DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
201 NORTH THIRD AVENUE
WALLA WALLA WA 99362-1876

REPLY TO
ATTENTION OF:

CENWW-PPPMD (1110a) 27 April 2015

MEMORANDUM FOR Commander, Northwestern Division, (CENWD-RBT/Mr. Joe Kellett), P.O. Box 2870, Portland, OR 97208-2870

SUBJECT: Mill Creek Storage Dam and Diversion Structure Dam Safety Modification Study Review Plan

1. In accordance with Engineer Circular 1165-2-214, "Civil Works Review Policy", the Mill Creek Storage Dam and Diversion Structure Dam Safety Modification Study Review Plan is submitted for final approval.

2. This review plan was prepared by the Walla Walla District and is endorsed by the Risk Management Center (RMC).

3. Questions or comments regarding the review plan may be directed to Karen Robison, Project Manager, at 509-527-7614.

Encl

ALAN W. FEISTNER, P.E., P.M.P.
Deputy District Engineer for
Programs and Project Management

CF:
CENWD-RBT (Berre, wo/encl)

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

19 November 2014

MEMORANDUM FOR: Commander, Walla Walla District, ATTN: CENWW-PM-PPM

SUBJECT: Risk Management Center Endorsement – Mill Creek Storage Dam and Diversion Structure Dam Safety Modification Study Review Plan

1. The Risk Management Center (RMC) has reviewed the Review Plan (RP) for Mill Creek Storage and Diversion Structure Dam Safety Modification Study Review Plan, dated 19 November 2014, and concurs that this RP complies with the current peer review policy requirements outlined in EC 1165-2-214 "Civil Works Review Policy", dated 15 December, 2012.

2. This review plan was prepared by CENWW-PM-PPM Walla Walla District, reviewed by NWD, and the RMC, coordinated with the Flood Risk Management Planning Center of Expertise, 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 the RMC Senior Review Manager (rmc.review@usace.army.mil).

4. Thank you for the opportunity to assist in the preparation of this RP. Please coordinate all aspects of the Agency Technical Review, the Independent External Peer Review (as appropriate), and Model Certification efforts defined in the RP. For further information, please contact me at 304-399-5217.

Sincerely,

JOHN D. CLARKSON, P.E.
Senior Review Manager
Risk Management Center

CF:
CEIWR-RMC (Mr. Snorteland)
CENWD-RBT (Division Quality Manager)

Review Plan
U.S. Army Corps of Engineers
Northwestern Division
Walla Walla District

Mill Creek Storage Dam and Diversion Structure
Dam Safety Modification Study

US Army Corps of Engineers®

April 2015

Contents

1. Introduction

a. Purpose

This Review Plan is intended to ensure a quality-engineering Dam Safety Modification Study developed by the Corps of Engineers. ER 1110-2-1156, "Dam Safety Policy and Procedures" dated 31 March 2014, Chapter 9 describes the Dam Safety Modification Study (DSMS) development, review, and approval process. This Review Plan has been developed for Mill Creek Storage Dam and Diversion Structure, P2 number 398949. This Review Plan was prepared in accordance with EC 1165-2-214, "Civil Works Review Policy", and covers the review process for the Mill Creek Storage Dam and Diversion Structure Dam Safety Modification Report. This Review Plan is attached to the Project Management Plan (PMP). The DSMS is a study that will evaluate risk reduction measures. NEPA compliance will occur during this Study.

b. Project Description and Information

The Mill Creek Flood Control Project (FCP) is located approximately 2.5 miles east of Walla Walla, Washington, at stream mile 11 on Mill Creek, a tributary of the Walla Walla River. The primary purpose of the FCP is to provide flood damage reduction to Walla Walla, Washington, by diverting floodwater to Bennington Lake at the Mill Creek Storage Dam. The project reduces flood damages to areas bordering Mill Creek, Yellowhawk Creek, and Garrison Creek downstream of the Mill Creek Diversion Dam.

The FCP consists of a diversion dike, a concrete spillway (diversion dam), headwork gates for the diversion of flows to Bennington Lake, and the storage dam. The Diversion Dam is currently categorized as a Dam Safety Action Classification (DSAC) 4, low urgency. The Storage Dam is a DSAC 3, moderate urgency. The risks for the FCP exceed USACE Tolerable Risk Guidelines and are considered "actionable."

This Dam Safety Modification Study will identify and recommend a risk management plan that supports the expeditious and cost effective reduction of risk within the overall USACE portfolio of Dams. The end product is a Dam Safety Modification Report (Decision Document) that presents the investigation, documentation, and rationale for modifications for dam safety at the Mill Creek FCP. As part of the study and analysis, an effects assessment will be completed in compliance with the National Environmental Policy Act. Work will include a public outreach process, coordination with agencies and tribes, and compliance with other applicable statutes including Clean Water Act, National Historic Preservation Act, Endangered Species Act, etc.

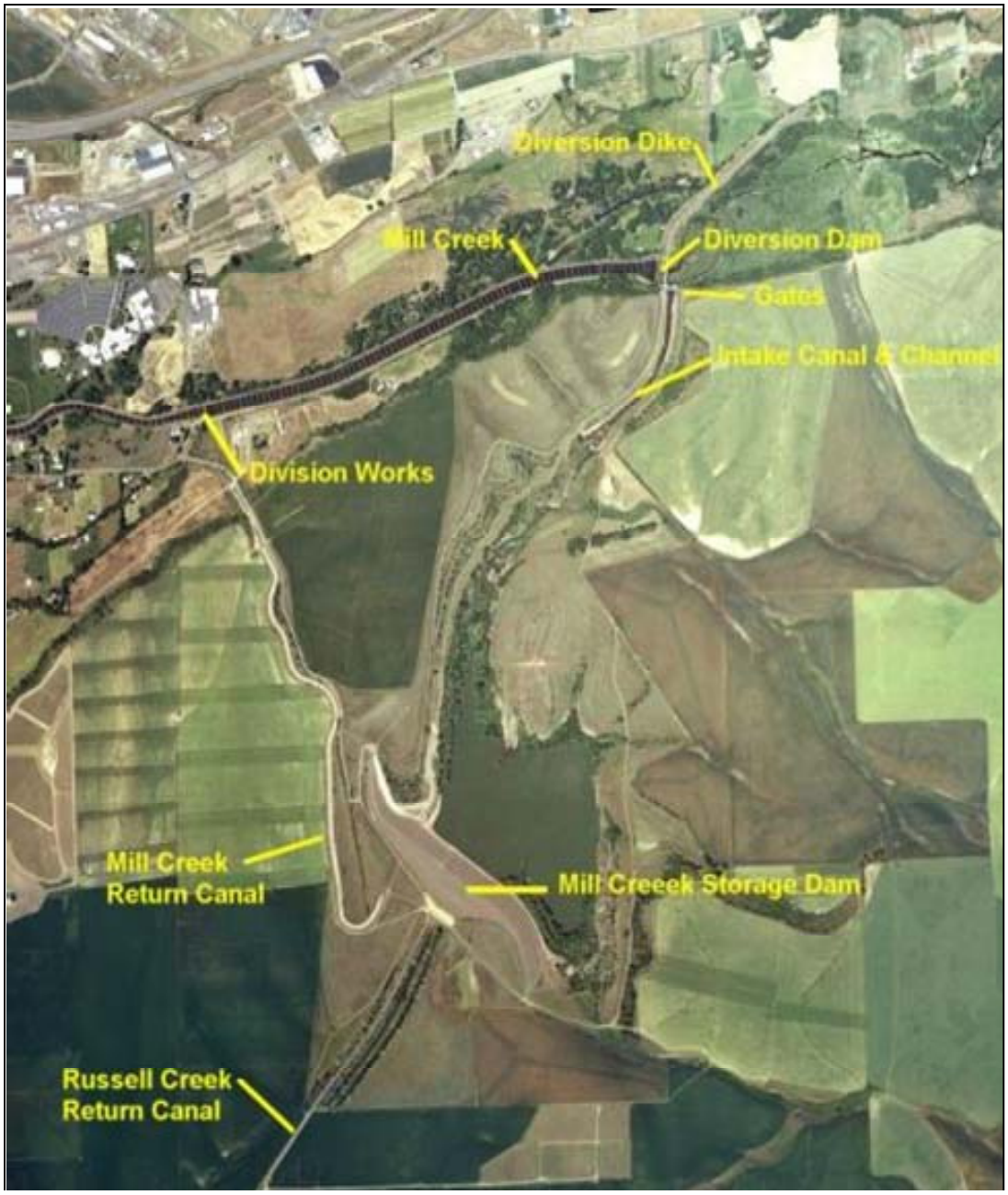

Figure 1-1: General Project Features

The DSMS will undertake the following six step framework of civil works planning presented in ER 1105-2-100 "Planning Guidance Notebook".

1. Identify dam safety issues and risk-reduction opportunities
2. Estimate existing and future without Federal action condition risk
3. Formulate alternative risk management plans
4. Evaluate alternative risk management plans
5. Compare alternative risk management plans
6. Select a risk management plan

Measures that may be evaluated during the study include:
Diversion Dam PFM 1 - Overtopping of the Dike
Diversion Dam PFM 2 - Spillway Weir Instability
Diversion Dam PFM 3 - Scour of the Dike at the Old Stream Channel
Storage Dam PFM 4 - Erosion of the Embankment into the Foundation Conglomerate

c. Levels of Review

DSMS Reviews shall include:

- District Quality Control (DQC)
- Agency Technical Review (ATR)
- Quality Assurance and Policy Compliance Reviews by HQ and NWD
- Type I Independent External Peer Review (IEPR)
- Quality Control and Consistency Review (RMC staff and/or external experts)
- Dam Senior Oversight Group Review (DSOG)

d. ATR Review Team

The Agency Technical Review (ATR) is undertaken to "ensure the quality and credibility of the government's scientific information" in accordance with EC 1165-2-214 and the Walla Walla District Quality Management System (QMS) 5502 Civil Works Review Process. This review will also cover the National Environmental Policy Act (NEPA) documents and other environmental compliance products. The ATR team will be engaged during the Formulate Alternative Risk Management Plans phase.

Review Management Office: The USACE Risk Management Center (RMC) is the Review Management Organization (RMO) for dam safety related work, including this DSMS. Contents of this review plan have been coordinated with the RMC and the Northwestern Division, the Major Subordinate Command (MSC). Informal coordination with NWD will occur throughout the DSMS development, including briefings to the NWD Dam Safety Committee and Program Review Board updates. In-Progress Review (IPR) team meetings with the RMC, NWD, and HQ will be scheduled monthly or "as needed" to discuss programmatic, policy, and technical matters. The NWD Dam Safety Program Manager will be the POC for vertical team coordination. This review plan will be updated for each new project phase.

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

ATR Lead: The RMC assigned Darin White as the ATR lead. The ATR team lead 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, Civil Engineering and Construction.

Geotechnical Engineer - shall have experience in the field of geotechnical engineering, analysis, design, and construction of earth embankment dams. 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 earth embankment dams constructed on silts and conglomerate with open gravel 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, 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.

Reservoir Control/Water Management – should have a minimum of 10 years experience directly related to water management and reservoir control. The member shall have expertise in real-time daily and flood operations, regulation decisions, gauging network and system infrastructure, national water control policy, water control data software, and systems operations.

Cost Engineer Panel Member – should have a minimum of 15 years experience with dam construction cost estimating and a working familiarity of USACE cost estimating systems (presently MII, a second generation of M-CACES).

Environmental/NEPA Impact Assessment Panel Member – should have a minimum of 10 years demonstrated experience in evaluating and conducting NEPA impact assessments, including cumulative effects analyses, for complex multi-objective public works projects with competing trade-offs. This member's experience should include multiple projects in which he/she was involved in the plan formulation process. Experience should encompass determining the scope and appropriate methodologies for impact assessment and analyses for a variety of projects and programs with high public and interagency interests and having project impacts to nearby sensitive habitats.

Real Estate Panel Member – will be experienced in federal civil works real estate laws, policies, and guidance. The Panel Member will review issues with modifications, borrow area rights-of-way, easements, and other real estate transactions.

e. IEPR Review Team

Independent External Peer Review (IEPR) panels will be made up 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. Panel members will be selected using the National Academies of Science (NAS) policy for selecting reviewers.

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 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 panels will be made up of independent, recognized experts from outside of USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. Type I IEPR is conducted on project studies, such as this modification study. It is of critical importance for those decision documents and supporting work products where there are public safety concerns, significant controversy, a high level of complexity, or significant economic, environmental and social effects to the nation. Type II IEPR, Safety Assurance Review (SAR), is conducted on implementation documents (design and construction activities) for any project where potential hazards pose a significant threat to human life (public safety). Type I IEPR, including a Safety Assurance Review, will be conducted on this DSMS. Type II IEPR will be conducted on

the design and construction activities. This review plan will be updated once the project has reached the design and construction phase.

iv. Policy and Legal Compliance Review

All decision documents will be reviewed throughout the study process for their compliance with law and policy. 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.

v. Peer Review of Sponsor In-Kind Contributions

There are no in-kind contributions identified for this DSMS or future risk reduction actions. The Mill Creek FCP is authorized for flood risk management. No activities requiring in-kind contributions are currently authorized.

b. Approvals

i. Review Plan Approval and Updates

The MSC for this DSMS is the Northwestern Division. The MSC Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving the Walla Walla District, MSC, and RMC) 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 Commanders' approval memorandum, will be posted on the District's webpage and linked to the HQUSACE webpage.

District webpage: http://www.nww.usace.army.mil/Library/ReviewPlans.aspx

ii. DSM Report

The DSM Report shall undergo a DQC, ATR, Quality Assurance and Policy Compliance Reviews by HQ and NWD, Type I IEPR with a Safety Assurance Review, and Policy and Legal Compliance Review. After the reviews, the PDT will present the DSMS to the Quality Control and Consistency (QCC) Panel for review. The district and the risk assessment cadre present the risk assessment, 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 DSMS will then be presented to

the Dam Senior Oversight Group (DSOG). The DSOG 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 recommend approval of the final DSMS after all comments are resolved. The DSMS will be approved by the HQ DSO.

3. Guidance and Policy References

- ER 5-1-11, USACE Business Process
- EC 1165-2-214, Civil Works Review Policy, 15 Dec 2012
- ER 1110-2-1156, Safety of Dams – Policy and Procedure, 31 Mar 2014
- ER 1110-1-12, Quality Management, 31 Mar 2011

4. Models

a. General

The use of certified or approved models for all planning activities is required by EC 1105-2-412. 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 being addressed under the Engineering and Construction (E&C) Science and Engineering Technology (SET) initiative. Until an appropriate process that documents the quality of commonly used engineering software is developed through the SET initiative, engineering type models will not be reviewed for certification and approval. 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

Model	Description	Status
MCACES	Developed by Project Time and Cost, Inc. (PT&C), MII is a detailed cost estimating application used by the USACE and its A-E contractors for military, civil works and hazardous, toxic and radioactive waste (HTRW) projects.	Will be developed during the Future Without Action Condition phase
Primavera Project Management	Developed by Primavera Systems, Inc., Project Management is a comprehensive planning application built on Oracle and Microsoft SQL Server relational databases. It is used to schedule and budget project resources.	Updated monthly
HEC-RAS 4.1 and 4.2	The function of this model is to complete one-dimensional hydraulic calculations for a full network of natural and manmade channels. HEC-RAS major capabilities are the user interface, hydraulic analysis, data storage and management, and graphics and reporting.	Complete
HEC-RAS 5.0 and Flo-2D	The function of these models is to complete one and two-dimensional hydraulic calculations for a full network of natural and manmade channels. HEC-RAS and Flo-2D major capabilities are the user interface, hydraulic analysis, data storage and management, and graphics and reporting capabilities.	Complete

5. Review Schedule

Project Phase / Submittal	Review Start	Review Complete
DQC Review	June 2016	July 2016
ATR Review Including these milestones: - Prior to Risk Management Measures Identification Meeting - Prior to Risk Management Plan Meeting - Prior to Tentatively Selected Plan Meeting - Upon completion of Draft DSM Report	August 2016	September 2016
Type I IEPR	March 2016	May 2016
Submit Report to QCC		October 2016
QCC Review	October 2016	November 2016
Policy and Legal Compliance Review	June 2016	November 2016
HQ and NWD Quality Assurance Review	June 2016	November 2016
Submit Report to SOG		February 2017
SOG Review	February 2017	March 2017
ASACW Concurrence		May 2017

6. Public Participation

As required by EC 1165-2-214, the approved Review Plan will be posted on the District public website (http://www.nww.usace.army.mil/Library/ReviewPlans.aspx). 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 Walla Walla District's website. The public will have 10 days to provide comments on the documents; after all comments have been submitted, the comments will be provided to the technical reviewers and responses will be given to the public.

7. Cost Estimate

Task Description	Review Cost
DQC Review	$50,000
ATR Review	$75,000
Type I IEPR	$200,000
QCC Review	TBD
Policy and Legal Compliance Review	TBD
SOG Review	TBD

8. Execution Plan

a. District Quality Control

i. General

DQC will be conducted after completion of the final draft DSMR. 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 DSAC 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 DSMR including all Sections and Appendixes and will include comments, backcheck and DSMR revisions. ProjNet

DrChecks review software will be used to document reviewer comments, responses and associated resolutions.

b. Agency Technical Review

i. General

Draft ER 1110-2-1156, Chapter 9 describes the purpose, process, roles and responsibilities for a DSMS 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 DSM Report in accordance with EC 1165-2-214.

ii. ATR Review and Control

The ATR will start during the Formulate Alternative Risk Management Plan phase begins and continue until the final decision document is complete. Reviews will be conducted in a fashion which promotes dialogue regarding the quality and adequacy of the DSMS and baseline risk assessment necessary to achieve the purposes of the DSMS. The ATR team will review the DSM 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. DrChecks review software will be used to document reviewer comments, responses and associated resolutions. The RMC in conjunction with the MSC, and coordinated with the District PM, 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 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 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.

c. Type I Independent External Peer Review

i. General

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 environmental impacts of the proposed alternative modifications for 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. Since a Type II IEPR (Safety Assurance Review) is anticipated during project implementation (design and construction activities), safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-214.

ii. Type I IEPR Review and Control

The Type I IEPR will start when the draft decision document is available. The IEPR panel will be selected and managed by an Outside Eligible Organization (OEO) per EC 1165-2-214, Appendix D. The Type I IEPR panel members will be comprised of individuals who have not been involved in the development of the decision document, meet the National Academy of Sciences guidelines for independence, and will be chosen by the OEO. The OEO will determine the final participants on the Type I IEPR panel. The name, organization, contact information, credentials, and years of experience of each member will be identified at the time the review is conducted. Once the OEO designates the IEPR panel members, the review plan will be updated to reflect this selection. The types of expertise are anticipated to be similar to those required for ATR.

Panel comments will be compiled by the OEO and should address the adequacy and acceptability of the economic, engineering and environmental methods, models, and analyses used. IEPR comments should generally include the same four key parts as described for ATR comments in Section 8.b above. The OEO will prepare a final Review Report that will accompany the publication of the final decision document and shall:

- 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 the review and the findings and conclusions; and
- Include a verbatim copy of each reviewer's comments or represent the views of the group as a whole, including any disparate and dissenting views.

The final Review Report will be submitted by the OEO no later than 60 days following the close of the public comment period for the draft decision document. USACE shall consider all recommendations contained in the Review Report and prepare a written response for all recommendations adopted or not adopted. The final decision document will summarize the Review Report and USACE response. The Review Report and USACE response will be made available to the public, including through electronic means on the internet.

9. Review Plan Points of Contact

Name/Title	Organization	Email/Phone
Karen Robison / Project Manager	**CENWW-PM**	**Karen.k.robison@usace.army.mil**
Douglas Putman / Division Technical POC	**CENWD-RBT**	**Douglas.a.putman@usace.army.mil**
John Clarkson / Review Manager	**CEIWR-RMC**	**John.d.clarkson@usace.army.mil**

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 DrChecks[sm].

SIGNATURE _____ _____

Name Date
ATR Team Leader
Office Symbol/Company

SIGNATURE _____ _____

Name Date
Project Manager (home district)
Office Symbol

SIGNATURE _____ _____

Name Date
Architect Engineer Project Manager[1]
Company, location

SIGNATURE _____ _____

Nathan Snorteland Date
Director, RMC

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 Date
Chief, Engineering Division (home district)
Office Symbol

SIGNATURE _____ _____

Name Date
Dam Safety Officer[2] (home district)

Office Symbol

[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

Walla Walla District PDT

NWW Dam Safety Officer	Brian Miller
NWW Dam Safety Program Manager	Steven Wyrembelski
Mill Creek DSMS Project Manager	Karen Robison
Chief Design Branch	Robert Hollenbeck
Chief Structural Design	Danielle Stephens
Chief Geotechnical (and Geology)	Marcus Palmer
Chief Hydrology and Hydraulics and Water Management	Lynn Reese
Chief Mechanical	Kyle DeSomber
Chief General Engineering	Julie Davin, acting
Chief Cost Branch	Kim Callan
Chief Planning Division (and Economists)	Rebecca Kalamasz
Chief Operations Division	Andy Valentine, acting
Mill Creek Operations Manager	Justin Stegall
Geotechnical Engineer, Tech lead	Yvonne Gibbons
Planner	Pete Poolman
Geologist	Dan Tucker
Hydrology	Jon Petersen
Water Management	Steve Hall

RMC Risk Cadre

RMC Senior Advisor	Mark Pbast
Geotechnical Engineer, Cadre Lead	Phil Smith
Technical Advisor	Ryan Grove

Vertical Team

NWW Dam Safety Program Manager	Steve Wyrembelski
NWW Dam Safety Officer	Brian Miller
NWD Dam Safety Center of Expertise, NWO Chief, Engineering	John Bertino
NWD Dam Safety Center of Expertise, NWO, Geotechnical Eng	Dave Ray
NWD Dam Safety Program Manager, acting Dam Safety Officer	Laila Berre
NWD Chief Regional Business Technical	Joe Kellett
HQUSACE Special Assistant for Dam and Levee Safety	Eric Halpin
HQUSACE Dam Safety Program Manager	Barbara Schuelke
RMC Review Manager	John Clarkson
RMC Program Manager	Dave Carlson
RMC Director	Nate Snorteland
NWD Structural Expert	Tom North
NWD Geotechnical Expert	Yong Rhee
NWD H&H Expert	Brad Bird
NWD District Support Team	Matt Rea
NWD Chief Planning	Dave Combs
NWD Chief Civil Works Program	Doug Clarke
NWD Chief Columbia Basin Water Management	Jim Barton
NWD Chief Operations	Lori Rux

District Quality Control (DQC) Team

Hydrologic Engineer	Steve Hall
Structural Engineer	Marvin Parks
Mechanical Engineer	Chuck Palmer
Geotechnical Engineer	John Gent
Dam Safety	Steve Wyrembelski
Cost Engineer	Kurt Friederich
Economics	Craig Newcomb
Operations	Chris Alford

Agency Technical Review (ATR) Teams

ATR Lead	Darin White, LRH
Structural Engineer	Jerry Casto, LRH
Hydraulic Engineer	Travis Ball, NWS
Mechanical Engineer	Brenden McKinley, LRH
Geotechnical Engineer	Adam Kays, LRH
Engineering Geologist	Richard Garrison, NWS
Economics / Consequences	Timothy Smith, LRH
Reservoir Control / Water Management	Kenneth Brettmann, NWS
Cost Engineer	Simon Fet, LRH
Environmental / NEPA	Kim Franklin, LRN
Real Estate	Gary Walker, LRH