



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

REPLY TO
ATTENTION OF:

CEMVD-PD-SP

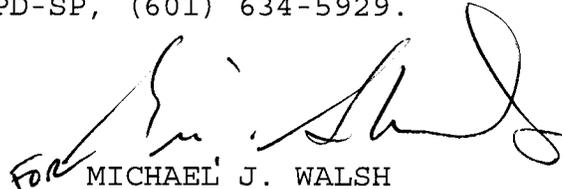
14 May 2009

MEMORANDUM FOR Commander, St. Louis District

SUBJECT: Review Plan Approval for Alton to Gale Organized Levee Districts, Illinois and Missouri

1. Reference memorandum, CESPDPDS-P, 23 April 2009, subject: Alton to Gale Organized Levee Districts, Illinois and Missouri, Flood Risk Management Design Deficiency Letter Report Review Plan (encl 1).
2. The Review Plan for the Alton to Gale Organized Levee District, Illinois and Missouri project has been prepared in accordance with EC 1105-2-410 (encl 2).
3. The Review Plan has been coordinated with the Flood Risk Management PCX which is the lead office to execute this plan. For further information, contact the PCX at (415) 503-6852. The Review Plan includes independent external peer review. The Review Plan will be made available for public comment.
4. I hereby approve this Review Plan, which is subject to change, as study circumstances require and consistent with study development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution will require new written approval from this office.
5. Questions concerning this matter should be addressed to Mr. Fredrick Ragan, CEMVD-PD-SP, (601) 634-5929.

2 Encls

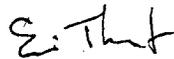
For  *CO, EN*
MICHAEL J. WALSH
Brigadier General, USA
Commanding *DEPT COL*

23 April 2009

MEMORANDUM FOR Susan Wilson, St. Louis District

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

1. The Flood Risk Management Planning Center of Expertise (FRM-PCX) has reviewed the Review Plan (RP) for the subject study and concurs that the RP satisfies peer review policy requirements outlined in Engineering Circular (EC) 1105-2-410 Review of Decision Documents, dated 22 August 2008.
2. The review was performed by Alicia Kirchner of South Pacific Division. The RP checklist documenting the review is attached.
3. The FRM-PCX recommends the RP for approval by the MSC Commander. Upon approval of the RP, please provide a copy of the approved RP, a copy of the MSC Commander approval memorandum, and the link to where the RP is posted on the District website to Eric Thaut, Program Manager for the FRM-PCX (eric.w.thaut@usace.army.mil) and Miki Fujitsubo, lead Regional Technical Specialist for the FRM-PCX (miki.fujitsubo@usace.army.mil).
4. Thank you for the opportunity to assist in the preparation of the RP. Please coordinate the Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Model Certification efforts outlined in the RP with me.



Eric Thaut
Program Manager, FRM-PCX

Encl

DRAFT

REVIEW PLAN

**ALTON TO GALE ORGANIZED LEVEE DISTRICTS, ILLINOIS AND MISSOURI
FLOOD RISK MANAGEMENT
DESIGN DEFICIENCY LETTER REPORT**

ST. LOUIS DISTRICT



**US Army Corps
of Engineers ®**

April 2009

RP Update – 20 April 2009
FRM-PCX Review Plan Standard

4/21/09

REVIEW PLAN
ALTON TO GALE ORGANIZED LEVEE DISTRICTS, ILLINOIS AND MISSOURI
FLOOD RISK MANAGEMENT
DESIGN DEFICIENCY LETTER REPORT
ST. LOUIS DISTRICT
Table of Contents

| | |
|---|----|
| 1. PURPOSE AND REQUIREMENTS | 1 |
| A. Purpose..... | 1 |
| B. Requirements..... | 1 |
| 2. STUDY INFORMATION..... | 3 |
| A. Decision Document..... | 3 |
| B. General Site Description..... | 3 |
| C. Study Scope..... | 3 |
| D. Problems and Opportunities..... | 3 |
| E. Potential Methods..... | 4 |
| 3. AGENCY TECHNICAL REVIEW PLAN..... | 4 |
| A. General..... | 4 |
| B. Agency Technical Review Team (ATRT)..... | 4 |
| C. Communication..... | 5 |
| D. Funding..... | 5 |
| E. Timing and Schedule..... | 6 |
| F. Review..... | 6 |
| G. Resolution..... | 7 |
| H. Certification..... | 7 |
| 4. INDEPENDENT EXTERNAL PEER REVIEW PLAN..... | 7 |
| A. Project Magnitude..... | 8 |
| B. Project Risk..... | 8 |
| C. Vertical Team Consensus..... | 8 |
| D. Products for Review..... | 9 |
| E. Communication and Documentation..... | 9 |
| F. Funding..... | 9 |
| 5. MODEL CERTIFICATION..... | 10 |
| 6. PUBLIC REVIEW..... | 10 |
| 7. STUDY TEAMS & PLANNING CENTER OF EXPERTISE COORDINATION..... | 10 |
| A. Project Delivery Team..... | 10 |
| B. Vertical Team..... | 10 |
| C. PCX..... | 10 |
| D. Review Plan Points of Contact..... | 10 |
| 8. APPROVALS..... | 10 |

APPENDICES

| | |
|------------|-------------------------------|
| Appendix A | Statement of Technical Review |
| Appendix B | Review Plan Teams |
| Appendix C | Acronyms and Abbreviations |

REVIEW PLAN

ALTON TO GALE ORGANIZED LEVEE DISTRICTS, ILLINOIS AND MISSOURI FLOOD RISK MANAGEMENT DESIGN DEFICIENCY LETTER REPORT ST. LOUIS DISTRICT

1. PURPOSE AND REQUIREMENTS

A. Purpose.

This document outlines the Review Plan for the Alton to Gale Organized Levee Districts, Illinois and Missouri, Flood Risk Management Design Deficiency Letter Report. Per the request of the Assistant Secretary of the Army, Civil Works (ASA(CW)) the Letter Report will address the project design deficiency and provide long term solutions for the levee system. Engineer Circular (EC) *Peer Review of Decision Documents* 1105-2-408, dated 31 May 2005, (1) established procedures to ensure the quality and credibility of Corps decision documents by adjusting and supplementing the review process, and (2) required that documents have a peer review plan. The Alton to Gale Letter Report is a decision document that requires approval of the ASA(CW) and is therefore covered by this EC.

A subsequent circular, *Review of Decision Documents*, EC 1105-2-410, dated 22 August 2008, revises the technical and overall quality control review processes for decision documents. It formally distinguishes between technical review performed by in-district (District Quality Control, "DQC") and out-of-district resources (formerly Independent Technical Review, "ITR," now Agency Technical Review, "ATR"). It also reaffirms the requirement for Independent External Peer Review (IEPR); this is the most independent level of review and is applied in cases that meet certain criteria where the risk and magnitude of a proposed project are such that a critical examination by a qualified team outside of the U.S. Army Corps of Engineers (USACE) is warranted.

B. Requirements.

EC 1105-2-410 outlines the requirement of the three review approaches (DQC, ATR, and IEPR). EC 1105-2-408 provides guidance on Corps Planning Centers of Expertise (PCX) involvement in the approaches. This document addresses review of the decision document as it pertains to both approaches and planning coordination with the appropriate PCX. The Alton to Gale Letter Report will address the project flood risk management (FRM) design deficiencies. Therefore, the FRM-PCX is considered to be the primary PCX for coordination.

(1) District Quality Control. DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Alton to Gale Levee System Design Deficiency Project Management Plan (PMP) for the project (to which this Review Plan will ultimately be appended). It is managed in the District and may be conducted by in-house staff as long as the reviewers are not doing the work involved in the study, including contracted work that is being reviewed. Basic quality control tools include a Quality Management Plan (QMP) providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. Additionally, the PDT is responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before the approval by the District Commander. For the Alton to Gale Letter Report, non-PDT members and/or supervisory staff will conduct this review for the draft and final products,. The Major Subordinate Command (MSC)/District are directly responsible for the QM and QC respectively, and to conduct and document this fundamental

level of review. A Quality Management Plan (QMP) is included in the PMP for the subject project and addresses DQC by the MSC/District; DQC is not addressed further in this Review Plan. DQC is required for this study.

(2) Agency Technical Review. EC 1105-2-410 recharacterized ATR (which replaces the level of review formerly known as Independent Technical Review) into an in-depth review, managed within USACE, and conducted by a qualified team outside of the home district that is not involved in the day-to-day production of a project/product. The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices. The ATR team reviews the various work products and assures that all the parts fit together in a coherent whole. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.) and may be supplemented by outside experts as appropriate. To assure independence, the leader of the ATR team shall be from outside the home MSC. EC 1105-2-408 requires that DrChecks (<https://www.projnet.org/projnet/>) be used to document all ATR comments, responses, and associated resolution accomplished. This Review Plan outlines the proposed approach to meeting this requirement for the Alton to Gale Letter Report. ATR is required for this study.

(3) Independent External Peer Review. EC 1105-2-410 recharacterized the external peer review process that was originally added to the existing Corps review process via EC 1105-2-408. 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. IEPR is managed by an outside eligible organization (OEO) that is described in the Internal Review Code Section 501(c) (3), is exempted from Federal tax under Section 501(a), of the Internal Revenue Code of 1986; is independent; is free from conflicts of interest; does not carry out or advocate for or against Federal water resources projects; and has experience in establishing and administering IEPR panels. The scope of review will address all the underlying planning, engineering, including safety assurance, economics, and environmental analyses performed, not just one aspect of the project. The IEPR will be on the technical aspects of the project while the ATR will be responsible for the agency and administration's policy review. This Review Plan outlines the planned approach to meeting this requirement for the Alton to Gale Letter Report. IEPR is required for this study.

(4) Policy and Legal Compliance Review. In addition to the technical reviews, decision documents will be reviewed throughout the project for their compliance with law and policy. These reviews culminate in Washington-level 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 Chief of Engineers. Guidance for policy and legal compliance reviews is addressed further in Appendix H, ER 1105-2-100. Technical reviews described in EC 1105-2-410 are to augment and complement the policy review processes by addressing compliance with published Army polices pertinent to planning products, particularly polices on analytical methods and the presentation of findings in decision documents. DQC and ATR efforts are to include the necessary expertise to address compliance with published planning policy. Counsel will generally not participate on ATR teams, but may at the discretion of the district or as directed by higher authority. When policy and/or legal concerns arise during DQC or ATR efforts that are not readily and mutually resolved by the PDT and the reviewers, the District will seek issue resolution support from the MSC and HQUSACE in accordance with the procedures outlined in Appendix H ER 1105-2-100. IEPR teams are not expected to be knowledgeable of Army and administration polices, nor are they expected to address such concerns. An IEPR team should be given the flexibility to bring important issues to the attention of decision makers. Legal reviews will be conducted concurrent with ATR of the draft and final report.

(5) Planning Center of Expertise (PCX) Coordination. EC 1105-2-408 and EC 1105-2-410 outline PCX coordination in conjunction with preparation of the Review Plan. This Review Plan is being

coordinated with the PCX for Flood Risk Management (FRM). The FRM-PCX is responsible for the accomplishment of ATR and IEPR for the Alton to Gale Letter Report. The DQC is the responsibility of the MSC/District. The FRM-PCX may conduct the review or manage the ATR and IEPR reviews to be conducted by others.

(6) Review Plan Approval and Posting. In order to ensure the Review Plan is in compliance with the principles of EC 1105-2-410 and the MSC's QMP, the Review Plan must be approved by the applicable MSC, in this case the Commander, Mississippi Valley Division (MVD). Once the Review Plan is approved, the District will post it to its district public website and notify MVD and the FRM-PCX.

(7) Safety Assurance Review. In accordance with Section 2035 of WRDA 2007, EC 1105-2-410 requires that all projects addressing flooding or storm damage reduction undergo a safety assurance review during design and construction. Safety assurance factors must be considered in all reviews for those studies. Implementation guidance for Section 2035 is under development. When guidance is issued, the project will address its requirements for addressing safety assurance factors, which at a minimum will be included in the draft report and appendices for public review. During development of plans and specifications, the PMP will be updated to include safety assurance review. Safety assurance review will also be accomplished during construction.

2. STUDY INFORMATION

A. Decision Document.

The purpose of the Letter Report is to address the request of the ASA(CW) to update the project Letter Report from 1986, which addressed a specific design deficiency, to further address the design deficiency and determine long term solutions for the levee system. The updated report will serve as the decision document for future work and provide the recommended plan to allow final design and construction to proceed subsequent to approval of the Letter Report. Additional Congressional authorization is not expected to be required. The Report is being prepared with 100% Federal funding with no cost-share or in-kind contributions to be provided by the sponsors (Levee Districts).

B. General Site Description.

The Alton to Gale Levee System is made up of many small levees grouped together into a combined 200+ mile system on the Middle Mississippi River in the states of Illinois and Missouri. The levees are all located along the Mississippi River, extending from Alton, Illinois, (Mississippi River Mile 203) to Gale, Illinois, (Mississippi River Mile 46). Portions of the Alton to Gale levee system have experienced a significant number of levee slope failures (slides) which have severely reduced the ability of these systems to continuously provide the authorized level of flood protection.

C. Study Scope.

Numerous areas within the Alton to Gale levee system 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 significantly high 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 highly probable. Due to the existing knowledge and experience with the project design deficiency and associated repairs this study is not expected to be challenging.

D. Problems and Opportunities.

The primary flood-related problem in the project area is the potential for continued failures of the levee embankment slopes within all of the reaches of the Alton to Gale Organized Levee Districts as a result of the design deficiency

E. Potential Methods.

There are three basic alternative plans for repairing levee reaches experiencing excessive slope failures that are proposed. The first alternative plan is 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 compact the fill in place. The second alternative is 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 compact the fill in place. The third alternative is 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.

3. AGENCY TECHNICAL REVIEW PLAN

The ATR for the Letter report will be managed by the PCX. The FRM-PCX will identify individuals to perform ATR. The St. Louis District will provide suggestions on possible reviewers.

A. General.

An ATR Leader shall be designated by the PCX for the ATR process. The proposed ATR Leader for this project is to be determined, but will have expertise in flood risk management, specifically levees. The ATR Leader is responsible for providing information necessary for setting up the review, communicating with the PDT, providing a summary of critical review comments, collecting grammatical and editorial comments from the ATR team (ATRT), ensuring that the ATRT has adequate funding to perform the review, facilitating the resolution of the comments, and certifying that the ATR has been conducted and resolved in accordance with policy. ATR will be conducted for project planning, environmental compliance, economics, civil design, geotechnical engineering, cost engineering, real estate, cultural resources; reviews of more specific disciplines maybe identified if necessary.

B. Agency Technical Review Team (ATRT).

The ATRT will be comprised of individuals that have not been involved in the development of the decision document and will be chosen based on expertise, experience, and/or skills. The members will roughly mirror the composition of the PDT and wherever possible, reside outside of the MSC. In general, the review team members will each have a minimum of 10 years experience and education in their respective discipline. A statement of qualifications is required for each discipline prior to acceptance as a review team member and for any subsequent changes. It is anticipated that the team will consist of about 8 reviewers. The ATRT members will be identified at the time the review is conducted and will be presented in appendix B. General descriptions of ATR disciplines are as follows:

Geotechnical: Team member will be experienced in levee & floodwall design, post-construction evaluation, and rehabilitation. A certified professional engineer is recommended.

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).

Plan Formulation: Team member will be experienced with the civil works process and current flood risk management planning and policy guidance.

Environmental: Team member will be experienced in National Environmental Policy Act (NEPA)

process and analysis, and have a biological or environmental background.

Cultural Resources: Team member will be experienced in cultural resources and tribal issues, regulations, and laws.

Civil / Site: 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 is suggested.

Cost Estimating: 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 be experienced in federal civil work real estate laws, policies and guidance. Members shall have experience working with respective sponsor real estate issues.

Other disciplines/functions involved in the project included as needed with similar general experience and educational requirements.

C. Communication.

The communication plan for the ATR is as follows:

(1) The team will use DrChecks to document the ATR process. The project manager will facilitate the creation of a project portfolio in the system to allow access by all PDT and ATRT members. An electronic version of the document, appendices, and any significant and relevant public comments shall be posted in MS Office compatible format at: <ftp://ftp.usace.army.mil/pub/> at least one business day prior to the start of the comment period.

(2) The PDT shall send the ATR Leader one hard copy of the report and appendices and members shall download and print individual documents and appendices as necessary.

(3) The PDT shall host an ATR kick-off meeting virtually or on-site to orient the ATRT during the first week of the comment period. If funds are not available for an on-site meeting, the PDT shall coordinate a virtual presentation meeting or at a minimum provide a presentation about the project, including photos of the site, for the team.

(4) The ATR Leader shall ensure all responses have been entered into DrChecks and conduct a briefing to summarize comment responses to highlight any areas of disagreement.

(5) A revised electronic version of the report and appendices with comments incorporated shall be posted at <ftp://ftp.usace.army.mil/pub/> for use during back checking of the comments.

(6) PDT members shall contact ATRT members or ATR Leader as appropriate to seek clarification of a comment's intent or provide clarification of information in the report. Discussions shall occur outside of DrChecks but a summary of discussions may be provided in the system.

(7) Reviewers will be encouraged to contact PDT members directly via email or phone to clarify any confusion. DrChecks shall not be used to post questions needed for clarification.

D. Funding

(1) The PDT district shall provide labor funding by cross charge labor codes. Funding for travel,

if needed, will be provided. The project manager will work with the ATR Leader to ensure that adequate funding is available and is commensurate with the level of review needed. The current cost estimate for this review is \$35,000. Any funding shortages will be negotiated on a case by case basis and in advance of a negative charge occurring.

(2) The ATR Leader shall provide organization codes for each team members and a responsible financial point of contact (CEFMS responsible employee) for creation of labor codes.

(3) Reviewers shall monitor individual labor code balances and alert the ATR Leader to any possible funding shortages.

E. Timing and Schedule

(1) Throughout the development of this document, the PDT will conduct seamless review to ensure project quality.

(2) The ATR will be conducted on the draft and final Letter Report.

(3) The PDT will hold a “page-turn” session to review the draft report to ensure consistency across the disciplines and resolve any issues prior to the start of ATR. Writer/editor services will be performed on the draft prior to ATR as well.

(4) The ATR process for this document will follow the following timeline. Actual dates will be scheduled once the period draws closer. All products produced for these milestones will be reviewed.

ATR Timeline

| Task | Date |
|--------------------------------------|------------------|
| ATR Scoping Meeting | 1 May 2009 |
| Start ATR for Draft Letter Report | 15 July 2009 |
| Complete ATR for Draft Letter Report | 29 August 2009 |
| Start ATR for Final Letter Report | 27 November 2009 |
| Complete ATR for Final Letter Report | 11 December 2009 |

F. Review

(1) ATRT responsibilities are as follows:

(a) Reviewers shall review the draft report to confirm that work was done in accordance with established professional principles, practices, codes, and criteria and for compliance with laws and policy. Comments shall be submitted into DrChecks.

(b) Reviewers shall pay particular attention to one’s discipline but may also comment on other aspects as appropriate. Reviewers that do not have any significant comments pertaining to their assigned discipline shall provide a comment stating this.

(c) Grammatical and editorial comments shall not be submitted into DrChecks. Comments should be submitted to the ATR Leader via electronic mail using tracked changes feature in the MS Office compatible document or as a hard copy mark-up. The ATR Leader shall provide these comments to the Project Manager.

- (d) Review comments shall contain these principal elements:
- a clear statement of the concern
 - the basis for the concern, such as law, policy, or guidance
 - significance for the concern
 - specific actions needed to resolve the comment

(e) The “Critical” comment flag in DrChecks shall not be used unless the comment is discussed with the ATR Leader and/or the Project Manager first.

(2) PDT responsibilities are as follows:

(a) The PDT shall review comments provided by the ATRT in DrChecks and provide responses to each comment using “*Concur*, Non-Concur” or “For Information. *Concur* responses shall state what action was taken and provide revised text from the report if applicable. *Non-Concur* responses shall state the basis for the disagreement or clarification of the concern and suggest actions to negotiate the closure of the comment.

(b) PDT members shall discuss any “non-Concur” responses prior to submission with the PDT and ATRT Leader.

G. Resolution

(1) Reviewers shall back check PDT responses to the review comments and either close the comment or attempt to resolve any disagreements. Conference calls shall be used to resolve any conflicting comments and responses.

(2) A reviewer may close a comment if the comment is addressed and resolved by the response, or if the reviewer determines that the comment was not a valid technical comment as a result of a rebuttal, clarification, or additional information, or because the comment was advisory, primarily based on individual judgment or opinion, or editorial. If reviewer and responder cannot resolve a comment, it should be brought to the attention of the ATR Leader and, if not resolved by the ATR Leader, it should be brought to the attention of the planning chief who will need to sign the certification. ATRT members shall keep the ATR Leader informed of problematic comments. The vertical team will be informed of any policy variations or other issues that may cause concern during HQ review.

H. Certification

ATR certification is required for the draft and final reports. See Appendix A for ATR certification statement.. A summary report of all comments and responses will follow this statement and accompany the report throughout the report approval process.

4. INDEPENDENT EXTERNAL PEER REVIEW PLAN

This Letter Report will present the technical measures needed to address the project design deficiency. EC 1105-2-410 states thresholds that trigger an IEPR: “In cases where there are public safety concerns, a high level of complexity, novel or precedent-setting approaches; where the project is controversial, has significant interagency interest, has a total project cost greater than \$45 million, or has significant economic, environmental and social effects to the nation, IEPR will be conducted.”

This report is not expected to contain influential scientific information nor be a highly influential scientific assessment. Portions of the project area are highly urbanized and consequently there are public safety concerns. The integrity of the levees within the Alton to Gale system is compromised to perform as designed during flood events and is at risk under the current conditions. The consequences of a levee failure and breach in the flood protection system will be detrimental to health, safety, environmental, and economic viability for the protected cities, towns, villages, industries, transportation networks, and commercial enterprises. Rural and agricultural economies will be impacted as well as pristine wetlands and bottomland hardwoods destroyed in and around the U.S. Forest Service's Shawnee National Forest. There are also numerous historic and cultural resources within these same protected areas. Archaeological surveys shall be conducted in the vicinity of all potential levee repairs, staging, and equipment traversing areas associated with this project which have not been previously surveyed. At most locations where potentially significant archaeological remains are identified, it is anticipated that damage to such sites will be avoided by the erection of temporary protective fencing. However, whenever impacts cannot be avoided, the site would be tested to determine its significance. If the site is determined to be eligible for nomination to the National Register of Historic Places, professional data recovery excavations (mitigation) would be conducted. Any such data recovery activities would be coordinated, in advance, with the Illinois SHPO and the President's Advisory Council on Historic Preservation. In this manner, adverse impacts to the archaeological resource base of the project area will be substantially minimized to ensure there are significant impacts. This project has the potential to be controversial because of the cost component (2003 cost estimate for recommended alternative was approximately \$100M) and is expected to have significant agency and public interest. Preparation of the Environmental Assessment is underway, it is not anticipated that an Environmental Impact Statement (EIS) will be required. For these reasons, IEPR will be conducted. IEPR is currently estimated to be \$100,000. IEPR is a project cost. The IEPR panel review will be federally funded. In-house costs associated with obtaining the IEPR panel contract as well as responding to IEPR comments will be cost shared expenses. It is not anticipated that the public, including scientific or professional societies, will be asked to nominate potential external peer reviewers.

Disciplines that are anticipated to undergo IEPR are listed in Appendix B with experience and qualifications equal or above the ATR member requirements. All technical aspects of the Letter Report, including recommendations outlined in the ATR Completion Report, will be reviewed by the PDT and undergo DQC prior to submittal for IEPR. The IEPR reviewers will be selected by an Outside Eligible Organization. It is not anticipated that the Corps will nominate any reviewers for the IEPR.

A. Project Magnitude.

For reasons described in the preceding paragraphs, to include significant life safety risks associated with the failure and breach of project and the total estimated project cost, the magnitude of this project is determined as high.

B. Project Risk.

This project is considered to have high overall risk. The potential for failure is high because of the project design deficiency. It is estimated that the levee slides that have resulted will continue to occur from the inappropriate use of the high plasticity soils during construction have effectively *reduced* the ability of the severely affected Levee Districts to perform as designed. For example, a levee designed for a 2% chance event would perform as though it had been designed for a 4% chance event due to the design deficiency.

C. Vertical Team Consensus.

This Review Plan will serve as the coordination document to obtain vertical team consensus. Subsequent to PCX concurrence, the plan will be provided to the vertical team for approval. MSC approval of the plan will indicate vertical team consensus.

D. Products for Review.

The full IEPR panel will receive the entire Letter Report including appendices following completion of ATR for review and comment. The District will draft a response to the IEPR final report and process it through the vertical team. The Corps will issue final response to the IEPR panel and notify the public.

E. Communication and Documentation.

The communication plan for the IEPR is as follows:

(1) The panel will use DrChecks to document the IEPR process. The Project Manager will facilitate the creation of a project portfolio in the system to allow access by all PDT and a qualified Outside Eligible Organization (OEO). An electronic version of the document, appendices, and any significant and relevant public comments shall be posted in MS Office compatible format at: <ftp://ftp.usace.army.mil/pub/> at least one business day prior to the start of the comment period.

The OEO will compile the comments of the IEPR panelists, enter them into DrChecks, and forward the comments to the District. The District will consult the PDT and outside sources as necessary to develop a proposed response to each panel comment. The District will enter the proposed response into DrChecks, and then return the proposed response to the panel. The panel will reply to the proposed response through the OEO, again using DrChecks. This final panel reply may or may not concur with the District's proposed response and the panels final response will indicate concurrence or briefly explain what issue is blocking concurrence. There will be no final closeout iteration. The District will consult the vertical team and outside resources to prepare an agency response to each comment. The initial panel comments, the District's proposed response, the panels reply to the District's proposed response, and the final agency response will all be tracked and archived in DrChecks for the administrative record. However, only the initial panel comments and the final agency responses will be posted. This process will continue to be refined as experience shows need for changes. This is specifically in accordance with the EC 1105-2-410 Frequently Asked Questions, dated 3 November 2008.

(2) The PDT shall send each IEPR panel member a copy of the Letter Report and appendices.

(3) The Project Manager shall inform the IEPR panel when all responses have been entered into DrChecks and conduct a briefing to summarize comment responses to highlight any areas of disagreement.

(4) A revised electronic version of the report and appendices with comments incorporated shall be posted at <ftp://ftp.usace.army.mil/pub/> for use during back checking of the comments.

(5) PDT shall contact the OEO for the IEPR panel as appropriate to seek clarification of a comment's intent or provide clarification of information in the report. Discussions shall occur outside of DrChecks but a summary of discussions may be provided in the system.

(6) The IEPR panel shall produce a final Review Report to be provided to the PDT not later than 60 days after receipt of the Letter Report for review. This report shall be scoped as part of the effort to engage the IEPR panel. The District will draft a response report to the IEPR final report and process it through the vertical team. Following resolution of comments and relevant follow-on actions, the Corps will finalize its response to the IEPR Review Report and will post both the Review Report and the Corps final responses to the public website.

F. Funding

The FRM-PCX will identify someone independent from the PDT to scope the IEPR and develop an Independent Government Estimate. The District will provide funding to the IEPR panel.

5. MODEL CERTIFICATION

Models used during development of the Letter Report include the following:

- Microcomputer Aided Cost Engineering System (MCACES) MII Version 3.0 (cost estimation model)
- Hydrologic Engineering Center Flood Damage Assessment (HEC- FDA) Risk Based Model Version 1.2.4 (economics analysis model)

All models noted above have been certified/approved for use on USACE projects and have been commonly used on similar projects.

6. PUBLIC REVIEW

The public will have opportunities to participate in this study as part of the NEPA process. It is anticipated that a public meeting will be held following release of the Environmental Assessment for review. Public review of necessary state or Federal permits will also take place.

7. STUDY TEAMS AND PLANNING CENTERS OF EXPERTISE COORDINATION

A. Project Delivery Team.

The PDT is comprised of those individuals directly involved in the development of the decision document. Individual contact information and disciplines are presented in appendix B.

B. Vertical Team.

The Vertical Team includes District management, District Support Team (DST) and Regional Integration Team (RIT) staff as well as members of the Planning of Community of Practice (PCoP). Specific points of contact for the Vertical Team can be found in Appendix B.

C. PCX:

The appropriate PCX for this document is the National Flood Risk Management Center of Expertise located at SPD. This Review Plan will be submitted to the FRM-PCX Program Manager for review and comment. Since it was determined that this project is high risk, an IEPR will be required. As such, the PCX will be asked to manage the IEPR review. For ATR, the PCX is requested to nominate the ATR team as discussed in paragraph 3.b. above. The approved Review Plan will be posted to the District's public website for public comment and consideration of public comments

C. Review Plan Points of Contact

The Points of Contact for questions and comments to this Review Plan are as follows:

1. District Point of Contact: Susan Wilson (susan.e.wilson@usace.army.mil)
2. MSC Point of Contact: Fred Ragan (fredrick.ragan@usace.army.mil)
3. FRM-PCX Point of Contact: Eric Thaut (eric.w.thaut@usace.army.mil)

8. APPROVALS

The PDT will carry out the Review Plan as described. The Project Manager will submit the Review Plan to the FRM-PCX for review and recommendation for approval. After FRM-PCX review and recommendation, the PDT District Planning Chief will forward the Review Plan to MVD for commander approval. Formal coordination with FRM-PCX will occur through the PDT District Planning Chief.

REVIEW PLAN

**ALTON TO GALE ORGANIZED LEVEE DISTRICTS, ILLINOIS AND MISSOURI
FLOOD RISK MANAGEMENT
DESIGN DEFICIENCY LETTER REPORT**

ST. LOUIS DISTRICT

**APPENDIX A
STATEMENT OF TECHNICAL REVIEW**

**COMPLETION OF AGENCY TECHNICAL REVIEW
ALTON TO GALE ORGANIZED LEVEE DISTRICTS, ILLINOIS AND MISSOURI
FLOOD RISK MANAGEMENT
DESIGN DEFICIENCY LETTER REPORT**

The District has completed the Letter Report and appendices for the Alton to Gale Organized Levee Districts Design Deficiency Project. Notice is hereby given that an agency technical review, that is appropriate to the level of risk and complexity inherent in the project, has been conducted as defined in the Review Plan. During the agency technical review, 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 result, including whether the product meets the customers' needs consistent with law and existing Corps policy. The ATR was accomplished by an agency team composed of staff from multiple districts. All comments resulting from the ATR have been resolved.

TBD _____

NAME
Alton to Gale Letter Report
Agency Technical Review Leader

_____ Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

A summary of all comments and responses is attached. Significant concerns and the explanation of the resolution are as follows:

(Describe the major technical concerns, possible impact and resolution)

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

Brian Johnson
Chief, Planning Division

Date

REVIEW PLAN

**ALTON TO GALE ORGANIZED LEVEE DISTRICTS, ILLINOIS AND MISSOURI
FLOOD RISK MANAGEMENT
DESIGN DEFICIENCY LETTER REPORT**

ST. LOUIS DISTRICT

APPENDIX B

PROJECT DELIVERY TEAM

| Name | Discipline | Phone | Email |
|---------------|--------------------------|--------------|--|
| Susan Wilson | Project Manager | 314-331-8594 | Susan.e.wilson@usace.army.mil |
| Bryan Dirks | Civil Design | 314-331-8282 | Bryan.j.dirks@usace.army.mil |
| Ken Cook | Environmental | 314-331-8495 | Kenneth.m.cook@usace.army.mil |
| Dave Kelly | Economics | 314-331-8474 | David.h.kelly@usace.army.mil |
| Greg Dyn | Cost Engineering | 314-331-8319 | Gregory.j.dyn@usace.army.mil |
| Steele Beller | Real Estate/Lands | 314-331-8167 | Steele.a.beller@usace.army.mil |
| Jim Barnes | Cultural Resources | 314-331-8830 | James.e.barnes@usace.army.mil |
| Jessica Bush | Geotechnical Engineering | 314-331-8346 | Jessica.l.bush@usace.army.mil |

AGENCY TECHNICAL REVIEW TEAM

| Name | Discipline | Phone | Email |
|-------------|--------------------------|--------------|--------------|
| TBD | ATR Leader | | |
| TBD | Civil Design | | |
| TBD | Environmental | | |
| TBD | Economics | | |
| TBD | Cost Engineering | | |
| TBD | Real Estate/Lands | | |
| TBD | Cultural Resources | | |
| TBD | Geotechnical Engineering | | |

INDEPENDENT EXTERNAL PEER REVIEW PANEL

| Name | Discipline | Phone | Email |
|-------------|--------------------------|--------------|--------------|
| TBD | Geotechnical Engineering | | |
| TBD | Economics | | |
| TBD | Environmental | | |

VERTICAL TEAM

| Name | Discipline | Phone | Email |
|---------------|----------------------------|--------------|--|
| Fred Ragan | District Support Team Lead | 601-634-5926 | Fredrick.ragan@usace.army.mil |
| John Lucyshyn | Regional Integration Team | 202-761-4515 | John.lucyshyn@usace.army.mil |

**PLANNING CENTER OF EXPERTISE
FLOOD RISK MANAGEMENT**

| Name | Discipline | Phone | Email |
|-------------|--|--------------|--|
| Eric Thaut | Program Manager, PCX Flood Risk Management | 415-503-6852 | Eric.W.Thaut@usace.army.mil |

