



DEPARTMENT OF THE ARMY

MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS

P.O. BOX 80

VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION

CEMVD-PD-SP

11 JAN '16

MEMORANDUM FOR Commander, St. Louis District

SUBJECT: Approval of Resubmitted Review Plan for Planning and Implementation Activities for the Alton to Gale Organized Levee Districts, Illinois and Missouri, Design Deficiency Project

1. References:

a. Memorandum, CEMVS-PM-F, 10 September 2015, subject as above (encl 1).

b. Memorandum, CEMVD-RB-T, 2 December 2015, subject: Approval of Resubmitted Review Plan for Planning and Implementation Activities for the Alton to Gale Organized Levee Districts, Illinois and Missouri, Design Deficiency Project (encl 2).

c. Memorandum, CEIWR-RMC, 1 December 2015, subject: Alton to Gale Organized Levee Districts, Illinois and Missouri Flood Risk Management Review Plan (encl 3).

d. EC 1165-2-214, 15 December 2012, subject: Civil Works Review Policy.

2. The enclosed Review Plan (RP) is a combined decision document and implementation document review plan (encl 4). It includes the Review Plan Checklists for decision documents and implementation documents and has been prepared in accordance with EC 1165-2-214. The RP has been coordinated with the Upper District Support Team, the Business Technical Division, and the Risk Management Center, who concurred with the plan in references 1.b. and 1.c.

CEMVD-PD-SP

SUBJECT: Approval of Resubmitted Review Plan for Planning and Implementation Activities for the Alton to Gale Organized Levee Districts, Illinois and Missouri, Design Deficiency Project

3. MVD hereby approves the Review Plan for the Alton to Gale Organized Levees, Illinois and Missouri, Flood Risk Management project, which is subject to change as circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this RP or its execution will require new written approval from this office. Non-substantive changes to this RP do not require further approval. The district should post the approved RP to its web site.

4. The MVD point of contact for this action is [REDACTED]
[REDACTED], CEMVD-PD-SP, [REDACTED]
[REDACTED]

4 Encls

Major General, USA
Commanding



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT CORPS OF ENGINEERS
1222 SPRUCE STREET
ST. LOUIS, MISSOURI 63103-2833

SEP 10 2015

CEMVS-PM-F

MEMORANDUM FOR Commander, Mississippi Valley Division (CEMVD-PD-SP/
[REDACTED], P.O. Box 80, Vicksburg, MS 39181-0080

SUBJECT: Approval of Resubmitted Review Plan for Planning and Implementation Activities
for the Alton to Gale Organized Levee Districts, Illinois and Missouri, Design Deficiency Project

1. References:

- a. EC 1165-2-214, 15 December 2012, Civil Works Review Policy
- b. Memorandum, CEMVD-PD, 11 Oct. 2012, USACE Civil Works Review Process

2. The Alton to Gale Organized Levee Districts, Illinois and Missouri, Design Deficiency Project Review Plan (Encl 1) is resubmitted for your approval. Also enclosed are the Review Plan Checklists (Encl 2), FRM-PCX Endorsement Memo (Encl 3), and the Draft MVD Approval Memorandum (Encl 4).

3. If you have any questions, please contact the Project Manager [REDACTED] at
[REDACTED]

3 Encls

COL, EN
Commanding

Encl 1

2 December 2015

MEMORANDUM FOR CEMVD-PD-SP [REDACTED]

SUBJECT: Approval of Resubmitted Review Plan for Planning and Implementation Activities for the Alton to Gale Organized Levee Districts, Illinois and Missouri, Design Deficiency Project

1. Reference memorandum, CEMVS-PM-F, 10 Sep 2015, subject as above.
2. This office concurs with subject Review Plan.
3. The RB-T point of contact is [REDACTED],
[REDACTED].

[REDACTED]
Chief, Business Technical
Division

Enc 12



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
RISK MANAGEMENT CENTER
12596 WEST BAYAUD AVE., SUITE 400
LAKEWOOD, CO 80228

REPLY TO
ATTENTION OF

CEIWR-RMC

1 December 2015

MEMORANDUM FOR: [REDACTED] ATTN: CEMVD-PD-SP

SUBJECT: Alton to Gale Organized Levee Districts, Illinois and Missouri Flood Risk Management Review Plan

1. The RMC concurs with the Alton to Gale Organized Levee Districts, Illinois and Missouri Flood Risk Management Review Plan, 10 November 2015. The RMO for the peer review effort for the LRR is the Flood Risk Management Planning Center of Expertise (FRM-PCX). The Review Plan will be updated and re-endorsed upon completion of the LRR; the RMO for the peer review of the implementation products will be the RMC.
2. Thank you for the opportunity for input to this review plan. For further information, please contact me at [REDACTED]

Sincerely,

[REDACTED]

Senior Review Manager
Risk Management Center

CF:
CEIWR-RMC [REDACTED]
CEMVD-RBT (Division Quality Manager)

Encl 3

REVIEW PLAN

**Alton to Gale Organized Levee Districts, Illinois and Missouri
Flood Risk Management**

Planning and Implementation Products

St. Louis District

MSC Approval Date: Pending

Last Revision Date: 30 November 2015



**US Army Corps
of Engineers®**

Encl 4

REVIEW PLAN

Alton to Gale Organized Levee Districts, Illinois and Missouri Planning And Implementation Products

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1. PURPOSE AND REQUIREMENTS

a. **Purpose.** This Review Plan defines the scope and level of peer review for the Alton to Gale Organized Levee Districts, Illinois and Missouri, Limited Reevaluation Report (LRR) and the implementation products associated with the recommendation(s) of the LRR.

b. References

- (1) Engineering Circular (EC) 1165-2-214, Civil Works Review Policy, 15 Dec 2012
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- (5) ER 1165-2-119, Modifications to Completed Projects, 20 Sep 1982
- (6) St. Louis District Quality Management System Process for District Quality Control (22820)
- (7) Alton to Gale Organized Levee Districts, IL and MO, draft Project Management Plan, 2011

c. **Requirements.** This review plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-214) and planning model certification/approval (per EC 1105-2-412).

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this Review Plan. The RMO for decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort for the LRR is the Flood Risk Management Planning Center of Expertise (FRM-PCX). The Review Plan will be updated and re-endorsed upon completion of the LRR; the RMO for the peer review of the implementation products will be the RMC.

The RMO will coordinate with the Civil Works Cost Engineering and Agency Technical Review Mandatory Center of Expertise (MCX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies. Due to the risk to life safety inherent in nearly all flood risk management projects, the FRM-PCX will coordinate with the RMC for the decision document phase of this review plan.

3. STUDY/PROJECT INFORMATION

- a. **Decision Document.** The purpose of the Alton to Gale Organized Levee Districts, IL and MO, LRR is to address the request of the ASA(CW) in a memo dated 8 November 2000 to update the project Letter Report from 1986, which addressed a specific levee deficiency, to further address that deficiency and determine long term solutions for these Alton to Gale levees. A Draft LRR was completed in 2010, however, revision to the recommendation based on new information about the reliability of the previously recommended plan and updates to the costs are necessary. The updated report will serve as the decision document for future work and will contain an Environmental Assessment. The report will be approved by Headquarters and additional Congressional authorization is not expected to be required. The LRR is being prepared with 100% Federal funding with no cost-share or in-kind contributions to be provided by the sponsors (Levee Districts).
- b. **Implementation Documents.** Implementation documents covered by this Review Plan include Design Documentation Reports (DDRs) and plans and specifications. A DDR provides the technical basis for the plans and specifications and serves as a summary of the final design. According to ER 1110-2-1150, the approval level for a DDR is at the District Command. Plans and specifications define construction requirements. It is not anticipated that any additional NEPA compliance documentation will be required during the implementation phase. If changes to project design or field conditions are encountered during the implementation phase, the potential need for NEPA compliance documentation will be reconsidered and, if determined necessary, all required compliance actions will be completed and reviewed, as appropriate.
- c. **Study/Project Description.** This is a single-purpose flood risk management study. The Alton to Gale levees are made up of many small levees, some acting together as systems, which are grouped together along a 200+ mile stretch of the Middle Mississippi River in the states of Illinois and Missouri, which share a common problem of repeated slope stability failures. The levees are all located along the Mississippi River, extending from Alton, Illinois, (Mississippi River Mile 203) to Gale, Illinois, (Mississippi River Mile 46). See Figure 1.

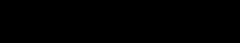
The original authorization for flood protection in the Alton to Gale reach of the Mississippi River was provided by Congress in the Flood Control Act of 1936 (P.L. 74-738). This authorized protection projects for the following 11 levee districts: Perry County Drainage and Levee Districts Numbered 1, 2, and 3 (currently known as Bois Brule Drainage and Levee District), Columbia Drainage and Levee District Numbered 3, Degognia-Fountain Bluff Levee and Drainage District, East Cape Girardeau and Clear Creek Drainage District, East St. Louis (currently known as Metro East Sanitary District), Fort Chartres and Ivy Landing Drainage District Numbered 5, Clear Creek Drainage and Levee District, Harrisonville and Ivy Landing Drainage and Levee District Numbered 2, North Alexander Drainage and Levee District, Preston Drainage and Levee District, and Wilson and Wenkel and Prairie du Pont Drainage and Levee Districts.

The Flood Control Act of 1938 (P.L. 75-761) added flood protection authorization for Grand Tower Drainage and Levee District, Kaskaskia Island Drainage and Levee District, Miller Pond Drainage District, Springtown – Fort Chartres and Ivy Landing, and the Wood River Drainage and Levee District. The Flood Control Act of 1946 (P.L. 79-526) authorized flood protection for Prairie du Rocher.

The Alton to Gale levees have experienced a significant number of levee slope failures (slides) which have severely reduced the ability of these levees to continuously provide the authorized level of flood protection. Numerous areas are deficient and unstable as exhibited by continuous slides which began shortly after the levees were constructed. The inappropriate use of high plasticity soils during construction resulted in factors of safety of approximately 1.0, which does not meet Corps criteria for safety considerations. The high plasticity soils must be replaced or chemically modified to lower the risk of failure and meet the standard Corps of Engineers criteria for flood risk management projects. The unstable levee slopes result in a risk of levee embankment failure due to the reduced cross sectional area for floodwater retention. Should a failure occur during a high water event, a breach in the flood protection system is possible. Due to the existing knowledge and experience with the project deficiency and associated repairs this study is not expected to be challenging.

The 2010 Draft LRR proposed four basic alternative plans for repairing levee reaches that are experiencing excessive slope failures. The first alternative plan was to degrade the affected levee reach by excavating the entire levee embankment material down to natural ground, modify the soils by mixing in a hydrated lime, backfilling these modified materials, and compacting the fill in place. The second alternative was to excavate the upper levee embankment materials down a minimum of seven feet, modify plasticity of the soils by mixing in a hydrated lime, backfilling these modified materials, and compacting the fill in place. The third alternative was to remove and discard the upper levee embankment materials down a minimum of seven feet, replace the high plasticity clays with suitable borrow material consisting of clays with better material characteristics and compacting the fill in place. The fourth alternative was to inject a lime and class C fly-ash slurry at regular intervals into the existing levee slope, which will fill the cracks that form as a result of shrinking and swelling and increase shear strength in the weakness planes.

The alternative for fly ash injection was recently determined to be unreliable as a long-term solution to the slope stability problem. Experience in recent applications indicates that this technique results in slope failures after ten to fifteen years. Therefore, this alternative is no longer under consideration and the recommended plan will be selected from the remaining three alternatives. Preliminary estimates of the costs of these three alternatives range from



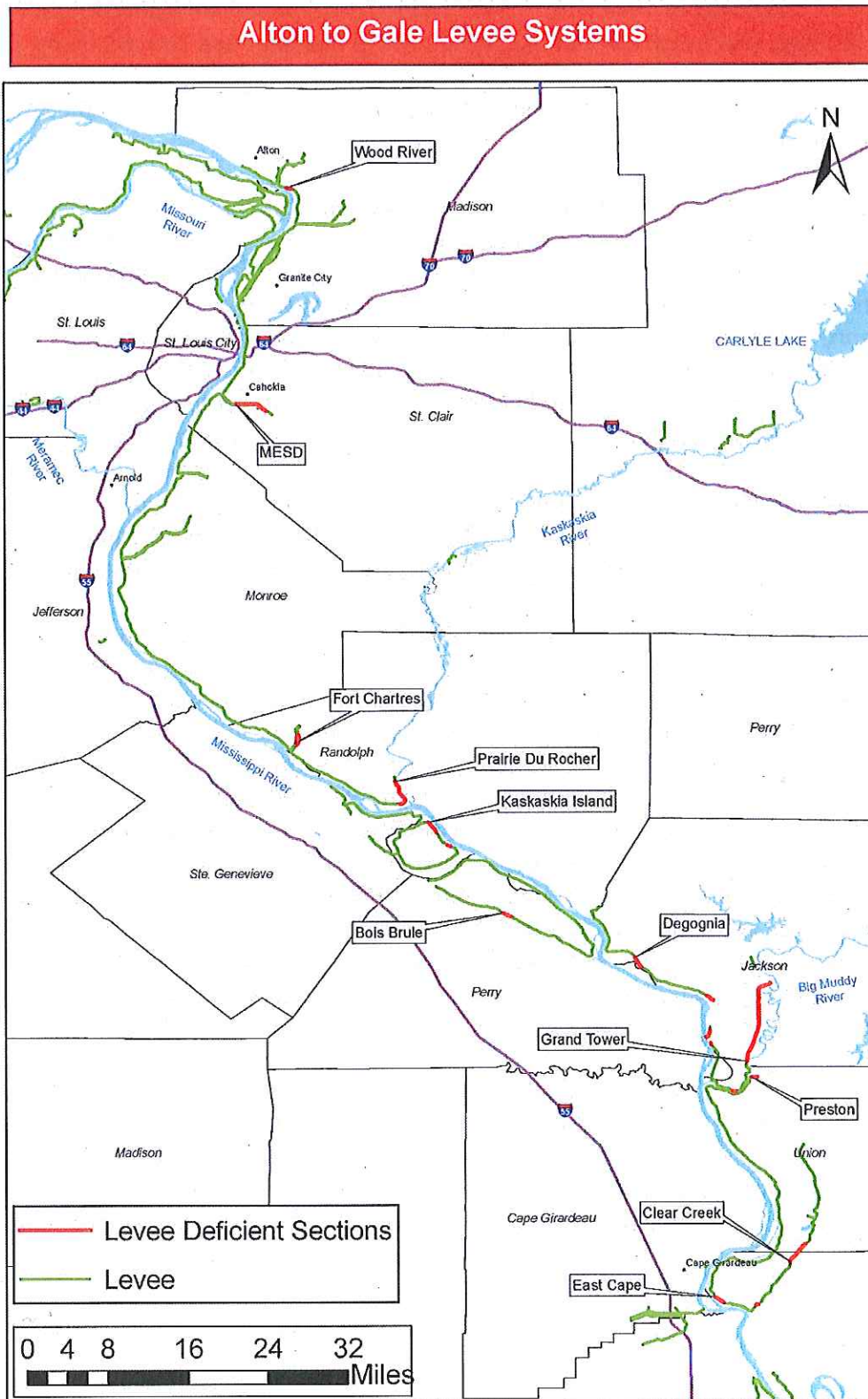


Figure 1. The Alton to Gale Levees

d. Factors Affecting the Scope and Level of Review.

- A Type I IEPR was conducted on the draft LRR (formerly called a Letter Report) in August 2010. That draft report included the same four alternatives in the final array that are still under consideration and there has been no substantive change to the analyses that were reviewed at that time.
- Although the study has completed Type I IEPR and progressed to the draft report stage, it has been determined that an Alternatives Formulation Briefing (AFB) will be required prior to release for public review.
- There are no hydrologic or hydraulic analyses developed for this study. The water profiles utilized by the geotechnical and economic analyses were generated by the Upper Mississippi River Flow Frequency Study (January 2004), which underwent DQC and ATR at that time. This is the best current hydrology and hydraulics information available for the Upper Mississippi River and is commonly used for studies considering the effects of Mississippi River water elevations.
- The study will not be challenging. It will rely on standard engineering analysis.
- The single biggest project risk lies in the uncertainty of where levee slides may occur in the future and, therefore, where to apply the stabilization method(s). To reduce this risk, the PDT has utilized past slide data and soils information to aid engineering judgment about where to apply the alternative methods of levee stabilization.
- The project will not be justified by life safety but, like nearly all flood risk management projects, the project will involve a threat to human life and safety. While the nature of the flooding would provide ample warning prior to any possible non-performance scenario, non-performance could result in significant inundation of homes, businesses, and transportation routes. The project would reduce the current flooding risk but will not remove the residual risk. The St. Louis District Chief of Engineering and Construction supports this conclusion that the project has a life safety risk.
- There is no request by either Governor for a peer review by independent experts.
- There is not likely to be significant public dispute as to the size, nature, or effects of the project because the levees are already in existence and the deficiency correction reduces the current risk.
- The project/study is not likely to involve significant public dispute as to the economic or environmental cost or benefit of the project because it simply makes corrections to the performance of the existing levee and involves only minor construction activities outside of the existing project footprint.
- The design will not be based on novel methods or innovative materials or techniques. It will not present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices. While preliminary measures included somewhat innovative materials (fly ash injection) the final array of alternatives utilize conventional methods of flood risk reduction.
- The design effort and construction will utilize conventional techniques and will not require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule.

- e. **In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. The in-kind products and analyses to be provided by the non-Federal sponsor include: None.

4. DISTRICT QUALITY CONTROL (DQC)

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

DQC efforts will include the necessary expertise to address compliance with published Corps policy. Reviews under this heading may include technical reviews performed within the District/Division boundaries; over the shoulder peer reviews; and Bid-ability, Constructability, Operability, and Environmental (BCOE) Reviews.

a. Decision Document

- i. **Documentation of DQC.** DQC will be performed after the PDT has performed a thorough initial quality review. DQC will be documented in accordance with the MVS Process for District Quality Control (process number 22820) either in DrChecks or in a Word document and will be provided to the ATR team prior to the start of ATR.
- ii. **Products to Undergo DQC.** Products to undergo DQC include the AFB package, Draft and Final LRR (including appendices).
- iii. **Required DQC Expertise.** All disciplines contributing to the LRR will have a corresponding DQC reviewer who has not been directly involved in the development of the product being reviewed. See Attachment 1 for a list of PDT disciplines. Quality checks may be performed by staff responsible for the work, such as supervisors, work leaders, team leaders, designated individuals from the senior staff, or other qualified personnel. However, they should not be performed by the same people who performed the original work, including managing/reviewing the work in the case of contracted efforts.

b. Implementation Documents

- i. **Documentation of DQC.** DrChecks review software will be used to document all DQC comments, responses and associated resolutions accomplished throughout the review process.
- ii. **Products to Undergo DQC.** Key products for review include plans, specifications, design documentation reports, and cost estimate for the final design review.

- iii. **Required DQC Team Expertise:** All disciplines contributing to the Design Documentation Report or plans and specifications will have a corresponding DQC reviewer who has not been directly involved in the development of the product being reviewed. See Attachment 1 for a list of PDT disciplines. Additionally, a DQC member will be assigned from the MVD Dam and Levee Safety Production Center to evaluate the information describing the levee safety risk assessments and the results of levee safety screening reports.

Quality checks may be performed by staff responsible for the work, such as supervisors, work leaders, team leaders, designated individuals from the senior staff, or other qualified personnel. However, they should not be performed by the same people who performed the original work, including managing/reviewing the work in the case of contracted efforts.

5. AGENCY TECHNICAL REVIEW (ATR)

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

a. Decision Document

- i. **Products to Undergo ATR.** ATR is proposed for the AFB package, Draft Report and Final Report (all including NEPA and supporting documentation).
- ii. **Required ATR Team Expertise.** ATR expertise will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), Subject Matter Experts (SME), etc) and may be supplemented by outside experts as appropriate. The disciplines represented on the ATR team will reflect the significant disciplines involved in the planning, engineering, and design effort. The table below describes the ATR expertise required for the LRR.

A Hydrology and Hydraulics representative is not needed for the ATR team because there have been no new H&H analyses developed for the study. Rather, the study utilizes data from the Upper Mississippi River Flow Frequency Study (2004) that previously underwent ATR.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with extensive experience in preparing Civil Works decision 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, economics, environmental resources, etc). The ATR Lead will participate in all milestone reviews and in-progress reviews.
Planning	The Planning reviewer should be a senior water resources planner with experience in the civil works process and current flood risk management planning and policy guidance.
Economics	Team member will be experienced in civil works and related flood risk management projects and have an understanding of Hydrologic Engineering Center Flood Damage Assessment (HEC- FDA). Reviewer should have experience with both structural and agricultural damage assessment.
Environmental Resources	Team member will be experienced in National Environmental Policy Act (NEPA) process and analysis, and have a biological or environmental background.
Risk Analysis	The risk analysis reviewer will be experienced with performing and presenting risk analyses in accordance with ER 1105-2-101 and other related guidance, including familiarity with how information from the various disciplines involved in the analysis interact and affect the results. The risk reviewer may also perform ATR for another discipline.
Geotechnical Engineering	Team member will be experienced in levee design and slope stability. A certified professional engineer (PE) is recommended.
Civil Engineering	This discipline may require a dedicated team member, or may be satisfied by a geotechnical reviewer, depending on individual qualifications. Team member will have experience in flood risk management projects. A certified professional engineer (PE) is suggested.
Cost Engineering	Team member will be familiar with cost estimating for similar civil works projects using MCACES. Team member will be a Certified Cost Technician, Certified Cost Consultant, or Certified Cost Engineer.
Real Estate	Team member will have expertise in real estate acquisition laws, policies and guidance for Federal and Federally funded projects, including civil works cost shared water resource projects. Team member shall have experience working with and providing oversight to non-Federal sponsors on real estate issues.

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

- (1) The review concern – identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;
- (2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not been properly followed;
- (3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and
- (4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

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

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

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

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

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a

Statement of Completion of Agency Technical Review after each ATR event documenting that the issues raised by the ATR team have been resolved (or elevated to the vertical team). For each review, a Statement of Completion of Agency Technical Review will be prepared by the ATR Lead and District Leadership will provide Certification of Agency Technical Review in accordance with EC 1165-2-214. A sample Statement of Agency Technical Review and District Certification of Agency Technical Review is included in Attachment 2.

b. Implementation Documents

- i. **Products to Undergo ATR.** The Design Documentation Report (DDR), and all plans and specifications and government estimates will undergo ATR.
- ii. **Required ATR Team Expertise.** ATR expertise will vary based on the particular needs of each product, but will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), Subject Matter Experts (SME), etc) and may be supplemented by outside experts as appropriate. The ATR team and the review itself will be scaled to the size and complexity of the individual products being reviewed. The disciplines represented on the ATR team will reflect the significant disciplines involved in the engineering, design and construction of each project feature. The table below describes the potential ATR expertise required for the implementation documents.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with extensive experience in preparing DDR's and P&S, 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.
Plan Formulation	The plan formulation reviewer should be a senior plan formulator with experience conducting flood risk management studies.
Environmental Resources	The environmental reviewer should be experienced in National Environmental Policy Act (NEPA) process and analysis, and have a biological or environmental background.
Geotechnical Engineering	The geotechnical reviewer should have experience with issues related to levee design and slope stability. A certified Professional Engineer (PE) is recommended.
Civil Engineering	The civil engineering reviewer should have experience in civil works and flood risk management studies.
Cost Engineering	The cost reviewer will be Cost DX Staff or a Cost DX Pre-Certified Professional with experience preparing cost estimates.

Real Estate	The Real Estate Reviewer will be a Senior Real Estate Specialist with experience in real estate requirements for civil works projects..
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- iii. **Documentation of ATR.** The documentation of ATR for the implementation documents will be handled in the same manner as documentation of ATR for the decision document. Please refer to Section 5.a.iii for information regarding this process.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-214, 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 1165-2-214.
 - **Type II IEPR.** Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.
- a. **Decision on IEPR.** Based on the guidance in EC 1165-2-214 and section 1044(a) of WRRDA 2014, the LRR meets the following mandatory triggers for Type I IEPR: significant threat to human life and cost estimate over [REDACTED]

However, a Type I IEPR was conducted for the Draft Report in August 2010 and five panel members reviewed the geotechnical engineering, civil engineering, economics, costs, and environmental aspects of the study. The current report will not include any new analyses that were not already reviewed during the previous Type I IEPR. It will only document why the originally recommended plan is no longer viable, identify a new recommended plan from the remaining three alternatives previously considered, and update the project costs and economics to reflect current price levels. Therefore, it is anticipated that the change will be so limited in scope that it would not significantly benefit from a second Type I IEPR. The comments received during the Type I IEPR in August 2010 will be referenced and addressed, as appropriate, in the current LRR. The draft agency response document is being prepared and will be completed concurrent with completion of the LRR. A list of the panel members involved in the 2010 Type I IEPR can be found in Attachment 1.

Because of the significant threat to human life, a Type II IEPR will be conducted during the project's implementation phase.

- b. Products to Undergo Type I IEPR.** Not Applicable.
- c. Products to Undergo Type II IEPR.** External panels will conduct reviews of the design and construction activities prior to the initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule, and before substantial completion of construction activities. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health, safety, and welfare. While final project features have not yet been identified, it is anticipated that, at a minimum, the SAR will start at the 65% Plans and Specifications stage and continue through the end of construction..
- c. Required Type I IEPR Panel Expertise.** Not Applicable.
- d. Required Type II IEPR Panel Expertise.**

The type of expertise needed on the Type II IEPR panel will depend on the features that will be designed and constructed. The panel members will be comprised of individuals that have not been involved in the development of the designs and meet the National Academy of Sciences guidelines for independence. In general, based on the nature of the alternative being considered in the LRR, the following types of expertise may be represented on the Type II IEPR team:

- (1) IEPR team leader. The IEPR team leader shall hold a professional license in structural or civil engineering with a MS degree or higher civil or structural engineering. The IEPR leader shall have a minimum of 20 years of design experience and experience with multi-million dollar, flood risk management projects. The team leader shall be a recognized leader with good communication skills to lead a diverse review team comprised of individuals located across the nation.
- (2) Civil. The reviewer for civil features shall be a registered professional engineer with a minimum MS degree or higher in civil or construction engineering. The reviewer

shall have a minimum of 20 years experience in the design, layout, and construction of large urban flood risk management projects to include knowledge regarding levees, interior drainage facilities, earthwork, and design of access roads. The reviewer must be familiar with USACE regulations and standards.

- (3) Geotechnical. The reviewer for geotechnical features shall be a registered professional engineer with a minimum BS degree or higher in civil or geotechnical engineering. Reviewer shall have a minimum of 20 years experience in subsurface investigations, levee design, slope stability evaluations, and construction and earthwork construction. The reviewer must be familiar with USACE regulations and standards.

e. Documentation of Type I IEPR: Not Applicable

f. Documentation of Type II IEPR.

The Type II IEPR panel is responsible for preparing a review report. All review panel comments shall be entered as team comments representing the group not a specific individual. The team lead is to seek consensus, but where there is a lack of consensus, note the non-concurrence and why. A suggested report outline includes the following:

- Introduction
- Composition of the review team
- Summary of the review during design
- Summary of the review during construction
- Lessons learned in both the process and/or design and construction
- Appendices for disclosure of conflict forms and for comments to include any appendices for support analyses and assessments of the adequacy and acceptability of the methods, models, and analyses used

All comments in the report will be finalized by the panel prior to their release to the District for each Type II IEPR review milestone.

The District Chief of Engineering and Construction is responsible for coordinating with the RMO, for attending review meetings with the Type II IEPR panel, communicating with the agency or contractor selecting the panel members, and for coordinating the approval of the final report with the MSC Chief of Business Technical Division.

After receiving a report on a project from the peer review panel, the District Chief of Engineering and Construction, with full coordination with the Chief of Operations, shall consider all comments contained in the report and prepare a written response for all comments and note concurrence and subsequent action or non-concurrence with an explanation. The District Chief of Engineering shall submit the panel's report and the District's responses to the MSC Chief of Business Technical Division for final review and concurrence. The final report is then presented to the MSC Commander for approval. After MSC Commander approval, the report and responses shall be made available to the public on the District's website.

7. POLICY AND LEGAL COMPLIANCE REVIEW

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

Implementation documents are not subject to the same level of policy and legal review required for decision documents.

8. COST ENGINEERING AND ATR MANDATORY CENTER OF EXPERTISE (MCX) REVIEW AND CERTIFICATION

All decision documents and construction cost estimates shall be coordinated with the Cost Engineering and ATR MCX, located in the Walla Walla District. The MCX will assist in determining the expertise needed on the ATR team and Type I IEPR team (if required) and in the development of the review charge(s). The MCX will also provide the Cost Engineering certification for the decision document. There is no cost certification associated with implementation documents. The RMO is responsible for coordination with the Cost Engineering MCX.

9. MODEL CERTIFICATION AND APPROVAL

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

EC 1105-2-412 does not cover engineering models used in planning or models used for implementation products. The responsible use of well-known and proven USACE 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 USACE 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).

- a. Planning Models.** The following planning models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
HEC-FDA 1.2.5a (Flood Damage Analysis)	The Hydrologic Engineering Center's Flood Damage Reduction Analysis (HEC-FDA) program provides the capability for integrated hydrologic engineering and economic analysis for formulating and evaluating flood risk management plans using risk-based analysis methods. The program will be used to evaluate and compare the future without- and with-project plans to aid in the selection of a recommended plan to manage flood risk.	Certified

It is anticipated that all of the alternatives can be implemented utilizing the levee right of way and the levee right of way has been well maintained. Therefore no environmental impacts are anticipated which would require mitigation and no mitigation model is planned for use.

- b. Engineering Models.** The following engineering models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
SLOPE/W	SLOPE/W is the leading slope stability CAD software product for computing the factor of safety of earth slopes. SLOPE/W can effectively analyze both simple and complex problems for a variety of slip surface shapes, pore-water pressure conditions, soil properties, analysis methods and loading conditions. This program will be utilized for both drained and undrained slope stability to evaluate the potential modes of failure for the Alton to Gale levees.	Not on the CoP list. Commonly used for Corps projects.
SEEP/W	SEEP/W is a finite element CAD software product for analyzing groundwater seepage and excess pore-water pressure dissipation problems within porous materials such as soil and rock. The program will be utilized to determine steady state flow conditions within a levee embankment. The pore water pressures calculated will then be utilized in a slope stability model within the same cross section.	CoP Allowed

MII (Second Generation MCACES software)	The MII cost engineering program will be utilized to develop construction costs of study alternatives. MII provides an integrated cost estimating system (software and databases) that meets the U.S. Army Corps of Engineers (USACE) requirements for preparing cost estimates.	Enterprise Model
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10. REVIEW SCHEDULES AND COSTS

- a. ATR Schedule and Cost.** The ATR will occur for the AFB document, draft and final LRR and during key stages in the P&S (including the associated DDR) for each feature completed. The cost estimate for the AFB Document is based on the number of reviewers previously identified in Section 5. The number of reviewers for the Draft and Final Reports are currently unknown, since it will be determined by the nature and significance of the changes to the report after the AFB and after public review. Therefore the cost estimate for ATR of the Draft and Final Reports may be highly variable and the estimate provided shows a relatively moderate amount of change. The following is a preliminary ATR schedule:

Product	Start Date	Duration	Cost Estimate
AFB Document (complete)	November 2014	6 weeks	
Draft Report	January 2016	4 weeks*	
Final Report	April 2016	4 weeks*	
35% Plans and Specs and DDR	TBD – est. 2018	4 weeks	
65% Plans and Specs and DDR	TBD – est. 2019	4 weeks	
95% Plans and Specs and DDR	TBD – est. 2019	4 weeks	
Government Estimate	TBD – est. 2019	2 weeks	

*Actual duration/ cost dependent on significance of changes from the previous Report.

- b. Type I IEPR Schedule and Cost.** Not Applicable.
- c. Type II IEPR Schedule and Cost.** Milestones to consider for a Type II IEPR (SAR) are at the record of final design in the DDR; at the completion of the plans, specifications, and cost estimate; at the midpoint of construction for a particular contract, prior to final inspection, or at any critical design or construction decision milestone. The IEPR schedule is established by the RMO in conjunction with the District (PM and PDT).

The schedule of the SAR team involvement as well as the cost of this review will be dependent on what kind of features are being designed and constructed. At a minimum, the SAR will start at the 65% Plans and Specifications stage and continue through the end of construction. It is anticipated that this review will cost between [REDACTED].

- d. Model Certification/Approval Schedule and Cost.** All of the models anticipated to be used are already certified or approved for use.

11. PUBLIC PARTICIPATION

As required by EC 1165-2-214, the approved Review Plan will be posted on the District public website (<http://www.mvs.usace.army.mil/pm/pmPeerReview.html>). Information will be conveyed to the public through the use of press releases and media interviews, as necessary, and through the use of posting information to the St. Louis District's website. The LRR and EA will undergo a 30-day public review period following ATR of the Draft Report. Comments received during the public review will be provided to the ATR team during the review of the final report. There is no formal public review for the DDR, plans and specifications and construction phases.

12. REVIEW PLAN APPROVAL AND UPDATES

The Mississippi Valley Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the project. Like the PMP, the Review Plan is a living document and may change as the study progresses. The home district is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last MSC Commander approval are documented in Attachment 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, should be posted on the Home District's webpage. The latest Review Plan should also be provided to the RMO and home MSC.

13. REVIEW PLAN POINTS OF CONTACT

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

- | | |
|--|--------------|
| ▪ Project Manager, St. Louis District | 314-331-8286 |
| ▪ District Support Team, Mississippi Valley Division | 601-634-5293 |
| ▪ Deputy Director, Flood Risk Management PCX | 415-503-6852 |
| ▪ Risk Management Center Review Manager | 304-399-5217 |

ATTACHMENT 1: TEAM ROSTERS**PROJECT DELIVERY TEAM**

Name	Discipline	Phone	Email
	Project Manager		
	Plan Formulation		
	Civil Design		
	Environmental		
	Economics		
	Cost Engineering		
	Real Estate Acquisition		
	Real Estate Appraisals		
	Cultural Resources		
	Geotechnical Engineering		
	Regulatory		

AGENCY TECHNICAL REVIEW TEAM

Name	Discipline	Phone	Email
	ATR Leader		
	Plan Formulation		
	Environmental		
	Economics and Risk Analysis		
	Cost Engineering		
	Real Estate/Lands		
	HTRW		
	Geotechnical Engineering and Civil		

INDEPENDENT EXTERNAL PEER REVIEW PANEL

Name	Discipline	Phone	Email
	Geotechnical		
	Civil Engineering		
	Cost Engineering		
	Economics		
	Environmental		

VERTICAL TEAM

Name	Discipline	Phone	Email
	District Support Team Lead		
	Regional Integration Team		

PLANNING CENTER OF EXPERTISE for FLOOD RISK MANAGEMENT

Name	Discipline	Phone	Email
██████████	Deputy Director, PCX Flood Risk Management	████████████████████	████████████████████

RISK MANAGEMENT CENTER

Name	Discipline	Phone	Email
██████████	Review Manager	████████████████████	████████████████████

ATR TEAM QUALIFICATIONS

ATRT Lead – ██████████ P.E., Civil Engineer, CESWF-PEC-PF (Tulsa, OK) – ██████████ is a civil works water resources planner in the Plan Formulation Section of the Southwestern Division Office (SWD) Regional Planning and Environmental Center (RPEC). He has 37 years of experience with the Corps of Engineers, Tulsa District. ██████████ is a SWD regional technical specialist (RTS) for plan formulation and National Environmental Policy Act evaluation of flood risk management (FRM), ecosystem restoration (ECO), and water management and reallocation studies (WMRS). He has been both study manager and project manager for many Tulsa District planning studies that involved flood risk management, ecosystem restoration, comprehensive watershed studies, water supply, reservoir storage reallocation, navigation, hydropower, and chloride control. ██████████ has worked in hydrology, design, project management, and civil works planning offices within the Tulsa District. He currently provides support for offices within the RPEC and Districts within SWD, three planning centers of expertise (PCX) review management organizations (RMO) for FRM, ECO, and WMRS, multiple division office RMOs across the Corps, and the Risk Management Center (RMC). He has participated in or lead roughly 100 ATRs or DQCs.

Plan Formulation and Policy – ██████████ CESWF-PEC-PF (Tulsa, OK), ██████████ is a lead water resources planner for the U.S. Army Corps of Engineers, Tulsa District. ██████████ also serves as Project Manager for assigned projects. His professional experience includes planning and management of watershed studies and projects for flood control, stream bank erosion, and ecosystem restoration in southern Kansas, Oklahoma, northern Texas, and the western United States. ██████████ began his Corps career as a study manager in February 1987 in the Planning and Environmental Division. Prior to his Corps career, he worked as a structural engineer at a consulting engineering firm in Tulsa, Oklahoma. ██████████ is a native Oklahoman. He graduated from Oklahoma State University with a

Bachelor's Degree in Architecture and a Master's Degree in Architectural Engineering.

Civil Design - [REDACTED] CEMVM. [REDACTED] has 13 years of Civil/Geotechnical engineering experience in both the private sector and with the USACE. For the last 4-1/2 years he has been the Supervisor for the Civil Design Team in the Memphis District of the U.S. Army Corps of Engineers. He leads a team of civil engineers and technicians through study, design and development of construction plans and specifications within the St. Francis and Mississippi River Levees Maintenance and Construction projects with work consisting of channel cleanouts/enlargements, channel clearing and snagging, grade control structures, bridge protection, levee restorations and setbacks, pump stations, relief wells, and gravel resurfacing. [REDACTED] has prepared multiple technical reviews for the LPV and WBV hurricane protection projects in New Orleans. He has performed numerous System Consistency Reviews and other reviews for projects across the Corps. He is also technical manager for the Bayou Meto Basin, Arkansas Project in the Memphis District.

Economics - [REDACTED] IWR. [REDACTED] has 20 years of experience as an economist and planner with the Corps of Engineers. [REDACTED] is presently a regional economist with the Galveston District. He previously worked as a senior economist/planner at the Institute for Water Resources and was chief of the economics section in the Alaska District from 2002-2006. Prior to those assignments, [REDACTED] was a regional economist with the Little Rock District. While at IWR, he worked with a team to develop and implement risk-informed planning processes, with a particular focus on flood risk management and coastal storm damage reduction. In Alaska his work included extensive involvement in small boat harbor and flood & coastal storm damage evaluations. In the Little Rock District he conducted planning studies and economic evaluations across multiple Corps missions. He introduced risk analysis techniques into the District's evaluations of three hydropower projects in the mid-90's and served on the SWD regional technical team for hydropower rehab studies. [REDACTED] also incorporated risk & uncertainty analyses into flood damage reduction studies and completed many water supply reallocation, inland navigation, agricultural flood damage, and stream-bank erosion studies. He started his Corps career as a Dept of the Army intern with the Los Angeles District from 1989-1991. He works remotely from the Galveston District Office, Galveston, Texas.

Biologist - [REDACTED] CESWF-PEC. [REDACTED] has over 20 years experience in land and water resources planning and natural resources management at the Federal level, with over 15 years experience specifically

in researching, writing, and reviewing NEPA documents. He has served USACE in both planning and environmental compliance. [REDACTED] and prepared numerous Environmental Assessments and has overseen the preparation of several Environmental Impact Statements. [REDACTED] educational career includes a BS degree in Recreation, Park and Tourism Sciences from Texas A&M University, College Station, TX and an MS in Environmental Science from Tarleton State University, Stephenville, TX.

Civil/Geotechnical Engineering - [REDACTED], P.E. [REDACTED] is a registered Professional Engineer in the state of Michigan, and has a Bachelor's of Science degree in civil engineering from Michigan Technological University. [REDACTED] joined the Rock Island District Corps of Engineers in September 2005 and has been working in the geotechnical engineering branch since then.

Real Estate - [REDACTED], CELRL-RE-C. [REDACTED] has over 13 years of professional experience in the Real Estate Memphis and Louisville Districts, Corps of Engineers as an Appraiser. He has a B.B.A. in Real Estate from the University of Memphis. Prior employment included Tennessee Department of Transportation with over 14 years of professional experience in the Real Estate division as an Appraiser. [REDACTED] was assigned in 2001 to the Appraisal Branch as a staff appraiser in the Memphis District and was promoted to Lead Appraiser in the Louisville District in 2008 which is his current position. Leslie holds the Certified General Appraisal License and holds two Appraisal Delegation, (IFAS (Senior member Independent Fee Appraiser, and SR/WA Senior member of Society of Right of Way Appraisers). He as the Lead Appraiser has performed numerous formal reviews for in-house and other government agencies including FAA, Military, Reserves, Recruiting, and Civil appraisals. He has prepare costs estimates, gross appraisals, real estate plans, tract appraisals, and LERRDs crediting for the Real Estate Division.

Cost Engineering - [REDACTED], P.E. CENWW. [REDACTED] is the Technical Cost Engineering Lead for the Cost Engineering District of Expertise (DX) for Civil Works located in Walla Walla, WA. [REDACTED] has 12 years of civil and military cost engineer experience. He has been the lead estimator in Albuquerque, NM, Chief of Cost - Europe, and lead estimator Walla Walla, WA. He has 11 years civil works construction experience in Wyoming, Europe, and Walla Walla, WA. [REDACTED] has 5 years military and civil project manager experience for Europe and Albuquerque projects. [REDACTED] has participated on numerous technical review teams, including several projects with cost estimates greater than \$1billion. [REDACTED] is the Cost DX ATR Coordinator, is a Certified Cost Engineer, and has his PM1 Certification.

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 1165-2-214. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrCheckssm.

SIGNATURE

Name

ATR Team Leader

Office Symbol/Company

Date

SIGNATURE

Name

Project Manager

Office Symbol

Date

SIGNATURE

Name

Architect Engineer Project Manager¹

Company, location

Date

SIGNATURE

Name

Review Management Office Representative

Office Symbol

Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

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

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

SIGNATURE

Name

Chief, Engineering Division

Office Symbol

Date

SIGNATURE

Name

Chief, Planning Division²

Office Symbol

Date

¹ Only needed if some portion of the ATR was contracted

² Decision documents only

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: 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
EA	Environmental Assessment	OEO	Outside Eligible Organization
EC	Engineer Circular	OSE	Other Social Effects
EIS	Environmental Impact Statement	PCX	Planning Center of Expertise
EO	Executive Order	PDT	Project Delivery Team
ER	Ecosystem Restoration	PAC	Post Authorization Change
FDR	Flood Damage Reduction	PMP	Project Management Plan
FEMA	Federal Emergency Management Agency	PL	Public Law
FRM	Flood Risk Management	QMP	Quality Management Plan
FSM	Feasibility Scoping Meeting	QA	Quality Assurance
GRR	General Reevaluation Report	QC	Quality Control
Home District/MS	The District or MSC responsible for the preparation of the decision document	RED	Regional Economic Development
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMC	Risk Management Center
IEPR	Independent External Peer Review	RMO	Review Management Organization
ITR	Independent Technical Review	RTS	Regional Technical Specialist
LRR	Limited Reevaluation Report	SAR	Safety Assurance Review
MCX	Mandatory Center of Expertise	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WRDA	Water Resources Development Act

Review Plan Checklist For Decision Documents

Date: 9/2/15

Originating District: St. Louis District

Project/Study Title: Alton to Gale Organized Levee District, IL & MO, LRR

PWI #: 075423

District POC: [REDACTED]

PCX Reviewer: Eric Thaut (FRM-PCX)

Please fill out this checklist and submit with the draft Review Plan when coordinating with the appropriate PCX. Any evaluation boxes checked 'No' indicate the RP may not comply with ER 1105-2-410 (22 Aug 2008) 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 stand alone document?	EC 1105-2-410, Para 8a	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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? b. Does it include a table of contents? c. Is the purpose of the RP clearly stated and EC 1105-2-410 referenced? d. Does it reference the Project Management Plan (PMP) of which the RP is a component? e. Does it succinctly describe the three levels of peer review: District Quality Control (DQC), Agency Technical Review (ATR), and Independent External Peer Review (IEPR)? f. Does it include a paragraph stating the title, subject, and purpose of the decision document to be reviewed? g. Does it list the names and disciplines of the Project Delivery Team (PDT)?*	EC 1105-2-410, Appendix B, Para 4a	a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> f. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> g. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Comments: The review plan meets the Civil Works review requirements outlined in EC 1165-2-214.
<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>		

2. Is the RP detailed enough to assess the necessary level and focus of peer review?	EC 1105-2-410, Appendix B, Para 3a	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it indicate which parts of the study will likely be challenging?</p> <p>b. Does it provide a preliminary assessment of where the project risks are likely to occur and what the magnitude of those risks might be?</p> <p>c. Does it indicate if the project/study will require preparation of an environmental impact statement (EIS)?</p> <p><i>Will an EIS be prepared? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>d. Does it address if the project report is likely to contain influential scientific information or be a highly influential scientific assessment?</p> <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>e. Does it address if the project is likely to have significant economic, environmental, and social affects to the nation, such as (but not limited to):</p> <ul style="list-style-type: none"> • more than negligible adverse impacts on scarce or unique cultural, historic, or tribal resources? • substantial adverse impacts on fish and wildlife species or their habitat, prior to implementation of mitigation? • more than negligible adverse impact on species listed as endangered or threatened, or to the designated critical habitat of such species, under the Endangered Species Act, prior to implementation of mitigation? <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p>	<p>EC 1105-2-410, Appendix B, Para 3a</p> <p>EC 1105-2-410, Appendix B, Para 3a</p> <p>EC 1105-2-410 Para 7c & 8f</p> <p>EC 1105-2-410, Appendix B, Para 4b</p> <p>EC 1105-2-410, Para 6c</p> <p>EC 1105-2-410 Para 8f</p> <p>EC 1105-2-410 Para 8f</p> <p>EC 1105-2-410 Para 8f</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments:</p>

<p>f. Does it address if the project/study is likely to have significant interagency interest?</p> <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>g. Does it address if the project/study likely involves significant threat to human life (safety assurance)?</p> <p><i>Is it likely? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>h. Does it provide an estimated total project cost?</p> <p><i>What is the estimated cost: <u>\$264M</u></i> <i>(best current estimate; may be a range)</i></p> <p><i>Is it > \$45 million? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>i. Does it address if the project/study will likely be highly controversial, such as if there will be a significant public dispute as to the size, nature, or effects of the project or to the economic or environmental costs or benefits of the project?</p> <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>j. Does it address if the information in the decision document will likely be based on novel methods, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices?</p> <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i> <i>If yes, IEPR is required.</i></p>	<p>EC 1105-2-410, Para 6c</p> <p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410, Appendix D, Para 1b</p>	<p>f. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>g. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>h. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>i. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>j. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments:</p>
<p>3. Does the RP define the appropriate level of peer review for the project/study?</p>	<p>EC 1105-2-410, Para 8a</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it state that DQC will be managed by the home district in accordance with the Major Subordinate Command (MSC) and district Quality Management Plans?</p> <p>b. Does it state that ATR will be conducted or</p>	<p>EC 1105-2-410, Para 7a</p> <p>EC 1105-2-410,</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>

<p>managed by the lead PCX?</p> <p>c. Does it state whether IEPR will be performed?</p> <p><i>Will IEPR be performed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i></p> <p>d. Does it provide a defensible rationale for the decision on IEPR?</p> <p>e. Does it state that IEPR will be managed by an Outside Eligible Organization, external to the Corps of Engineers?</p>	<p>Appendix D, Para 3a</p> <p>EC 1105-2-410, Appendix B, Para 4b</p> <p>EC 1105-2-410, Para 7c</p>	<p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>Comments: Type I IEPR was performed in 2010 and the FRM-PCX has concluded that no additional Type I IEPR is required.</p>
<p>4. Does the RP explain how ATR will be accomplished?</p>	<p>EC 1105-2-410, Appendix B, Para 4l</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it identify the anticipated number of reviewers?</p> <p>b. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)?</p> <p>c. Does it indicate that ATR team members will be from outside the home district?</p> <p>d. Does it indicate that the ATR team leader will be from outside the home MSC?</p> <p>e. Does the RP state that the lead PCX is responsible for identifying the ATR team members and indicate if candidates will be nominated by the home district/MSC?</p> <p>f. If the reviewers are listed by name, does the RP describe the qualifications and years of relevant experience of the ATR team members?*</p> <p><i>*Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.</i></p>	<p>EC 1105-2-410, Appendix B, Para 4f</p> <p>EC 1105-2-410, Appendix B, Para 4g</p> <p>EC 1105-2-410, Para 7b</p> <p>EC 1105-2-410, Para 7b</p> <p>EC 1105-2-410, Appendix B, Para 4k(1)</p> <p>EC 1105-2-410, Appendix B, Para 4k(1)</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>f. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> n/a <input type="checkbox"/></p> <p>Comments: Team members are listed by name but qualifications are not provided.</p>
<p>5. Does the RP explain how IEPR will be</p>	<p>EC 1105-2-410,</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p>

accomplished?	Appendix B, Para 4k & Appendix D	
a. Does it identify the anticipated number of reviewers?	EC 1105-2-410, Appendix B, Para 4f	a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
b. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)?	EC 1105-2-410, Appendix B, Para 4g	b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
c. Does it indicate that the IEPR reviewers will be selected by an Outside Eligible Organization and if candidates will be nominated by the Corps of Engineers?	EC 1105-2-410, Appendix B, Para 4k(1) & Appendix D, Para 2a	c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
d. Does it indicate the IEPR will address all the underlying planning, safety assurance, engineering, economic, and environmental analyses, not just one aspect of the project?	EC 1105-2-410, Para 7c	d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
		Comments:
6. Does the RP address peer review of sponsor in-kind contributions?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
a. Does the RP list the expected in-kind contributions to be provided by the sponsor?	EC 1105-2-410, Appendix B, Para 4j	a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
b. Does it explain how peer review will be accomplished for those in-kind contributions?		b. Yes <input type="checkbox"/> No <input type="checkbox"/> n/a <input checked="" type="checkbox"/>
		Comments: There will be no in-kind contributions
7. Does the RP address how the peer review will be documented?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
a. Does the RP address the requirement to document ATR and IEPR comments using DrChecks?	EC 1105-2-410, Para 8g(1)	a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
b. Does the RP explain how the IEPR will be documented in a Review Report?	EC1105-2-410, Appendix B, Para 4k(13)(b)	b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/>
c. Does the RP document how written responses to the IEPR Review Report will be prepared?	EC 1105-2-410, Appendix B, Para 4l	c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/>
d. Does the RP detail how the district/PCX	EC 1105-2-410,	d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/>

will disseminate the final IEPR Review Report, USACE response, and all other materials related to the IEPR on the internet and include them in the applicable decision document?	Para 8g(2) & Appendix B, Para 4l	Comments:
8. Does the RP address Policy Compliance and Legal Review?	EC 1105-2-410, Para 7d	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Comments:
9. Does the RP present the tasks, timing and sequence (including deferrals), and costs of reviews?	EC 1105-2-410, Appendix B, Para 4c & Appendix C, Para 3d	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Comments:
<p>a. Does it provide a schedule for ATR including review of the Feasibility Scoping Meeting (FSM) materials, Alternative Formulation Briefing (AFB) materials, draft report, and final report?</p> <p>b. Does it include interim ATR reviews for key technical products?</p> <p>c. Does it present the timing and sequencing for IEPR?</p> <p>d. Does it include cost estimates for the peer reviews?</p>	<p>EC 1105-2-410, Appendix C, Para 3g</p> <p>EC 1105-2-410, Appendix C, Para 3g</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments: FSM is not addressed because the study has progressed beyond that point.</p>
<p>10. Does the RP indicate the study will address Safety Assurance factors?</p> <p>Factors to be considered include:</p> <ul style="list-style-type: none"> • Where failure leads to significant threat to human life • Novel methods\complexity\ precedent-setting models\policy changing conclusions • Innovative materials or techniques • Design lacks redundancy, resiliency of robustness • Unique construction sequence or acquisition plans • Reduced\overlapping design construction schedule 	EC 1105-2-410, Para 2 & Appendix D, Para 1c	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>Comments:</p>
11. Does the RP address model certification	EC 1105-2-407	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

requirements?		
<p>a. Does it list the models and data anticipated to be used in developing recommendations (including mitigation models)?</p> <p>b. Does it indicate the certification/approval status of those models and if certification or approval of any model(s) will be needed?</p> <p>c. If needed, does the RP propose the appropriate level of certification/approval for the model(s) and how it will be accomplished?</p>	<p>EC 1105-2-410, Appendix B, Para 4i</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input type="checkbox"/> No <input type="checkbox"/> n/a <input checked="" type="checkbox"/></p> <p>Comments:</p>
<p>12. Does the RP address opportunities for public participation?</p>		<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it indicate how and when there will be opportunities for public comment on the decision document?</p> <p>b. Does it indicate when significant and relevant public comments will be provided to reviewers before they conduct their review?</p> <p>c. Does it address whether the public, including scientific or professional societies, will be asked to nominate potential external peer reviewers?</p> <p>d. Does the RP list points of contact at the home district and the lead PCX for inquiries about the RP?</p>	<p>EC 1105-2-410, Appendix B, Para 4d</p> <p>EC 1105-2-410, Appendix B, Para 4e</p> <p>EC 1105-2-410, Appendix B, Para 4h</p> <p>EC 1105-2-410, Appendix B, Para 4a</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Comments:</p>
<p>13. Does the RP address coordination with the appropriate Planning Centers of Expertise?</p>	<p>EC 1105-2-410, Para 8a</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it state if the project is single or multi-purpose? Single <input checked="" type="checkbox"/> Multi <input type="checkbox"/> List purposes: FRM</p> <p>b. Does it identify the lead PCX for peer review? Lead PCX: FRM</p> <p>c. If multi-purpose, has the lead PCX coordinated the review of the RP with the other PCXs as appropriate?</p>	<p>EC 1105-2-410, Appendix D, Para 3c</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input type="checkbox"/> No <input type="checkbox"/> n/a <input checked="" type="checkbox"/></p> <p>Comments:</p>

14. Does the RP address coordination with the Cost Engineering Directory of Expertise (DX) in Walla Walla District for ATR of cost estimates, construction schedules and contingencies for all documents requiring Congressional authorization?	EC 1105-2-410, Appendix D, Para 3	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
a. Does it state if the decision document will require Congressional authorization? b. If Congressional authorization is required, does the state that coordination will occur with the Cost Engineering DX?		a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> b. Yes <input type="checkbox"/> No <input type="checkbox"/> n/a <input checked="" type="checkbox"/> Comments:
15. Other Considerations: This checklist highlights the minimum requirements for an RP based on EC 1105-2-410. Additional factors to consider in preparation of the RP include, but may not be limited to: a. Is a request from a State Governor or the head of a Federal or state agency to conduct IEPR likely? b. Is the home district expecting to submit a waiver to exclude the project study from IEPR? c. Are there additional Peer Review requirements specific to the home MSC or district (as described in the Quality Management Plan for the MSC or district)? d. Are there additional Peer Review needs unique to the project study?	EC 1105-2-410, Appendix D, Para 1b EC 1105-2-410, Appendix D, Para 1d	Comments:
Detailed Comments and Backcheck:		

Review Plan Checklist for Implementation Documents

Date: 9/2/15

Originating District: St. Louis District (MVS)

Project/Study Title: Alton to Gale Organized Levee Districts, IL & MO

PWI #: 075423

District POC: [REDACTED]

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	<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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No *follows EC 1165-2-214
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)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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.		

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Review Plan Checklist for Implementation Documents

REQUIREMENT	REFERENCE	EVALUATION
2. Documentation of risk-informed decisions on which levels of review are appropriate.	EC 1165-2-209, Appendix B, Para 4b	<input type="checkbox"/> Yes <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
b. Does it contain a summary of the CW implementation products required?	EC1165-2-209 Para 15	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
c. DQC is always required. The RP will need to address the following questions:	EC1165-2-209 Para 15a	<input type="checkbox"/> Yes <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No Identifies reviewers by type but not by name.
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

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REQUIREMENT	REFERENCE	EVALUATION
<p>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?*</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>	EC 1165-2-209 Appendix B, Para 4g	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Gives names and describes disciplines. Does not provide qualifications.
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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

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REQUIREMENT	REFERENCE	EVALUATION
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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
ix. Does the RP address Type II IEPR factors? Factors to be considered include: <ul style="list-style-type: none"> • 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. 		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

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REQUIREMENT	REFERENCE	EVALUATION
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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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? b. Does it discuss the schedule of when significant comments will be provided to the reviewers?	EC 1165-2-209, Appendix B, Para 4e	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

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REQUIREMENT	REFERENCE	EVALUATION
<p>7. Does the RP address whether the public, including scientific or professional societies, will be asked to nominate professional reviewers?*</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>	EC 1165-2-209, Appendix B, Para 4h	<p><input type="checkbox"/> Yes <input checked="" 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>8. Does the RP address expected in-kind contributions to be provided by the sponsor?</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>	EC 1165-2-209, Appendix B, Para 4j	<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>9. Does the RP explain how the reviews will be documented?</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 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>10. Has the approval memorandum been prepared and does it accompany the RP?</p>	EC 1165-2-209, Appendix B, Para 7	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>

Current Approved Version: May 6, 2011. Printed copies are for "Information Only." The controlled version resides on the MVD Regional QMS SharePoint Portal.