DX will assist in determining the expertise needed on the ATR team and in the development of the review charge(s). The DX will also provide the Cost Engineering DX certification. The RMO is responsible for coordination with the Cost Engineering DX.

12. Model Certification and Approval.

Engineering Circular 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 Corps 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 (if required).

Engineering Circular 1105-2-412 does not cover engineering models used in planning. The responsible use of well-known and proven Corps developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the Corps Scientific and Engineering

Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

13. Review Schedules and Costs.

Because this Review Plan is written for a multitude of routine construction items, explicitly defining tasks, timing, sequencing and cost etc is not applicable. DQC Reviews will be appropriately planned during Preconstruction and Engineering (PED). When ATRs and/or IEPRs are determined to be required for any new project feature added to these projects, reviews will be appropriately tasked, timed, and sequenced by the project PDTs.

14. Public Participation.

A Public Involvement Plan will be formulated to ensure the public is provided adequate opportunities to provide input. Relevant public comments will be incorporated and provided to the reviewers before they conduct their review. Public participation will be encouraged throughout the study, but will be promoted during Public Scoping Meetings and public reviews of draft documents.

Proceedings from all public meetings and comments received during public review will be included in the draft documents with responses included. Comments and corresponding responses will be summarized and provided to the ATR team.

15. Review Plan Approval and Updates.

The CEMVD Commander is responsible for approving this Review Plan. 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 implementation 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. Any minor changes to the review plan since the last MSC Commander approval will be documented in Attachment 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be reapproved 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 at <http://www.mvk.usace.army.mil/index.php?pID=4>. The latest Review Plan should also be provided to the RMO and home MSC.

16. Review Plan Points of Contact.

Public questions and/or comments regarding this Review Plan can be directed to the following points of contact:

- a. Senior Project Manager, Mike Renacker, Project Management Division, (601) 631-7043
- b. Project Manager, Eric Fox, Project Management Division, (601) 631-7158

c. Senior Plan Formulator, Matthew Mallard, Regional Planning and Environment
Division South, (601) 631-5960

EXPLANATION OF RATIONALE FOR RECOMMENDATION TO NOT CONDUCT A TYPE II IEPR (SAR)

DELTA HEADWATERS PROJECT YAZOO RIVER BASIN, MISSISSIPPI

Risk Based Determination of Need to NOT conduct a Type II IEPR (aka Safety Assurance Review (SAR))

Per EC 1165-2-209, two factors mandate a SAR and three additional factors should be considered in determination whether or not a SAR should be conducted. These factors and their relevancy to this project are discussed below. If there is any lingering concern regarding the rationale presented in the following table, a vertical team should be assembled upon request.

Factor		Relevancy to this Project
1) Is the project was justified by life safety?	Mandate	No, program was authorized to reduce flooding and stop severe sedimentation.
2) Would the project's failure pose a significant threat to human life?	Mandate	No, the program's failure would result in continual land loss and damage to personal property.
3) Does the project involves the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices?	Consider	The program uses seven proven types of structures to address watershed instabilities in a system-wide watershed approach. Low drops, high drops, box culverts, riser pipes, and rock sills are the five grade control structures used to address channel invert instabilities. Bank stabilization provides bank protection to local instable reaches. Floodwater retarding structures help provide flood protection for downstream cities or towns.
4) Does the project design require redundancy, resiliency, or robustness?	Consider	No, the program includes routine uses of structures to stop sedimentation and reduce flooding.
5) Does the project have unique construction sequencing or a reduced or overlapping design construction schedule?	Consider	No, the program includes routine uses of structures to stop sedimentation and reduce flooding.

Background Information about Project: DHP was authorized to provide a means for the U. S. Army Corps of Engineers and the U. S. Department of Agriculture, Soil Conservation Service, now known as the Natural Resources Conservation Service, to work cooperatively and demonstrate various methods to reduce flooding and major sediment and erosion problems in areas of the Yazoo Basin in northwest Mississippi. Technical assistance was obtained by joint agency effort from the U. S. Department of Agriculture Sedimentation Laboratory at Oxford, Mississippi, the United States Geological Survey and the Engineer Research Development Center in Vicksburg, Mississippi.

Discussion on analyses and failure modes considered:

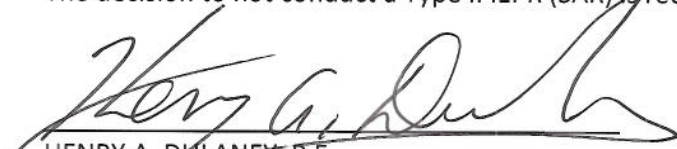
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encl 2

RECOMMENDATION REGARDING TYPE II IEPR (SAR)

Based on the above assessment, it is the risk-informed recommendation of the Project Delivery Team and the Chief of Engineering and Construction that Type II IEPR (SAR) is NOT required for this project.

The decision to not conduct a Type II IEPR (SAR) is recommended by:


HENRY A. DULANEY, P.E.
Chief, Engineering and Construction Division

11/30/12
Date

The above recommendation is ☒ Approved ☐ Disapproved by


Signature of RMO

12/14/12
Date

Review Plan Checklist for Implementation Documents

Date: November, 27, 2012

Originating District: CEMVK

Project/Study Title: Delta Headwaters Project

PWI #: 079219

District POC: Mike Renacker, Senior Project Manager, 601-631-7043

Please fill out this checklist and submit with the draft Review Plan when coordinating with the appropriate RMO. For DQC, the District is the RMO; for ATR of Dam and Levee Safety Studies, the Risk Management Center is the RMO; and for non-Dam and Levee Safety projects and other work products, MVD is the RMO; for Type II IEPR, the Risk Management Center is the RMO. Any evaluation boxes checked 'No' indicate the RP possibly may not comply with EC 1165-2-209 and should be explained. Additional coordination and issue resolution may be required prior to MSC approval of the Review Plan.

REQUIREMENT	REFERENCE	EVALUATION
1. Is the Review Plan (RP) a standalone document?	EC 1165-2-209, Appendix B, Para 4a	☒ Yes ☐ No
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?		☒ Yes ☐ No
b. Does it include a table of contents?		☒ Yes ☐ No
c. Is the purpose of the RP clearly stated and EC 1165-2-209 referenced?	EC 1165-2-209 Para 7a	☒ Yes ☐ No
d. Does it reference the Project Management Plan (PMP) of which the RP is a component including P2 Project #?	EC 1165-2-209 Para 7a (2)	☒ Yes ☐ No
e. Does it include a paragraph stating the title, subject, and purpose of the work product to be reviewed?	EC 1165-2-209 Appendix B, Para 4a	☒ Yes ☐ No
f. Does it list the names and disciplines in the home district, MSC and RMO to whom inquiries about the plan may be directed?*	EC 1165-2-209, Appendix B, Para 4a	☒ Yes ☐ No
*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.		

Attachment 1

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2. Documentation of risk-informed decisions on which levels of review are appropriate.	EC 1165-2-209, Appendix B, Para 4b	☒ Yes ☐ No
a. Does it succinctly describe the three levels of peer review: District Quality Control (DQC), Agency Technical Review (ATR), and Independent External Peer Review (IEPR)?	EC 1165-2-209 Para 7a	☒ Yes ☐ No
b. Does it contain a summary of the CW implementation products required?	EC1165-2-209 Para 15	☒ Yes ☐ No
c. DQC is always required. The RP will need to address the following questions:	EC1165-2-209 Para 15a	☒ Yes ☐ No
i. 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?	EC1165-2-209 Para 8a	☒ Yes ☐ No
ii. Does it list the DQC activities (for example, 30, 60, 90, BCOE reviews, etc)	EC 1165-2-209 Appendix B (1)	☒ Yes ☐ No
iii. Does it list the review teams who will perform the DQC activities?	EC 1165-2-209 Appendix B, Para 4g	☒ Yes ☐ No
iv. Does it provide tasks and related resource funding and schedule showing when the DQC activities will be performed?	EC 1165-2-209 Appendix B, Para 4c	☐ Yes ☒ No There is currently no funding for DHP construction. Therefore, projecting a schedule and cost is not possible at this time.
d. Does it assume an ATR is required and if an ATR is not required does it provide a risk based decision of why it is not required? If an ATR is required the RP will need to address the following questions:	EC1165-2-209 Para 15a	☒ Yes ☐ No
i. Does it identify the ATR District, MSC, and RMO points of contact?	EC 1165-2-209 Para 7a	☐ Yes ☒ No ☐ N/A RMO will assign ATR lead and then Review Plan will be updated with that information.
ii. Does it identify the ATR lead from outside the home MSC?	EC 1165-2-209 Para 9c	☐ Yes ☒ No ☐ N/A RMO will assign ATR lead and then Review Plan will be updated with that information.

Review Plan Checklist for Implementation Documents

iii. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)? If the reviewers are listed by name, does the RP describe the qualifications and years of relevant experience of the ATR team members?* <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>	EC 1165-2-209 Appendix B, Para 4g	☒ Yes ☐ No ☐ N/A
iv. Does it provide tasks and related resource, funding and schedule showing when the ATR activities will be performed?	EC 1165-2-209 Appendix C, Para 3e	☐ Yes ☒ No ☐ N/A There is currently no funding for DHP construction. Therefore, projecting a schedule and cost is not possible at this time.
v. Does the RP address the requirement to document ATR comments using Dr Checks?	EC 1165-2-209 Para 7d (1)	☒ Yes ☐ No ☐ N/A
e. Does it assume a Type II IEPR is required and if a Type II IEPR is not required does it provide a risk based decision of why it is not required including RMC/ MSC concurrence? If a Type II IEPR is required the RP will need to address the following questions:	EC1165-2-209 Para 15a	☐ Yes ☒ No
i. Does it provide a defensible rationale for the decision on Type II IEPR?	EC 1165-2-209 Para 7a	☒ Yes ☐ No ☐ N/A
ii. Does it identify the Type II IEPR District, MSC, and RMO points of contact?	EC 1165-2-209 Appendix B, Para 4a	☐ Yes ☐ No ☒ N/A
iii. Does it state that for a Type II IEPR, it will be contracted with an A/E contractor or arranged with another government agency to manage external to the Corps of Engineers?	EC 1165-2-209 Appendix B, Para 4k (4)	☐ Yes ☐ No ☒ N/A
iv. Does it state for a Type II IEPR, that the selection of IEPR review panel members will be made up of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of expertise suitable for the review being conducted?	EC 1165-2-209 Appendix B, Para 4k(1) and Appendix E, Para's 1a & 7	☐ Yes ☐ No ☒ N/A

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Review Plan Checklist for Implementation Documents

v. Does it state for a Type II IEPR, that the selection of IEPR review panel members will be selected using the National Academy of Science (NAS) Policy which sets the standard for "independence" in the review process?	EC 1165-2-209 Para 6b (4) and Para 10b	☐ Yes ☐ No ☒ N/A
vi. If the Type II IEPR panel is established by USACE, has local (i.e. District) counsel reviewed the Type II IEPR execution for FACA requirements?	EC1165-2-209 Appendix E, Para 7c(1)	☐ Yes ☐ No ☒ N/A
vii. Does it provide tasks and related resource, funding and schedule showing when the Type II IEPR activities will be performed?	EC1165-2-209 Appendix E, Para 5a	☐ Yes ☐ No ☒ N/A
viii. Does the project address hurricane and storm risk management or flood risk management or any other aspects where Federal action is justified by life safety or significant threat to human life? Is it likely? If yes, Type II IEPR must be addressed.	EC1165-2-209 Appendix E, Para 2	☐ Yes ☐ No ☒ N/A ☐ Yes ☒ No
ix. Does the RP address Type II IEPR factors? Factors to be considered include: • Does the project involve the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent setting methods or models, or presents conclusions that are likely to change prevailing practices? • Does the project design require redundancy, resiliency and robustness • Does the project have unique construction sequencing or a reduced or overlapping design construction schedule; fro example, significant project features accomplished using the Design-Build or Early Contractor Involvement (ECI) delivery systems.		☒ Yes ☐ No ☐ N/A
f. Does it address policy compliance and legal review? If no, does it provide a risk based decision of why it is not required?	EC 1165-2-209 Para 14	☒ Yes ☐ No ☐ N/A

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Review Plan Checklist for Implementation Documents

3. Does the RP present the tasks, timing, and sequence of the reviews (including deferrals)? a. Does it provide an overall review schedule that shows timing and sequence of all reviews? b. Does the review plan establish a milestone schedule aligned with the critical features of the project design and construction?	EC 1165-2-209, Appendix B, Para 4c EC 1165-2-209, Appendix C, Para 3g EC 1165-2-209, Appendix E, Para 6c	☐ Yes ☒ No There is currently no funding for DHP construction. Therefore, projecting a schedule and cost is not possible at this time. ☐ Yes ☒ No ☐ Yes ☒ No
4. Does the RP address engineering model certification requirements? a. Does it list the models and data anticipated to be used in developing recommendations? b. Does it indicate the certification /approval status of those models and if certification or approval of any model(s) will be needed? c. If needed, does the RP propose the appropriate level of certification/approval for the model(s) and how it will be accomplished?	EC 1165-2-209, Appendix B, Para 4i	☒ Yes ☐ No ☐ N/A ☒ Yes ☐ No ☐ N/A ☒ Yes ☐ No ☐ N/A ☒ Yes ☐ No ☐ N/A
5. Does the RP explain how and when there will be opportunities for the public to comment on the study or project to be reviewed? a. Does it discuss posting the RP on the District website? b. Does it indicate the web address, and schedule and duration of the posting?	EC 1165-2-209, Appendix B, Para 4d	☒ Yes ☐ No ☐ N/A ☒ Yes ☐ No ☐ N/A ☒ Yes ☐ No ☐ N/A
6. Does the RP explain when significant and relevant public comments will be provided to the reviewers before they conduct their review? a. Does it discuss the schedule of receiving public comments?	EC 1165-2-209, Appendix B, Para 4e	☒ Yes ☐ No ☐ N/A ☒ Yes ☐ No ☐ N/A

Review Plan Checklist for Implementation Documents

b. Does it discuss the schedule of when significant comments will be provided to the reviewers?		☒ Yes ☐ No ☐ N/A
7. Does the RP address whether the public, including scientific or professional societies, will be asked to nominate professional reviewers?* a. If the public is asked to nominate professional reviewers then does the RP provide a description of the requirements and answer who, what, when, where, and how questions? <i>* Typically the public will not be asked to nominate potential reviewer</i>	EC 1165-2-209, Appendix B, Para 4h	☐ Yes ☒ No ☐ N/A ☐ Yes ☐ No ☒ N/A
8. Does the RP address expected in-kind contributions to be provided by the sponsor? a. If expected in-kind contributions are to be provided by the sponsor, does the RP list the expected in-kind contributions to be provided by the sponsor?	EC 1165-2-209, Appendix B, Para 4j	☐ Yes ☒ No ☐ N/A 100% federally funded. No in-kind contribution needed. ☐ Yes ☐ No ☒ N/A
9. Does the RP explain how the reviews will be documented? a. Does the RP address the requirement to document ATR comments using Dr Checks and Type II IEPR published comments and responses pertaining to the design and construction activities summarized in a report reviewed and approved by the MSC and posted on the home district website? b. Does the RP explain how the Type II IEPR will be documented in a Review Report? c. Does the RP document how written responses to the Type II IEPR Review Report will be prepared? d. Does the RP detail how the district/PCX/MSC and CECW-CP will disseminate the final Type II IEPR Review Report, USACE response, and all other materials related to the Type II IEPR on the internet?	EC 1165-2-209, Para 7d EC 1165-2-209 Appendix B , Para 4k (14) EC 1165-2-209 Appendix B, Para 4k (14) EC 1165-2-209 Appendix B, Para 5	☒ Yes ☐ No ☐ Yes ☐ No ☒ N/A ☐ Yes ☐ No ☒ N/A ☐ Yes ☐ No ☒ N/A

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Review Plan Checklist
for Implementation Documents

10. Has the approval memorandum been prepared and does it accompany the RP?	EC 1165-2-209, Appendix B, Para 7	☒ Yes ☐ No
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ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR IMPLEMENTATION 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 DrChecks.

SIGNATURE

Name

ATR Team Leader

Office Symbol/Company

Date

SIGNATURE

Name

Project Manager

Office Symbol

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: TEAM ROSTERS

PDT ROSTER

<u>NAME</u>	<u>FUNCTION</u>	<u>OFFICE</u>	<u>TELEPHONE</u>
Mike Renacker	Project Manager	CEMVK-PP-D	(601) 631-7043
Lee Robinson	Economist	CEMVN-PDE-FRR	(601) 631-5435
Matt Mallard	Plan Formulator	CEMVN-PD-PWS	(601) 631-5960
Jennifer Ryan	Archeologist	CEMVN-PDN-UDP	(601) 631-5920
Marneshia Richard	Structure Design	CEMVK-EC-DS	(601) 631-7055
Richard Pearce	Cost Engineering	CEMVK-EC-TC	(601) 631-7139
Joelle Handy	Channel Design	CEMVK-EC-DL	(601) 631-5667
Brian Jordan	Geotechnical	CEMVK-EC-GA	(601) 631-5898
Shannon Wells	Hydraulics	CEMVK-EC-HH	(601) 631-7031
Dave Johnson	Water Quality	CEMVK-EC-HW	(601) 631-7221
Richard Miller	Real Estate Planning	CEMVK-RE-EP	(601) 631-5224
Sanford Holliday	Relocations	CEMVK-ED-CE	(601) 631-5674
Randy McAlpin	Civil	CEMVK-EC-DC	(601) 631-5288

DQC ROSTER

<u>NAME</u>	<u>FUNCTION</u>	<u>OFFICE</u>	<u>TELEPHONE</u>
Daniel Sumerall	Biologist/ Archeologist	CEMVN-PDN-UDP	(601) 631-5428
Jonathan Bennett	Structure Design	CEMVK-EC-DS	(601) 631-5599
Danny McPhearson	Cost Engineering	CEMVK-EC-TC	(601) 631-5602
Ben Caldwell	Channel Design	CEMVK-EC-DL	(601) 631-5593
Andy Hardy	Geotechnical	CEMVK-EC-GA	(601) 631-7182
Mike Alexander	Hydraulics	CEMVK-EC-HH	(601) 631-5044
Brian Johnson	Water Quality	CEMVK-EC-HW	(601) 631-7519
Tim Riggs	Real Estate Planning	CEMVK-RE-R	(601) 631-7385
Sanford Holliday	Relocations	CEMVK-ED-CE	(601) 631-5674

ATR TEAM ROSTER

<u>NAME</u>	<u>FUNCTION</u>	<u>OFFICE</u>	<u>TELEPHONE</u>
TBD	ATR Manager	TBD	TBD
TBD	Channel Design	TBD	TBD
TBD	Biologist/Archeologist	TBD	TBD
TBD	Real Estate	TBD	TBD
TBD	H&H	TBD	TBD
TBD	Cost Engineering	TBD	TBD
TBD	Relocation Engineer	TBD	TBD
TBD	Structural Engineer	TBD	TBD

VERTICAL TEAM ROSTER

<u>NAME</u>	<u>FUNCTION</u>	<u>OFFICE</u>	<u>TELEPHONE</u>
Jamie Triplett	District Support Team	CEMVD	(601) 634-5075
Brian Chewning	RIT	CEMVD	(601) 634-5836
Robert Fitzgerald	RMO	CEMVD	(601) 634-5922
TBD	Cost Engineering	TBD	TBD

ATTACHMENT 5: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
AFB	Alternative Formulation Briefing	NED	National Economic Development
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
DPR	Detailed Project Report	OMB	Office and Management and Budget
DQC	District Quality Control/Quality Assurance	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DX	Directory of Expertise	OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PAC	Post Authorization Change
ER	Ecosystem Restoration	PMP	Project Management Plan
FDR	Flood Damage Reduction	PL	Public Law
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
GRR	General Reevaluation Report	RED	Regional Economic Development
Home District/MSD	The District or MSD responsible for the preparation of the decision document	RMC	Risk Management Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IEPR	Independent External Peer Review	RTS	Regional Technical Specialist
ITR	Independent Technical Review	SAR	Safety Assurance Review
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MR&T	Mississippi River & Tributaries	WRDA	Water Resources Development Act
MSD	Major Subordinate Command	YMDJWQD	Yazoo Mississippi Delta Joint Water Control District



DEPARTMENT OF THE ARMY

MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS

P.O. BOX 80

VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

CEMVD-RB-T

13 December 2012

MEMORANDUM FOR Commander, Mississippi Valley Division, ATTN:
CEMVD-PD-KM/Mr. Triplett

SUBJECT: Approval of Implementation Review Plan for Delta
Headwaters Project, Yazoo River Basin, Mississippi

1. Reference memorandum, CEMVK-PP-D, 3 December 2012, subject as above.
2. This office concurs with subject Review Plan.
3. The POC for this action is Mr. William Bradley, 601-634-5644.

for 
ROBERT H. FITZGERALD, P.E.
Chief, Business Technical
Division

End 2