



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DIVISION, GREAT LAKES AND OHIO RIVER
CORPS OF ENGINEERS
550 MAIN STREET
CINCINNATI, OH 45202-3222

CELRD-PD-O

16 SEP 13

MEMORANDUM FOR Commander, U.S. Army Corps of Engineers, Huntington District,
[REDACTED] 502 Eighth Street, Huntington, WV 25701-2070

SUBJECT: Review Plan for Delaware Dam Issue Evaluation Study (IES), Phase 1

1. References:

a. CELRH-PM-PD-R memorandum, dated 26 July 2013, subject: Review Plan for Delaware Dam Issue Evaluation Study (IES) (Encl 1).

b. Decision Document Phase Review Plan, Delaware Dam, Issue Evaluation Study, Huntington District, dated 29 July 2013 (Encl 2).

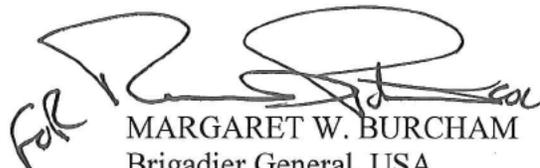
2. The USACE LRD Review Management Organization (RMO) has reviewed the enclosed Review Plan (RP) and concurs that it describes the scope of review for work phases and addresses all appropriate levels of review consistent with the requirements described in EC 1165-2-214.

3. I concur with the recommendations of the RMO and approve the enclosed RP for the subject Delaware Dam study which is located on the Olentangy River, 32 miles above its confluence with the Scioto River, in Delaware County, Ohio.

4. The District is requested to post the RP to its website. Prior to posting, the names of all individuals identified in the RP should be removed.

5. If you have any questions or need additional information, please contact [REDACTED]

Encls

For

MARGARET W. BURCHAM
Brigadier General, USA
Commanding
COL Acting CDR



DEPARTMENT OF THE ARMY
HUNTINGTON DISTRICT, CORPS OF ENGINEERS
502 EIGHTH STREET
HUNTINGTON, WEST VIRGINIA 25701-2070

CELRH-PM-PD-R

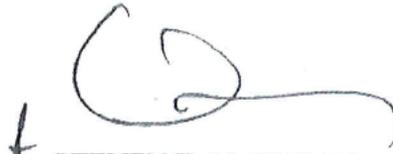
26 July 2013

MEMORANDUM FOR Commander, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division [REDACTED], 550 Main Street Cincinnati, Ohio 45202-3222

SUBJECT: Review Plan for Delaware Dam Issue Evaluation Study (IES)

1. Submitted for review and approval is a consolidated review plan outlining the peer review requirements for both the decision and implementation documents being prepared to address the upcoming IES at Delaware Dam, on the Olentangy River north of Columbus, Ohio.
2. Pursuant to EC 1165-2-214, the Huntington District has prepared a Review Plan for the study which outlines the various levels of review required and the manner in which they will be completed.
3. Any questions regarding this submittal should be directed to [REDACTED]

Encl


STEVEN T. MCGUGAN
Colonel, Corps of Engineers
Commanding



DEPARTMENT OF THE ARMY
RISK MANAGEMENT CENTER, CORPS OF ENGINEERS
12596 W. BAYAUD AVENUE SUITE 400
LAKEWOOD, CO 80228

REPLY TO
ATTENTION OF
CEIWR-RMC-WD

CEIWR-RMC

19 February 2013

MEMORANDUM FOR: Commander, Huntington District, ATTN: CELRH-PM-PP-P

SUBJECT: Risk Management Center Endorsement – Delaware Dam, OH – Issue Evaluation Study Review Plan

1. The Risk Management Center (RMC) has reviewed the Review Plan (RP) for the Delaware Dam, revised February 2013, and concurs that this RP provides for an adequate level of peer review and complies with the current peer review policy requirements outlined in EC 1165-2-214 "Civil Works Review", dated 15 December, 2012.
2. This review plan was prepared by the Huntington District, reviewed by the Great Lakes and Ohio River Division and the RMC, and all review comments have been satisfactorily resolved.
3. The RMC endorses this document to be approved by the MSC Commander. Upon approval of the RP, please provide a copy of the approved RP, a copy of the MSC Commander's approval memorandum, and a link to where the RP is posted on the District website to [REDACTED]
4. Thank you for the opportunity to assist in the preparation of this RP. Please coordinate all aspects of the Agency Technical Review. For further information, please do not hesitate to contact me at [REDACTED]

Sincerely,

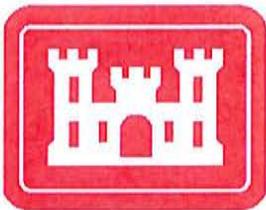
[REDACTED]
Senior Review Manager
Risk Management Center

CF:
CEIWR-RMC-ZA [REDACTED]
CELRD (Division Quality Manager)

**Decision Document Phase Review Plan
U.S. Army Corps of Engineers
Great Lakes and Ohio River Division
Huntington District**



**Delaware Dam
Issue Evaluation Study**



**US Army Corps
of Engineers®**

5 September 2013

Contents

1. Introduction..... 1

 a. Purpose 1

 b. Project Description and Information 1

 c. Levels of Review 3

 d. Review Team 4

2. Requirements..... 6

 a. Reviews..... 6

 i. District Quality Control (DQC) 6

 ii. Agency Technical Review (ATR)..... 6

 iii. Independent External Peer Review (IEPR)..... 6

 iv. Policy and Legal Compliance Review 6

 v. Peer Review of Sponsor In-Kind Contributions 6

 b. Approvals 7

 i. Review Plan Approval and Updates 7

 ii. IES Report..... 7

3. Guidance and Policy References 7

4. Summary of Required Levels of Review..... 8

5. Models 8

 a. General..... 8

 b. List..... 8

6. Review Schedule 8

7. Public Participation 9

8. Cost Estimate..... 9

9. Execution Plan 9

 a. District Quality Control..... 10

 i. General 10

 ii. DQC Review and Control..... 10

 b. Agency Technical Review 10

 i. General 10

 ii. ATR Review and Control..... 10

10. Review Plan Points of Contact 12

11. Attachments 13

1. Introduction

a. Purpose

This Review Plan is intended to ensure a quality-engineering Dam Safety Issue Evaluation Study developed by the Corps of Engineers. ER 1110-2-1156, "Dam Safety Policy and Procedures" dated 28 Oct 2011, Chapter 8 describes the Issue Evaluation Study (IES) Plan development, review, and approval process. This Review Plan has been developed for Delaware Dam. This Review Plan was prepared in accordance with EC 1165-2-214, "Civil Works Review Policy", and covers the review process for the Delaware Dam Phase 1 IES Report. The IES is a study that may lead to additional studies, modeling, or NEPA consultation. NEPA compliance would occur during the Dam Safety Modification Study Phase. Because the Phase 1 IES is used to justify a Phase 2 Issue Evaluation Studies and potentially Dam Safety Modification (DSM) studies, it is imperative that the vertical teaming efforts are proactive and well coordinated to assure collaboration of the report findings, conclusions, and recommendations, and that there is consensus at all levels of the organization with the recommended path forward.

b. Project Description and Information

Delaware Dam is located on the Olentangy River, 32 miles above its confluence with the Scioto River, in Delaware County, Ohio. Authorized by the Flood Control Act of 1938 (PL 75-761), Delaware Dam's authorized purposes include flood damage reduction, low-flow regulation to meet water supply and pollution control needs, fish and wildlife enhancement and recreation. The catchment basin is 386 square miles. The structure is a rolled earth fill dam with a concrete gravity channel section and a maximum height of 92', a top length of 18,600 linear feet, a top width of 15' and a base width of 480'. The dam also incorporates the Waldo Levee, which protects the Village of Waldo, Ohio, nine miles upstream from the dam. The Waldo Levee consists of 6500 linear feet of rolled earth fill, with a maximum height of approximately 30' and a top width of 8', and incorporates two pump stations. Waldo Levee will be studied as a separate IES at a later date.

Delaware Dam utilizes a gated spillway in the channel section of the dam, with a crest elevation of 992' (msl) and an overall length of 232'. Six tainter gates 25' high by 32' long and supported by 8' wide piers are operated by individual electric hoists. The design discharge is 96,000 cubic feet per second (cfs), with a surcharge of 28' and freeboard of 7'. The outlet works incorporate five gated sluices 6' 6" square through the spillway section and discharging into the stilling basin. Each sluice is provided with one slide gate hydraulically operated from a gallery through the dam. Maximum flow of

record at the dam site is 33,000 cfs (January 22, 1959), and the reservoir's design flood peak flow is 38,000 cfs. The streambed elevation at the dam is 880' (msl). The dam was completed in July, 1948 at a cost of \$7,631,800.

Concerns have been raised regarding the potential for several modes of failure at Delaware Dam. Spillway stability, (primarily the spillway apron), seepage/settlement adjacent to the spillway/embankment and trunnion anchorage stability/reliability are primary concerns and have been documented as potential issues for several years. Limited availability of early construction records/specifications documenting the foundation geology are also cause for concern. Finally, the condition of the 40 "strand-type" anchors installed in 1993 is currently unknown. The anchors were individually encased in greased polypropylene sheathes (i.e. single corrosion protection). Additionally, the lock-off load is reportedly the design (working) load (i.e. 60% of ultimate lock) and not 70% of ultimate load to account for relaxation of the anchors. LRH has provided funds for two (2) rounds of water sampling/testing at Delaware and Alum Creek Dams to determine if current water characteristics may cause corrosion to occur.

Independent External Peer Review (IEPR) is applied in cases that meet certain criteria. This IES is not a decision document and does not cover work requiring a Type I or Type II IEPR. Issue Evaluation Studies are used to justify Dam Safety Modification Studies. If this project requires a Dam Safety Modification Study, both Type I and Type II IEPR will be conducted.

d. Review Team

Review Management Office: The USACE Risk Management Center (RMC) is the Review Management Organization (RMO) for dam safety related work, including this IES. Contents of this review plan have been coordinated with the RMC and the Great Lakes and Ohio River Division, the Major Subordinate Command (MSC). The RMC Advisory Team will provide technical oversight and guidance, as necessary, to the PDT during the IES process. The RMC Advisory Team will also facilitate reviews and coordination between District PDT, NAE Cadre and RMC staff. Informal coordination with LRD will occur throughout the IES development, including briefings to the LRD Dam Safety Committee and Program Review Board updates. In-Progress Review (IPR) team meetings with the RMC, LRD, and HQ will be scheduled on an “as needed” basis to discuss programmatic, policy, and technical matters. The LRD Dam Safety Program Manager will be the POC for vertical team coordination. This review plan will be updated for each new project phase.

Agency Technical Review Team: It is anticipated that the technical review team will have several representatives with extensive geotechnical and materials analysis experience in order to address initial concerns regarding seepage, karst topography and anchor strength and testing.

Required ATR Team Expertise: The ATR team will be chosen based on each individual's qualifications and experience with similar projects.

ATR Lead: The RMC will assign the ATR lead. The ATR team is a senior professional with extensive experience in preparing Civil Works documents and conducting ATRs (or ITRs). The lead has 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, in this case, Structural Engineering and Geotechnical Engineering.

Geotechnical Engineer - shall have experience in the field of geotechnical engineering, analysis, design, and construction of rolled earth-fill dams with concrete gravity channel sections. The geotechnical engineer shall have experience in subsurface investigations, rock and soil mechanics, internal erosion (seepage and piping), slope stability evaluations, erosion protection design, and earthwork construction. The geotechnical engineer shall have knowledge and experience in the

forensic investigation of seepage, settlement, stability, and deformation problems associated with high head dams and appurtenances constructed on rock and soil foundations.

Engineering Geologist - shall have experience in assessing internal erosion (seepage and piping) beneath rolled earth-fill dams with concrete gravity channel sections constructed on karst and faulted formations. The engineering geologist shall be familiar with identification of geological hazards, exploration techniques, field and laboratory testing, and instrumentation. The engineering geologist shall be experienced in the design of grout curtains and must be knowledgeable in grout theology, concrete mix designs, and other materials used in foundation seepage barriers.

Hydraulic Engineer – shall have experience in the analysis and design of hydraulic structures related to dams including the design of hydraulic structures (e.g., spillways, outlet works, and stilling basins). The hydraulic engineer shall be knowledgeable and experienced with the routing of inflow hydrographs through multipurpose flood control reservoirs utilizing multiple discharge devices, Corps application of risk and uncertainty analyses in flood damage reduction studies, and standard Corps hydrologic and hydraulic computer models used in drawdown studies, dam break inundation studies, hydrologic modeling and analysis for dam safety investigations.

Mechanical Engineer – shall have experience in machine design, machine rehabilitation and familiarity with design of mechanical gates and controls for flood control structures.

Structural Engineer – shall have experience and be proficient in performing stability analysis, finite element analysis, seismic time history studies, and external stability analysis including foundations on high head mass concrete dams. The structural engineer shall have specialized experience in the design, construction and analysis of concrete dams.

Economist (or Consequence Specialist) – shall be knowledgeable of policies and guidelines of ER 1110-2-1156 as well as experienced in analyzing flood risk management projects in accordance with ER 1105-2-100, the Planning Guidance Notebook. The economist shall be knowledgeable and experienced with standard Corps computer models and techniques used to estimate population at risk, life loss, and economic damages.

2. Requirements

a. Reviews

The review of all work products will be in accordance with the requirements of EC 1165-2-214 by following the guidelines established within this review plan. All engineering and design products will undergo District Quality Control Reviews.

i. District Quality Control (DQC)

DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements. DQC will be performed for all district engineering products by staff not involved in the work and/or study. Basic quality control tools include a plan providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc.

ii. Agency Technical Review (ATR)

ATR is 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 the 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 assure that all the parts fit together as a coherent whole. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists, 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 Major Subordinate Command (MSC).

iii. Independent External Peer Review (IEPR)

IEPR is the most independent level of review, and is applied in cases that meet certain criteria. This IES is not a decision document and does not cover work requiring a Type I or Type II IEPR. Issue Evaluation Studies are used to justify Dam Safety Modification Studies. If this project requires a Dam Safety Modification Study, both Type I and Type II IEPR will be conducted.

iv. Policy and Legal Compliance Review

Policy and Legal Compliance Review is required for decision documents. Since this IES is not a decision document it does not require a Policy and Legal Compliance Review. If this project requires a Dam Safety Modification Study, a Policy and Legal Compliance Review will be conducted.

v. Peer Review of Sponsor In-Kind Contributions

There will be no in-kind contributions for this IES.

b. Approvals

i. Review Plan Approval and Updates

The MSC for this IES is the Great Lakes and Ohio River Division (LRD). The MSC Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving the Huntington District, MSC, RMC and HQUSACE members) as to the appropriate scope and level of review for the study and endorsement by the RMC. Like the PMP, the Review Plan is a living document and may change as the study progresses. The District is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last MSC Commander approval will be documented in an Attachment to this plan. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-endorsed by the RMC and 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 Risk Management Center's endorsement memorandum and the MSC Commander's approval memorandum, will be posted on the District's webpage and linked to the HQUSACE webpage.

ii. IES Report

The IES Report shall undergo a DQC and formal ATR. After the ATR, the PDT will present the IES to the Quality Control and Consistency (QCC) Panel for review. The district and the risk assessment cadre present the IES risk assessment, IES findings, conclusions, and recommendations for review. After the QCC meeting, the Risk Cadre and RMC will certify that the risk estimate was completed in accordance with the Corps' current guidelines and risk management best practices. The IES will then be presented to the Senior Oversight Group (SOG). The SOG generally consists of the following members: Special Assistant for Dam Safety (Chair); CoP & Regional Representatives to include Geotechnical and Materials CoP Leader, Structural CoP Leader, and Hydraulics and Hydrologic CoP Leader; Regional representatives determined by Special Assistant for Dam Safety; Corps Business Line & Program Representatives to include DSPM, Flood Damage Reduction, Navigation, Programs, and Director, Risk Management Center; and any other Representatives determined by the Special Assistant for Dam Safety. The District Dam Safety Officer (DSO), the MSC DSO, and the SOG Chairman will jointly approve the final IES after all comments are resolved.

3. Guidance and Policy References

- ER 5-1-11, USACE Business Process
- EC 1165-2-214, Civil Works Review Policy, 31 Jan 2010
- ER 1110-2-1156, Safety of Dams – Policy and Procedure, 28 Oct 2011

- ER 1110-1-12, Quality Management, 31 Mar 2011

4. Summary of Required Levels of Review

The dam safety program follows the policy review process described in EC1165-2-214, Civil Works Review Policy. The RMC will be the review management office for the ATR, and the RMC must certify that the risk assessment was completed in accordance with the USACE current guidelines and best risk management practices. A Quality Control and Consistency (QCC) review will be conducted including the district, MSC, and RMC. The district and the risk assessment cadre will present the IES risk assessment, IES findings, conclusions, and recommendations for review. After resolution of QCC review comments, the MSC and HQUSACE will complete quality assurance and policy compliance review.

5. Models

a. General

The use of certified or approved models for all planning activities is required by EC 1105-2-407. The EC defines planning models 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 EC does not cover engineering models. Engineering software is addressed under the Engineering and Construction (E&C) Science and Engineering Technology (SET) initiative. SET maintains a database listing all approved models across a wide variety of disciplines, including planning, economics, hydrology/hydraulics and engineering. 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.

b. List

Various specific models will be utilized throughout the IES process. These models will be selected from the approved model list generated by SET.

6. Review Schedule (all dates tentative)

Project Phase / Submittal	Review Start	Review Complete
MMC QC Review Modeling	19 OCT 2011	28 JUN 2013
MMC Complete Final Report	3 FEB 2014	31 MAR 2014
NAE Cadre PFMA	22 JUL 2013	15 OCT 2013

NAE Cadre SQRA	16 OCT 2013	2 MAY 2014
Risk Assessment	10 FEB 2014	11 SEP 2014
DQC Review of Risk Assessment	8 JUL 2014	5 AUG 2014
Cadre Brief District and provide Recommendations	13 AUG 2014	20 AUG 2014
Draft IES Report Complete	5 JAN 2015	8 APR 2015
Final IES Report Complete	8 APR 2015	3 NOV 2015

7. Public Participation

Public participation will not take place until the IES phase is completed. Public and stakeholder coordination will be performed to inform interested parties about the DSAC II rating and ongoing IES. Findings of the Final IES will also be shared with appropriate stakeholders. If this project results in a Dam Safety Modification Study (DSMS), future public coordination will occur for NEPA compliance. Huntington District staff has initiated risk communication activities with the Ohio Emergency Management Agency, who will be the lead agency to coordinate local agency coordination. Given the large number of local, state, and Federal stakeholders involved, risk communication activities will be intensive and will focus on public notification, risk awareness, and the value added (through annual damage reduction) from Delaware Dam.

8. Cost Estimate *(dates and costs are tentative)*

Task Description	Review Start	Review Cost
DQC Review	2 MAY 2014	\$91,000.00
ATR Review	18 JUL 2014	\$46,000.00
QCC Review	8 AUG 2014	\$108,000.00
SOG Review	21 JUL 2014	\$85,000.00

9. Execution Plan

All reviews will be conducted by their respective team(s). Meeting minutes will be developed by the Project Manager (or his/her designated representative) and provided to team members to serve as a record of items discussed. Technical reviews will utilize Dr.Checks (or similar comment tracking/resolution software) to ensure that a systematic response to all applicable comments is recorded and addressed. The use of email and other forms of electronic communication will assist in the recordation of project-related documents. Team members will each be responsible for maintaining personal notes/phone logs/correspondence related to the project.

a. District Quality Control*i. General*

DQC will be conducted after completion of the draft IES. DQC requires both supervisory oversight and District technical experts. The district will conduct a robust DQC in accordance with EC 1165-2-214, Civil Works Review Policy, the District's Quality Management Plan, and ER 1110-2-12, Quality Management. Documentation of DQC activities is required and will be in accordance with the District and MSC Quality manuals. The DQC and ATR will be concurrent. Comments and responses from DQC will be available for the ATR team to review through ProjNet DrChecks.

ii. DQC Review and Control

The District Dam Safety Project Manager will schedule DQC review meetings. The in-progress review meetings should include PDT members from Geotechnical, Dam Safety, Hydrology & Hydraulics, Structures, Mechanical, General Engineering, Cost Engineering, Project Management, Planning, and Operations as applicable. DQC Review will be conducted on the completed final draft IES including all Sections and Appendixes and will include comments, back-check and IES revisions. ProjNet DrChecks review software will be used to document reviewer comments, responses and associated resolutions. Comments should be limited to those that are required to ensure the adequacy of the product.

b. Agency Technical Review*i. General*

Draft ER 1110-2-1156, Chapter 8 describes the purpose, process, roles and responsibilities for an IES in addition to the submittal, review, and approval process. The Risk Management Center (RMC) is responsible for coordinating and managing agency technical review of the IES Report in accordance with EC 1165-2-214. The ATR Lead will be an RMC team member unless otherwise approved by the RMC Director. The ATR Lead in cooperation with the PDT, MSC, and vertical team will determine the final make-up of the ATR team.

ii. ATR Review and Control

Reviews will be conducted in a fashion which promotes dialogue regarding the quality and adequacy of the IES and baseline risk assessment necessary to achieve the purposes of the IES. The ATR team will review the IES report which includes supporting risk and stability analysis documentation. A QCC of the baseline risk estimate and supporting documentation will be performed under the leadership of the RMC. Therefore, the level of effort for each ATR reviewer is expected to be between 16 and 32 hours. DrChecks review software will be used to document reviewer comments,

responses and associated resolutions. Comments should be limited to those that are required to ensure the adequacy of the product. The RMC in conjunction with the MSC, will prepare the charge to the reviewers, containing instructions regarding the objective of the review and the specific advice sought. A kick off meeting will be held with the ATR team to familiarize reviewers with the details of the project.

The four key parts of a review comment will normally include:

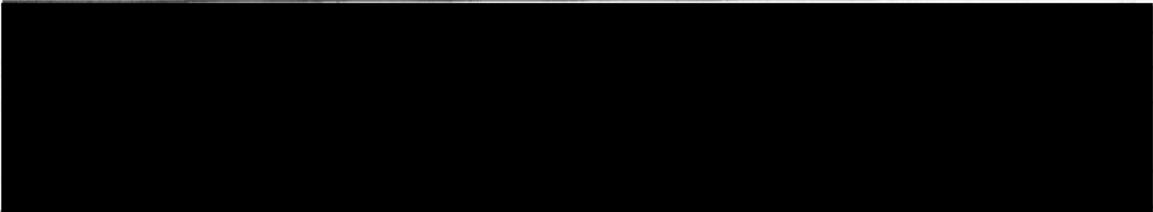
- (1) The review concern – identify the product's information deficiency or incorrect application of policy, guidance, or procedures.
- (2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not been properly followed.
- (3) The significance of the concern – 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.
- (4) The probable specific action needed to resolve the concern – identify the action(s) that the PDT must take to resolve the concern.

In some situations, especially those addressing incomplete or unclear information, comments may require 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 coordination, and lastly the agreed upon resolution. The ATR team will prepare a Review Report which includes a summary of each unresolved issue; each unresolved issue will be raised to the vertical team for resolution. Review Reports will be considered an integral part of the ATR documentation and shall also:

- (1) Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer.
- (2) Include the charge to the reviewers prepared by the RMC in accordance with EC 1165-2-214, 7c.
- (3) Describe the nature of their review and their findings and conclusions.
- (4) Include a verbatim copy of each reviewer's comments and the PDT's responses.

ATR may be certified when all ATR concerns are either resolved or referred to HQUSACE for resolution and the ATR documentation is complete. Certification of ATR should be completed, based on work reviewed to date, for the final report. A draft certification is included in Attachment 1.

10. Review Plan Points of Contact

Name/Title	Organization	Email/Phone
		

ATTACHMENT 1

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 (home district)
Office Symbol

Date

SIGNATURE

Name
Architect Engineer Project Manager¹
Company, location

Date

SIGNATURE

[Redacted]
Director, RMC

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 (home district)
Office Symbol

Date

SIGNATURE

Name
Dam Safety Officer² (home district)
Office Symbol

Date

¹ Only needed if some portion of the ATR was contracted
² Only needed if different from the Chief, Engineering Division.

ATTACHMENT 2

TEAM ROSTERS

Include rosters and contact information for the current PDT, Risk Cadre, DQC team, ATR team, vertical team and RMC points of contact.

Risk Cadre

Name	District	Discipline	Email/Phone

Huntington District PDT

Name	District	Discipline	Email/Phone
[Redacted Content]			

RMC Advisory Team (Cadre LRL-1)

Name	Role	Discipline	Email/Phone

Name	Role	Discipline	Email/Phone

ATTACHMENT 3

RISK MANAGEMENT CENTER ENDORSEMENT MEMORANDUM



DEPARTMENT OF THE ARMY
RISK MANAGEMENT CENTER, CORPS OF ENGINEERS
12598 W. BAYAUD AVENUE SUITE 400
LAKEWOOD, CO 80228

REF ID: A7111111
ATTENTION OF
CEIWR-RMC-WD

CEIWR-RMC

19 February 2013

MEMORANDUM FOR: Commander, Huntington District, ATTN: CELRH-PM-PP-P

SUBJECT: Risk Management Center Endorsement – Delaware Dam, OH – Issue Evaluation Study Review Plan

1. The Risk Management Center (RMC) has reviewed the Review Plan (RP) for the Delaware Dam, revised February 2013, and concurs that this RP provides for an adequate level of peer review and complies with the current peer review policy requirements outlined in EC 1165-2-214 "Civil Works Review", dated 15 December, 2012.
2. This review plan was prepared by the Huntington District, reviewed by the Great Lakes and Ohio River Division and the RMC, and all review comments have been satisfactorily resolved.
3. The RMC endorses this document to be approved by the MSC Commander. Upon approval of the RP, please provide a copy of the approved RP, a copy of the MSC Commander's approval memorandum, and a link to where the RP is posted on the District website to [REDACTED]
4. Thank you for the opportunity to assist in the preparation of this RP. Please coordinate all aspects of the Agency Technical Review. For further information, please do not hesitate to contact me at [REDACTED]

[REDACTED]

Senior Review Manager
Risk Management Center

CF: [REDACTED]