



**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

30 NOV 12

MEMORANDUM FOR Commander, Memphis District

SUBJECT: Review Plan (RP) for Dyer County Levee, TN, PL-84-99  
Project (P2# 393563)

1. Reference:

a. EC 1165-2-209, Civil Works Review Policy, 31 January 2012.

b. Memorandum, CEMVM, 4 October 2012, subject as above (encl 1).

c. Memorandum, CEMVD-RB-T, 5 November 2012, subject as above (encl 2).

2. The subject review plan is approved. The review plan has been coordinated with the Review Management Organization, which concurs (encl 2). The review plan is in accordance with EC 1165-2-209 and complies with all requirements for the implementation phase of the project. Non-substantive changes to the review plan will require no further review and/or approval. Post the approved review plan to your web page.

3. The MVD points of contact are Mr. Robert Fitzgerald, (601) 634-5922, for technical matters, and Mr. Mike Warren, (601) 634-5070, for non-technical matters.

2 Encls

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

CEMVM

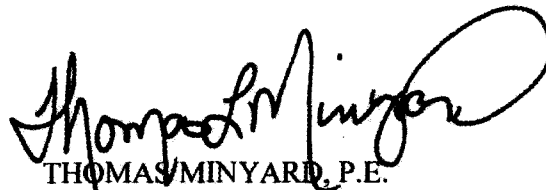
4 October 2012

MEMORANDUM FOR: Commander, Mississippi Valley Division (ATTN: CEMVD-RB-T,  
Mr. Robert Fitzgerald)

SUBJECT: Review Plan for Dyer County Little Levee, TN PL-84-99 Project (P2# 393563)

1. The review plan for the Dyer County Little Levee, PL-84-99, located in Dyer County, TN is attached for Mississippi Valley Division's review and approval. The Review Plan was prepared in accordance with EC 11 65-2- 209.
2. The Dyer County Little Levee, TN PL-84-99 Project is currently in the implementation phase. As required by EC 11 65-2-209, request review and approval of the Review Plan.
3. The point of contact for this memorandum is the project manager, Mr. Jason Allmon, at (901) 544-0766.

Encl



THOMAS MINYARD, P.E.  
Chief, Engineering & Construction Division

encl 1



**US Army Corps  
of Engineers®**  
Memphis District

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## **Review Plan**

Dyer County Little Levee, TN  
PL-84-99 Project

27 September 2012

P2# 393563

## **REVIEW PLAN**

Dyer County Little Levee, TN

PL-84-99 Project

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## **REVIEW PLAN FOR DYER COUNTY LITTLE LEVEE PLANS AND SPECIFICATIONS**

**1. Purpose and Requirements.** This review plan defines the scope and level of peer review for the Dyer County Little Levee, TN, Plans and Specifications. This project is being carried out under the PL 84-99 program, in response to damages incurred by the Dyer County Levee as a result of a flood event.

### **a. References**

- (1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- (2) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (3) Project Information Report, PL 84-99 Rehabilitation of Damaged Flood Control Works, Dyer County Levee and Drainage District No. 1, Dyer County Little Levee, Dyer County, Tennessee, 1 November 2011.
- (4) Memphis District Quality Management Plan, 19 Jun 2012.
- (5) Project Management Plan, Dyer County Little Levee, PL84-99, Rehabilitation of Damaged Flood Control Works, Project No. 393563.

**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.

## **2. Review Management Organization (RMO) and Coordination**

The Mississippi Valley Division has proposed that the level of ATR review and the determination of the appropriate RMO for PL 84-99 projects be based on the classification of the project based on the complexity and life safety and/or economic consequences. Preliminary discussions with the RMC indicate that all PL 84-99 projects must undergo DQC and ATR and that the leveled approach discussed below is considered to meet the intent of EC 209. The three ATR “levels” are proposed as follows:

Level 1 – If the Repair is of low complexity (primarily surface work) AND life safety and/or economic consequences associated with the leveed area are low to moderate, the project can undergo a Level 1 review. A Level 1 Review consists of Agency Technical Review (ATR) being coordinated and performed all within MVD District.

Level 2 – If the repair is of medium complexity but sill consists only of replacement in kind OR if life safety and/or economic consequences associated with the leveed area are moderate to high, the project does not meet the criteria for a Level 1 review and a Level 2 review is required. A Level 2 Review consists of Agency Technical Review with team lead by another Major Subordinate Command (MSC) with review team by MVD districts or other MSC district.

Level 3 – If the repair is very complex involving changes or additions to the pre-existing project, the repair must undergo a Level 3 Review. A Level 3 Review consists of ATR and Type II Independent External Peer Review (SAR) with Risk Management Center (RMC) engagement.

Based on the proposed ATR classification system, MVM has determined the Dyer County Little Levee project to fall into Level 2 due to the high economic consequences associated with the leveed area. Therefore, MVD will be the RMO and will manage the overall review efforts described in this review plan. The ATR will be led by a qualified individual from another MSC and the rest of the review may be performed by MVD districts or districts from another MSC.

The RMO will establish ATR teams for review of the P&S in accordance with EC 1165-2-209 and coordinate with the Cost Engineering Branch & Directorates of Expertise (DX) to conduct any necessary ATRs of cost estimates, construction schedules and contingencies.

**3. Project Description.** Dyer County Little Levee is a non-Federal levee located in southwestern Dyer County, Tennessee, between the mainline Mississippi River Levee, the Mississippi River and the Obion River. (river miles 820 to 840). This levee protects approximately 12,000 acres, 30 homes, 2 businesses, a church and 41 farm buildings. The total value of the structures is estimated at \$2,718,000. It is estimated that more than 80 people reside within the area. The levee runs from high ground to high ground and is considered a completely integrated system.

Dyer County Little Levee sustained significant damages due to flooding during the period of 25 April to 30 May 2011. The damages sustained in the high water event consisted of 24 breaches as a result of overtopping and 1 controlled breach. There is an estimated 380,968 cubic yards of material required for breach repairs. Borrow material will be obtained from material that was deposited on land within the levee right-of-way.

The repairs consist of constructing a full levee cross section with a 15-ft crown width and 3:1 side slopes with a new alignment around the deep scour holes. The work also includes repairs of levee breaches and restores the levee to the pre-flood event condition in the remaining breaches. This will include all repairs necessary to restore the levee system to its pre-flood condition and to protect the levee system from further damage. Real estate will be acquired for this project. Borrow material will be obtained from material that was deposited on land within the levee right-of-way and outside of the right-of-way.

In-Kind Contributions. Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. In-Kind products and work by the sponsor may include real estate, levee construction, culvert repair, donated materials, etc.

#### **4. Execution of District Quality Assurance.**

All implementation 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.

Documents Requiring DQC: The documents to be reviewed are 95% plans and specifications.

DQC Schedule: DQC will be performed prior to the initiation of ATR – in the October 2012 timeframe.

Required DQC Expertise. The quality assurance / technical reviewers will be chosen from a pool of reviewers submitted by appropriate technical elements. DQC team members will not have been directly involved in the production of the plans and specifications. 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 DQC team is identified in Attachment 1.

## 5. Agency Technical Review

ATR is mandatory for all implementation 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. 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.

Documents Requiring ATR. The documents to be reviewed are the 95% Plans and Specs and USGS 1:24,000 quadrangle map.

**Table 1.** Project Schedule

<b>Milestone Code</b>	<b>Milestone</b>	<b>Date</b>
	Begin ATR	06 NOV 2012
	ATR Complete	26 NOV 2012
CW330	P&S Approval	14 DEC 2012
CW400	RTA (Ready to Advertise)	31 DEC 2012
CC800	Contract Award	30 APR 2013
CC820	Construction Completion	31 DEC 2013

### Specific Required ATR Work Items.

Specific work items shall include but not be limited to the following:

- Review of all documents identified in Section 5.
- Review design calculations.
- Enter and resolve all review comments resulting from reviews of the work through Dr. Checks.

- ATR certification upon completion of review. ATR certification requirements are found in EC 1165-2-209. ATR certificates shall be used to certify all reviews. Each certification will include copies of DrChecks review comments showing that all comments are resolved and closed (see paragraph 7).
- Specific submission requirements will be coordinated with the below POC.

ATR Review Objectives.

The primary objectives of the review are to ensure that:

- The project meets the Government’s scope, intent and quality objectives.
- Design concepts are valid.
- The design is feasible and will be safe, functional, and constructible.
- Appropriate methods of analysis were used and basic assumptions are valid and used for the intended purpose.
- The source, amount, and level of detail of the data used in the analysis are appropriate for the complexity of the project.
- The project complies with accepted practice and design criteria within the industry.
- All relevant engineering and scientific disciplines have been effectively integrated.
- Content is sufficiently complete for the current phase of the project and provides an adequate basis for future development effort.
- Project documentation is appropriate and adequate for the project phase.

Team Membership. Team members will demonstrate senior-level competence in the type of work being reviewed. Junior-level staff cannot be members of the team. All team members should have a minimum of 10 years of experience within their discipline and should be registered in their field of expertise. The following is a list of disciplines anticipated to be required for ATR:

Discipline	
ATR Lead	The team lead should understand the requirements of EC 1165-2-209, 31 January 2010, Water Resources Policies and Authorities, CIVIL WORKS REVIEW POLICY and have experience conducting technical reviews; have a thorough understanding of Projnet’s DrChecks ( <a href="http://www.projnet.org">www.projnet.org</a> ); be accomplished in the management of multidisciplinary teams and issue resolution; be proficient in developing the review report to document the ATR; and have extensive knowledge of the authorities, regulations, and policies of the Corps of Engineers. The ATR lead may also serve as one of the technical reviewers. The team lead should be a registered professional engineer.
Geotechnical Engineering	The team member should be a registered professional engineer and have 10 or more years experience in geotechnical engineering. Experience needs to include geotechnical evaluation of water management structures. Experience needs to encompass static and dynamic slope stability evaluation; evaluation of the seepage through earthen embankments and under seepage through the foundation of



	the water management structures, including levee embankments, floodwalls, closure structures and other pertinent features; soil grouting products and methods; and settlement evaluations. The team member will be familiar with sampling and laboratory testing, embankment stability and seepage analyses, planning analysis, and experienced in levee & floodwall design, post-construction evaluation, and rehabilitation.
Cost Estimating	Team member will be familiar with cost estimating for similar civil works projects using MCACES version MII. Team member will be a Certified Cost Technician, Certified Cost Consultant, or Certified Cost Engineer. A separate process and coordination is also required through the Walla Walla District DX for cost engineering.
Construction	The team member should be a registered professional engineer and have 10 or more years experience in civil engineering. Experience needs to include the engineering and design of water management project features such as water control structures, conveyance culverts, and spillways, and grouting products and methods for watertight joints in concrete structures and the development and review of DDRs, plans, and specifications, Engineering Regulation, ER 1110-1-8155, Specifications; and ER 1110-2-1150, Engineering and Design for Civil Works.
Biologist/Environmental	The team member will be experienced in NEPA/CEQA process and analysis, and have a biological or environmental background that is familiar with the project area and ecosystem restoration. The team member will be an expert in environmental evaluation and compliance requirements pursuant to the “Procedures for Implementing NEPA” (ER 200-2-2), national environmental statutes, applicable executive orders, and other Federal planning requirements, into the planning of Civil Works projects.
Cultural Resources	The team member will be an archaeologist familiar with records searches, cultural resource survey methodology, area of potential effects, Section 106 of the National Historic Preservation Act, and state and Federal laws/executive orders pertaining to American Indian Tribes.

Documentation. 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 documents; 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, 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 sample Statement of Technical Review is included in Attachment 2.

Coordination of Funding for ATRs. Upon establishment of an ATR team, the organization performing the reviews will provide a cost estimate along with information on how to fund this work to the MVM POC so that funding can be set up.

## **6. Independent External Peer Review (IEPR)**

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.

**Decision on IEPR.** MVM has determined that the Dyer County Little Levee project does not require a Type II IEPR for the following reasons:

- It is not justified by life safety nor would failure of the project would pose a significant threat to human life;
- It does not involve the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations; does not contain precedent-setting methods or models; and does not present conclusions that are likely to change prevailing practices;
- It does not require redundancy, resiliency, and/or robustness; and
- It does not involve unique construction sequencing or a reduced or overlapping design construction schedule.

## **7. Policy and Legal Compliance Review**

All implementation documents will be reviewed for their compliance with law and policy. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods

## **8. Review Plan Approval and Changes.**

The Mississippi Valley Division Commander is responsible for approving this Review Plan. The

Commander's approval reflects vertical team input to the appropriate scope and level of review for the P&S documents. Like the PMP, the Review Plan is a living document and may change as the work progresses. MVM will keep the Review Plan up to date. Significant changes to this Review Plan (such as changes to the scope and/or level of review) will 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, will be posted on the MVM public webpage. Changes to this plan will be annotated in Attachment 3.

**9. Review Plan Points of Contact.**

The MVM technical point of contact for this plan is the Project Manager, Jason Allmon, phone 901-544-0766.

The Review Management Organization (RMO) point of contact is the District Support Team, Yolanda Arthur, phone 601-634-5798.

The agency or USACE organization performing the review shall appoint one individual as team lead for the ATR to serve as a single point of contact and liaison between their organization, MVD and MVM.

## ATTACHMENT 1: TEAM ROSTERS

### Product Delivery Team

Name	Role	Phone Number	E-mail
Jason Allmon, P.E.	Project Manager	901-544-0766	Jason.E.Allmon@us.army.mil
William Grantham	Civil Designer	901-544-0210	William.B.Grantham@us.army.mil
Jennifer Rodriguez	Geographic Information System	901-544-0662	Jennifer.M.Rodriguez@usace.army.mil
Nicholas Bidlack	Geotechnical Engineer	901-544-4017	Nicholas.Bidlack@us.army.mil
Neal Newman	Cost Engineering	901-544-0890	Neal.E.Newman@us.army.mil
Leonard. Pitcher	Biologist/Environmental Lead	901-544-0705	Leonard.J.Pitcher@us.army.mil
Dr. Robert Dunn	Cultural Resources	901-544-0706	Robert.A.Dunn@us.army.mil
Douglas Young	Real Estate	901-544-3154	Douglas.B.Young@mvm02.usace.army.mil
Allen Scott Black	Office of Counsel	901-544-3662	Allen.S.Black1@us.army.mil

### DQC Team

Name	Role	Phone Number	E-mail
Jason Allmon, P.E.	Project Manager	901-544-0766	Jason.E.Allmon@us.army.mil
Carter Bagley	Civil Designer	901-544-0661	Carter.Bagley@us.army.mil
Conrad Stacks	Relocations	901-544-0657	Conrad.R.Stacks@us.army.mil
April Branch	Construction Branch	901-544-3967	April.J.Branch@us.army.mil
Kevin Keller	Cost Engineering	901-544-0678	Kevin.L.Keller@us.army.mil
Carl Seckt	Hydrology	901-544-0675	Carl.E.Seckt@us.army.mil
Alan Bennett	Environmental Branch	901-544-4313	Alan.W.Bennett@usace.army.mil
Lee Fletcher	Area Office	901-544-3851	Robert.L.Fletcher2@us.army.mil
Gene McAvoy	Area Office	901-544-3856	Richard.E.McAvoy@us.army.mil

ATR Team

Name	Role	Review District
TBD	ATR Lead	TBD
TBD	Civil Design	TBD
TBD	Biology/NEPA	TBD
TBD	Cost-Engineering	TBD
TBD	Real Estate	TBD
TBD	Cultural Resources	TBD

**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, 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<sup>sm</sup>.

SIGNATURE

Name

ATR Team Leader

Office Symbol/Company

\_\_\_\_\_  
Date

SIGNATURE

Name

Project Manager

Office Symbol

\_\_\_\_\_  
Date

SIGNATURE

Name

Architect Engineer Project Manager<sup>1</sup>

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

<sup>1</sup> Only needed if some portion of the ATR was contracted

**ATTACHMENT 3: REVIEW PLAN REVISIONS**

<b>Revision Date</b>	<b>Description of Change</b>	<b>Page / Paragraph Number</b>



**ATTACHMENT 4: STATEMENT OF RATIONALE FOR DECISION TO NOT HAVE IEPR**

**STATEMENT OF RATIONALE FOR DECISION TO NOT HAVE A TYPE II IEPR (SAR)**

The project is in the implementation phase and therefore does not require a Type I IEPR. This attachment documents the vertical team’s risk informed recommendation to not conduct Type II IEPR. According to EC 1165-2-209, the vertical team must make a risk-informed decision whether or not to conduct Type II IEPR, make a risk-informed decision to conduct Type II IEPR or make a risk informed recommendation to the Chief of Engineers or Director of Civil Works to not conduct Type II IEPR.

The following table, based on the US Army Field Manual 5-19, Composite Risk Management, was used to assess each risk in the IEPR tables.

**TABLE 1: RISK ASSESSMENT MATRIX**

		Risk Probability			
		Frequent	Likely	Seldom	Unlikely
Severity	Catastrophic	E	E	H	M
	Critical	E	H	M	L
	Marginal	H	M	M	L
	Negligible	M	L	L	L
<b>E (Extremely High)</b>	Loss of ability to accomplish project				Red
<b>H (High)</b>	Significantly degrades capabilities to accomplish project				Blue
<b>M (Moderate)</b>	Degrades project accomplishment capabilities				Yellow
<b>L (Low)</b>	Little or no impact on project accomplishment				Green

The following table details the risks, frequency, severity, risk assessment, and how the risk contributes to the IEPR decision

**TABLE 2: TYPE II IEPR RISK ASSESSMENT (FOR IMPLEMENTATION DOCUMENTS)**

<b>Risk</b>	<b>Probability</b>	<b>Severity</b>	<b>Assessment</b>	<b>Contributes to IEPR Decision?</b>	<b>Notes</b>
Project poses a significant threat to human life	Unlikely	Catastrophic	Moderate	No	The completed project will have a negligible effect on the threat to human life.
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	Unlikely	Critical	Low	No	
The project design requires redundancy, resiliency, and robustness	Unlikely	Marginal	Low	No	Flood fight operations during an emergency event will mitigate the risk due to redundancy, resiliency, and robustness.
The project has unique construction sequencing or a reduced or overlapping design construction schedule	Unlikely	Critical	Low	No	

Risk of a faulty or incomplete design making it to construction	Seldom	Critical	Moderate	No	DQC and ATR by personnel with experience on similar projects will mitigate the risk of a faulty or incomplete design
Risk of contractor misinterpreting design, which results in Project failure	Unlikely	Critical	Low	No	Construction quality control procedures will mitigate this risk

**Background Information about Project:** Dyer County Little Levee is a non-Federal levee located in southwestern Dyer County, Tennessee, between the mainline Mississippi River Levee, the Mississippi River and the Obion River. (river mile 820 to 840). This levee protects approximately 12,000 acres, 30 homes, 2 businesses, a church and 41 farm buildings. The total value of the structures is estimated at \$2,718,000. It is estimated that more than 80 people reside within the area. The levee runs from high ground to high ground and is considered a completely integrated system. Dyer County Little Levee sustained significant damages due to flooding during the period of 25 April to 30 May 2011. The damages sustained in the high water event consisted of 24 breaches as a result of overtopping and 1 controlled breach. Maps showing locations of the breaches, pictures of damages and the basic report from post-flood damage assessment are in the Project Information Report in Appendix 14. There is an estimated 380,968 cubic yards of material required for breach repairs. Borrow material will be obtained from material that was deposited on land within the levee right-of-way. The estimated cost of repair is approximately \$2,108,000 with a benefit-to-cost ratio of 2.2 to 1. Without repair the levee would be susceptible to flooding due to high water events along the Mississippi River. It is anticipated that a ten-year flood event of significant duration could result in a levee breach. The levee system is a Non-Federally constructed system eligible under Public Law 84-99 for assistance. The Dyer County Levee and Drainage District No. 1 understands that under PL84-99, the sponsor must provide 20 percent of the cost of the Rehabilitation Assistance. The Sponsor's letter requesting Rehabilitation Assistance is located in the Project Information Report in Appendix 14. The repairs consist of constructing a full levee cross section with a 15-ft crown width and 3:1 side slopes with a new alignment around the deep scour holes. The work also includes repairs of levee breaches and restores the levee to the pre-flood event condition in the remaining breaches. This will include all repairs necessary to restore the levee system to its pre-flood condition and to protect the levee system from further damage. No real estate will be acquired for this project. Borrow material will be obtained from material that was deposited on land within the levee right-of-way. Construction of the levee was completed around 1940, except in the reach along the Obion River, which was added in the early 1970s. Since being constructed, documents show the levee requiring repairs due to flooding three times, 1973, 1974, and 1976. While in the program, three set back levees have been constructed during the life of the project. Those were constructed in 1975, 1988 and 1989.

Also, emergency bank protection and levee grade raise have also been constructed. To date actual Federal expenditures have been approximately \$1,319,000.

**Project Requirements Statement:** Runoff from snowmelt combined with rainfall ten times greater than average spread out over a 200,000 square-mile area within the Mississippi River's watershed producing the Epic Flood of 2011. Dyer County Little Levee sustained significant damage from flooding during the period from 25 April to 30 May 2011. The Dyer County Levee and Drainage District No. 1 entered into a cooperation agreement with the United States of America on 16 March 2012. The purpose of the project is to restore the Dyer County Little Levee to it's pre-flood condition. Based on the approved schedule, the project design is to be complete with plans and specifications by 14 December 2012, ready to advertise by 31 December 2012. This will enable contract award by 30 April 2013 and construction completion by 31 December 2013.

### 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 E&C or Engineering that Type II IEPR (SAR) is NOT required for this project.

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

  
Signature of Chief, EC

4 Oct 2012  
Date

The above recommendation is  Approved  Disapproved by

\_\_\_\_\_  
Signature of RMO

\_\_\_\_\_  
Date

ATTACHMENT 5: REVIEW PLAN CHECKLIST

# Review Plan Checklist for Implementation Documents

**Date:** 27 September 2012  
**Originating District:** MVM  
**Project/Study Title:** Dyer County Little Levee, TN  
**Project #:** 393563  
**District POC:** Jason Allmon, CEMVM-PM-P

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
<b>1. Is the Review Plan (RP) a standalone document?</b>	EC 1165-2-209,  Appendix B, Para 4a	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
b. Does it include a table of contents?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
c. Is the purpose of the RP clearly stated and EC 1165-2-209 referenced?	EC 1165-2-209  Para 7a	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

REQUIREMENT	REFERENCE	EVALUATION
<p>d. Does it reference the Project Management Plan (PMP) of which the RP is a component including P2 Project #?</p> <p>e. Does it include a paragraph stating the title, subject, and purpose of the work product to be reviewed?</p> <p>f. Does it list the names and disciplines in the home district, MSC and RMO to whom inquiries about the plan may be directed?*</p> <p><i>*Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.</i></p>	<p>EC 1165-2-209 Para 7a (2)</p> <p>EC 1165-2-209 Appendix B, Para 4a</p> <p>EC 1165-2-209, Appendix B, Para 4a</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p><b>2. Documentation of risk-informed decisions on which levels of review are appropriate.</b></p> <p>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)?</p> <p>b. Does it contain a summary of the CW implementation products required?</p> <p>c. DQC is always required. The RP will need to address the following questions:</p> <p>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?</p>	<p>EC 1165-2-209, Appendix B, Para 4b</p> <p>EC 1165-2-209 Para 7a</p> <p>EC1165-2-209 Para 15</p> <p>EC1165-2-209 Para 15a</p> <p>EC1165-2-209 Para 8a</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>

REQUIREMENT	REFERENCE	EVALUATION
ii. Does it list the DQC activities (for example, 30, 60, 90, BCOE reviews, etc)	EC 1165-2-209 Appendix B (1)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
iii. Does it list the review teams who will perform the DQC activities?	EC 1165-2-209 Appendix B, Para 4g	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
i. Does it identify the ATR District, MSC, and RMO points of contact?	EC 1165-2-209 Para 7a	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
ii. Does it identify the ATR lead from outside the home MSC?	EC 1165-2-209 Para 9c	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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?*	EC 1165-2-209 Appendix B, Para 4g	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<p><i>*Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.</i></p>		

REQUIREMENT	REFERENCE	EVALUATION
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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
v. Does the RP address the requirement to document ATR comments using Dr Checks?	EC 1165-2-209 Para 7d (1)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
i. Does it provide a defensible rationale for the decision on Type II IEPR?	EC 1165-2-209 Para 7a	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A



REQUIREMENT	REFERENCE	EVALUATION
<p>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?</p>	<p>EC 1165-2-209 Para 6b (4) and Para 10b</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p>
<p>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?</p>	<p>EC1165-2-209 Appendix E, Para 7c(1)</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p>
<p>vii. Does it provide tasks and related resource, funding and schedule showing when the Type II IEPR activities will be performed?</p>	<p>EC1165-2-209 Appendix E, Para 5a</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p>
<p>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.</p>	<p>EC1165-2-209 Appendix E, Para 2</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>

REQUIREMENT	REFERENCE	EVALUATION
<p>ix. Does the RP address Type II IEPR factors? Factors to be considered include:</p> <ul style="list-style-type: none"> <li>• 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?</li> <li>• Does the project design require redundancy, resiliency and robustness</li> <li>• Does the project have unique construction sequencing or a reduced or overlapping design construction schedule; for example, significant project features accomplished using the Design-Build or Early Contractor Involvement (ECI) delivery systems.</li> </ul> <p>f. Does it address policy compliance and legal review? If no, does it provide a risk based decision of why it is not required?</p>	<p>EC 1165-2-209 Para 14</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p>
<p><b>3. Does the RP present the tasks, timing, and sequence of the reviews (including deferrals)?</b></p> <p>a. Does it provide an overall review schedule that shows timing and sequence of all reviews?</p> <p>b. Does the review plan establish a milestone schedule aligned with the critical features of the project design and construction?</p>	<p>EC 1165-2-209, Appendix B, Para 4c</p> <p>EC 1165-2-209, Appendix C, Para 3g</p> <p>EC 1165-2-209, Appendix E, Para 6c</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>

REQUIREMENT	REFERENCE	EVALUATION
<p><b>4. Does the RP address engineering model certification requirements?</b></p> <p>a. Does it list the models and data anticipated to be used in developing recommendations?</p> <p>b. Does it indicate the certification /approval status of those models and if certification or approval of any model(s) will be needed?</p> <p>c. If needed, does the RP propose the appropriate level of certification/approval for the model(s) and how it will be accomplished?</p>	<p>EC 1165-2-209, Appendix B, Para 4i</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p>
<p><b>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?</b></p> <p>a. Does it discuss posting the RP on the District website?</p> <p>b. Does it indicate the web address, and schedule and duration of the posting?</p>	<p>EC 1165-2-209, Appendix B, Para 4d</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A</p> <p>This information was not found on any other approved review plans nor was it indicated as needed by the decision document review plan template.</p>

REQUIREMENT	REFERENCE	EVALUATION
<p><b>6. Does the RP explain when significant and relevant public comments will be provided to the reviewers before they conduct their review?</b></p> <p>a. Does it discuss the schedule of receiving public comments?</p> <p>b. Does it discuss the schedule of when significant comments will be provided to the reviewers?</p>	<p>EC 1165-2-209, Appendix B, Para 4e</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p>
<p><b>7. Does the RP address whether the public, including scientific or professional societies, will be asked to nominate professional reviewers?*</b></p> <p>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?</p> <p><i>* Typically the public will not be asked to nominate potential reviewer</i></p>	<p>EC 1165-2-209, Appendix B, Para 4h</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p>
<p><b>8. Does the RP address expected in-kind contributions to be provided by the sponsor?</b></p> <p>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?</p>	<p>EC 1165-2-209, Appendix B, Para 4j</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p>

REQUIREMENT	REFERENCE	EVALUATION
<p><b>9. Does the RP explain how the reviews will be documented?</b></p> <p>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?</p> <p>b. Does the RP explain how the Type II IEPR will be documented in a Review Report?</p> <p>c. Does the RP document how written responses to the Type II IEPR Review Report will be prepared?</p> <p>d. Does the RP detail how the district/PCX/MS 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?</p>	<p>EC 1165-2-209, Para 7d</p> <p>EC 1165-2-209 Appendix B , Para 4k (14)</p> <p>EC 1165-2-209 Appendix B, Para 4k (14)</p> <p>EC 1165-2-209 Appendix B, Para 5</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p>
<p><b>10. Has the approval memorandum been prepared and does it accompany the RP?</b></p>	<p>EC 1165-2-209, Appendix B, Para 7</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>

**ATTACHMENT6: CERTIFICATE OF LEGAL REVIEW**

**CERTIFICATE OF LEGAL REVIEW**

All implementation documents have been reviewed for their compliance with law and policy. This Review Plan and all associated documents, has been fully reviewed by the Office of Counsel, Memphis District and is approved as legally sufficient.

A handwritten signature in black ink, appearing to read 'David Sirmans', written over a horizontal line.

David Sirmans, District Counsel

A handwritten date '10 Oct 12' written in black ink over a horizontal line.

Date