



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

REPLY TO  
ATTENTION OF:

09 JUL 2013

CEMVD-PD-SP

MEMORANDUM FOR Commander, Rock Island District

SUBJECT: Mississippi River at Davenport, Iowa Flood Damage Reduction Project, Reach 1, Project Review Plan (RP)

1. References:

a. Memorandum, CEMVR-PM-M, 1 July 2013, subject as above (encl 1).

b. Memorandum, CEMVD-RB-T, 3 July 2013, subject: Mississippi River at Davenport, Iowa, Flood Damage Reduction Project, Reach 1, Project Review Plan (encl 2).

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

2. The enclosed RP for Davenport, Iowa, Flood Damage Reduction Project, Reach 1, has been prepared in accordance with EC 1165-2-214. The RP has been coordinated with the Upper District Support Team and the Regional Business Technical Division who concurred with the plan in reference b. of the enclosed memorandum.

3. I hereby approve this RP, which is subject to change as circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this RP or its execution will require new written approval from this office. Non-substantive changes to this RP do not require further approval. The District should post the approved RP to its web site.

4. The MVD point of contact for this action is Mr. Gabe Harris, CEMVD-PD-SP, (601) 634-5926.

A handwritten signature in black ink, appearing to read "Edward E. Belk, Jr.", written over a white background.

2 Encls

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



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT  
PO BOX 2004 CLOCK TOWER BUILDING  
ROCK ISLAND, ILLINOIS 61204-2004

CEMVR-PM-M

JUL 01 2013

MEMORANDUM FOR Commander, US Army Corps of Engineers, Mississippi Valley Division (CEMVD-PD-SP/Harris), PO Box 80, 1400 Walnut Street, Vicksburg, Mississippi 39181-0080

SUBJECT: Mississippi River at Davenport, Iowa Flood Damage Reduction Project, Reach 1, Project Review Plan (RP)

1. The subject Review Plan (Encl 1) is submitted for your review and approval. The RP includes Construction (implementation product). An electronic copy of the subject RP with MVD's *Review Plan Checklist for Implementation Documents* has been sent to Mr. William (Gabe) Harris, CEMVD-PD-SP.

2. The point of contact is Mr. Jim Homann, Project Manager, at (309)794-5704, or e-mail: james.d.homann@usace.army.mil.

Encl  
as

  
MARK J. DESCHENES  
COL, EN  
Commanding

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# DAVENPORT LOCAL FLOOD PROTECTION DAVENPORT, IOWA

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## REVIEW PLAN

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### ENGINEERING, DESIGN, AND CONSTRUCTION PHASE

MSC Approval Date: Pending

Last Revision Date: None



US Army Corps  
of Engineers<sup>®</sup>  
Rock Island District

P2# 109780  
June 2013

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**DAVENPORT LOCAL FLOOD PROTECTION  
DAVENPORT, IOWA**

**REVIEW PLAN**

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# DAVENPORT LOCAL FLOOD PROTECTION DAVENPORT, IOWA

## REVIEW PLAN

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### 1 Purpose and Requirements

#### 1.1 Purpose

This Quality Control (QC) Review Plan (RP) defines the scope and level of quality management activities for the Davenport Local Flood Protection in Davenport, Iowa. The purpose of this RP is to define the scope and level of review for implementation documents for the Davenport Local Flood Protection in Davenport, Iowa (Project). This RP is a standalone document but is also included in an appendix of the subject Project Management Plan (PMP).

#### 1.2 Documents for Review

The project is in the implementation phase. The implementation documents are the 100% plans, specifications, design documentation report, and updates (as required) to the operations and maintenance manual for the Project.

#### 1.3 Review Requirements

This RP was developed in accordance with Engineering Circular (EC) 1165-2-214, which establishes the procedures for ensuring the quality and credibility of US Army Corps of Engineers (Corps) decision and implementation documents through independent review. This RP describes the scope of review for the current phase of work. This RP will include all appropriate levels of review (District Quality Control Review (DQCR), Biddability, Constructability, Operability, and Environmental Review (BCOE), Independent External Peer Review (IEPR), Policy, and Legal Review). The RP identifies the most important skill sets needed in the reviews and the objective of the review and the specific advice sought, thus setting the appropriate scale and scope of review for the individual project.

## 1.4 References

a.	ER 1105-2-100, <i>Planning Guidance Notebook</i> , 20 November 2007
b.	ER 1110-1-12, <i>Engineering and Design - Quality Management</i> , 21 July 2006, incorporating Change 1, 30 September 2006
c.	ER 1110-2-1150, <i>Engineering and Design for Civil Works</i> , 31 August 1999
d.	ER 1110-2-1155, <i>Engineering and Design – Dam Safety Program</i> , 12 September 1997
e.	EC 1105-2-408, <i>Peer Review of Decision Documents</i> , 31 May 2005
f.	EC 1105-2-410, <i>Review of Decision Documents</i> , 22 August 2008
g.	EC 1165-2-214, <i>Civil Works Review Policy</i> , 15 December 2012
h.	RHA 1970, Rivers and Harbors Act 1970; Public Law 91-611
i.	Army Regulation 15–1, <i>Committee Management</i> , 27 November 1992 (Federal Advisory Committee Act Requirements)
j.	National Academy of Sciences, <i>Background Information and Confidential Conflict Of Interest Disclosure, BI/COI FORM 3</i> , May 2003

## 2 Review Management Organization Coordination

The Review Management Organization (RMO) is responsible for the overall peer review effort described in this RP. The Mississippi Valley Division (MVD) will serve as the RMO for this project, and MVD is responsible for approving the RP.

## 3 Project Information

### 3.1 Background

The Davenport Water Treatment Plant (DWTP) is located near the upstream end of Davenport, Iowa, at RM 484 on the right descending bank of the Mississippi River. The DWTP provides the only source of potable water service for more than 131,000 customers in Davenport, Bettendorf and other parts of Scott County, IA. Due to a series of damaging floods in 1993, 1999, and 2001 which threatened the DWTP and required flood fighting to remain operable, construction of a flood protection system with floodwall and levee for Reach 1, which includes the water treatment plant, City property, and railroad property, was needed. The cities adjacent to Davenport, including Bettendorf, Iowa, and Rock Island and East Moline, Illinois, have a high level of protection from Mississippi River flooding based on a 200-year design event. The proposed project level of protection would be equivalent to the level of protection of these adjacent cities based on the project design criteria. The DWTP is shown in Figure 1.



**Figure 1:** Aerial View of the Davenport Water Treatment Plant During the 2001 Flood  
(The Mississippi River is on the right, looking upstream. The sandbag structure is along the approximate alignment of the proposed Floodwall.)

### 3.2 Davenport Project Component Status

The DWTP currently is unprotected against major flood events. In the event of a major flood, flood fighting activities are initiated and a 2,400 ft long temporary floodwall is constructed at a very high cost. The proposed flood risk management project to eliminate needing a temporary floodwall is detailed in Figure 2.

Review Plan  
Davenport Local Flood Protection

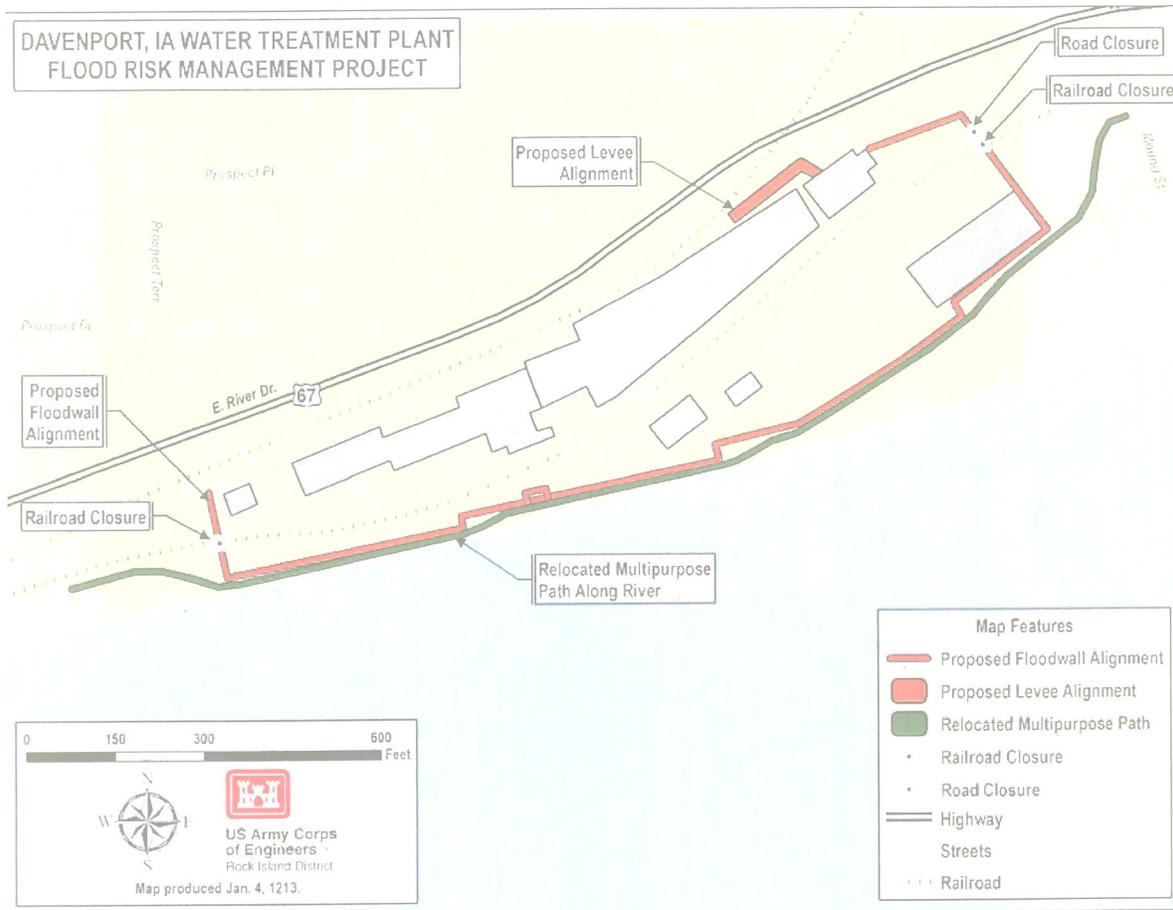


Figure 2. Project Site Plan Showing Various Project Components Including the Floodwall, Closure Structures, and Relocated Multipurpose Path

### 3.3 Project Description

The construction project includes constructing the following features:

- primary floodwall (2,200 ft)
- earth embankment (200 ft)
- access closure structures (2 railroad, 1 road)
- temporary and permanent access roads to DWTP
- O&M access road
- interior flood control features (gatewells, sewer work, utility relocations)

### 3.4 Project Location

As shown in Figure 3, this project is located at the DWTP which is located near the upstream end of Davenport, Iowa, at RM 484.



**Figure 3:** Davenport Water Treatment Plant in Relation to the Mississippi River and Surrounding Metropolitan Area

### **3.5 Project Authority**

A Mississippi River Flood Damage Reduction Project at Davenport, Iowa, was authorized for construction on December 31, 1970, under Public Law (PL) 91-611, 91<sup>st</sup> Congress, in accordance with the recommendations of the Chief of Engineers in House Document No. 92-161, Ninety-Second Congress, 1<sup>st</sup> session. A Post-Authorization Change report (PAC) based on the Davenport, Iowa, Phase I General Design Memorandum (GDM), dated August 1976, was approved on November 29, 1977. The Phase I GDM, with the exception of the Nahant Marsh feature, was approved May 2, 1978. The availability of the final Environmental Impact Statement (EIS) was published in the *Federal Register* on March 3, 1978. A Phase II GDM recommending revisions to the proposed project was completed in February 1982 and approved on June 4, 1982. In May 1984, the City declined to participate in construction of the project. The project was classified as inactive and was scheduled to be de-authorized in April 2002.

Following a series of damaging floods in 1993, 1999, and 2001, the City of Davenport Council signed a May 16, 2001 resolution requesting a Corps reconnaissance study and appropriation of Federal funds. Federal funds were made available to initiate a Limited Reevaluation Study (LRS) in September 2001. The LRS, which was completed in June 2002 and approved in August 2002, showed a continued Federal interest in a flood damage reduction project at Davenport, Iowa for Reach 1.

### **3.6 Product Information**

The results of the Implementation Phase of the Project will be design, specifications, and supporting documentation for the project to go to solicitation. Implementation documents include the plans, specifications, engineering documentation report (EDR), and an Operations and Maintenance (O&M) Manual. The purpose of implementation documents is to provide a detailed plan for construction. The plans, specifications, and EDR will be developed by a Corps Project Delivery Team (PDT). A construction contractor will complete the construction.

### **3.7 Scope**

All work products will undergo DQCR Review and BCOE. It is anticipated that a Type II IEPR will not be required for the final implementation products. Each level of review and how it applies to the project is explained below.

The MVD Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving District, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the implementation documents. Like the PMP, the Review Plan is a living document and may change as the study progresses. The home district is responsible for keeping the Review Plan up to date. Significant changes to the Review Plan (such and changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the

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Davenport Local Flood Protection*

Commander’s approval memorandum, should be posted on the home district’s webpage. The latest Review Plan should also be provided to vertical team members (i.e. the RMO, RMC, and home MSC).

## **4 District Quality Control Review**

A DQCR is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). It is managed in the home district and may be conducted by staff in the home district as long as they are not doing the work involved in the study. The design products for the Davenport Local Flood Protection project were developed entirely internal to the Corps of Engineers by the project delivery team. Basic quality control tools used on the project include a Quality Management Plan providing for seamless review, peer quality checks and reviews, supervisory reviews, project delivery team (PDT) reviews, a biddability, constructability, operability, and environmental (BCOE) review, in-house product development checklists, and established Business Quality Practices used to ensure quality procedures are followed. A DQCR also includes certification of the plans, specifications, and Decision Documentation Report by a BCOE signoff certification, which includes the chiefs of construction, engineering, and operations divisions and the chiefs of the civil construction and geotechnical functional elements.

DQCR efforts include the necessary expertise to address compliance with published Corps policy. When policy and/or legal concerns arise during DQCR efforts that are not readily and mutually resolved by the PDT and the reviewers, the district seeks issue resolution support from MVD and Headquarters, U.S. Army Corps of Engineers (HQUSACE) in accordance with the procedures outlined in Appendix H, ER 1105-2-100 or other appropriate guidance.

The MVD and Rock Island District Quality Management Plans address the conduct and documentation of this fundamental level of review. DQCR is required for this project.

### **4.1 District Quality Control Review Points of Contact**

Rock Island District Quality Control Manager	Mr. Ronald Mott	309-794-5425
Rock Island District Design Branch Chief	Mr. Roger Less	309-794-5664
Rock Island District Engineering and Construction Chief	Mr. Denny Lundberg	309-794-5226

### **4.2 Peer Reviews (District Quality Control Review)**

Prior to BCOE, all implementation documents will receive a peer review as stated in Section 4 above. The peer review is conducted by a peer in the same discipline and double checks calculations, assumptions, and other design details used in the design and specifications. A certification will be prepared once issues raised by the reviewers have been addressed to the review team’s satisfaction.

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Indication of this concurrence will be documented by the signing of a quality assurance certification statement by the MVR Chief of Engineering and Construction Division. This certification will state that the PDT team concurs with the project design and that it is ready for advertising. The Technical Project Leader for each review will have the same role as the Lead Engineer as defined in ER-1110-2-1156. Peer review disciplines and individuals are listed in Attachment 1.

#### **4.2.1 BCOE Review**

The BCOE Review examines all aspects of the documents used to bid for a construction contract to ensure they will result in a biddable and constructible project. A BCOE Review occurs prior to advertising the contract for bids. Attachment 1 lists BCOE Review disciplines and individuals

## **5 Agency Technical Review**

The ATR is an in-depth review undertaken to ensure the quality and credibility of the government's scientific information, managed within the Corps, 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. ATR is mandatory for all decision and implementation documents. For other work products, a case specific risk-informed decision is made as to whether ATR is appropriate. The purpose of ATR is to ensure 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 are comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. To assure independence, the leader of the ATR team is selected from outside the MVD.

## **6 Independent External Peer Review**

An IEPR 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 the Corps is warranted. Any work product that undergoes ATR may also undergo Type I and/or Type II IEPR. In general, decision documents undergo Type I IEPR and implementation documents undergo Type II IEPR (or Safety Assurance Review). Meeting the specific conditions identified for possible exclusions is not, in and of itself, sufficient grounds for recommending exclusion.

### **6.1 Type I IEPR**

This project will not require Type I IEPR because it is in the implementation phase rather than the study phase.

## **6.2 Type II IEPR and Basis for Decision on IEPR Recommendation**

A Type II IEPR is conducted to insure public health, safety, and welfare. The circumstances requiring a Type II IEPR are described in Appendix E of EC 1165-2-214. Each of those circumstances is explicitly considered in developing a risk-informed rationale for determining the appropriate level of review, including the need for a safety assurance review.

It is recommended that a Type II IEPR is not required. Denny Lundberg, MVR Chief of Engineering and Construction discussed this project with Bob Fitzgerald, MVD Chief of the Business Technical Division. Mr. Fitzgerald concurs that an IEPR Type II is not required for this project. See Attachment 5 for the risk-informed IEPR decision documentation.

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

Corps projects are reviewed throughout the Project process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the MVD Commander. The DQCR and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents. The Project plans and specification implementation documents will complete a policy and legal compliance review as part of DQCR and ATR.

## **8 Review Schedule and Costs**

The recommended project schedule should show the timing and sequence of all reviews to include a milestone schedule with the critical features of the project design and construction.

### **8.1 District Quality Control Review Schedule**

The district quality control guidelines require a DQCR and a BCOE review. In 2010 when the review was conducted, the DQCR was referred to as an Independent Technical Review (ITR). The DQCR costs are paid from project funds. The schedules for completing the major reviews are:

	<b>Start</b>	<b>End</b>
DQCR Review	11Jan2010	05Feb2010
BCOE Review 1	11Feb2010	12Mar2010
BCOE Review 2	28Feb2011	25Mar2011

## 8.2 BCOE Schedule and Cost

The BCOE costs are paid from project funds. Schedule and costs for the BCOE review are as follows:

### 8.2.1 BCOE Schedule

	BCOE #1	BCOE #2
Review documents and charge sent to BCOE Team	11Feb2010	28Feb2011
BCOE DrChecks comments complete	25Feb2010	09Mar2011
PDT DrChecks evaluations complete	03Mar2010	16Mar2011
BCOE backchecks complete; DrChecks closed	12Mar2010	25Mar2011
BCOE certification form signed	12Mar2010	25Mar2011

### 8.2.2 BCOE Cost

Discipline	Estimated Labor Cost
BCOE Team Lead	\$10,000
Supporting Disciplines	\$3000 ea. @ 6 ea. =\$18,000
<b>TOTAL</b>	<b>\$28,000</b>

## 8.3 Project Deliverable Schedules

EDR Approved	21Feb2006
Plans & Specs Complete	01Aug2011
O&M Manual Complete	TBD

## 9 Review Plan Approval and Updates

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

## 10 Review Plan Points of Contact

MVD Division Support Team	Mr. Gabe Harris	601-634-5926
Rock Island District, Program Manager	Mr. Andy Barnes	309-794-5640
Rock Island District City of Davenport, IA Project Manager	Mr. Jim Homann	309-794-5704

## ATTACHMENT 1

### DISTRICT QUALITY CONTROL TEAM ROSTERS

Following are the lists of review teams that will perform the DQCR activities. The DQCR will be managed by the home district in accordance with MSC and District Quality Management Plans.

#### Project Delivery Team

NAME	DISTRICT/ORG	DISCIPLINE
Andy Barnes	CEMVR-PM-M	Program Manager
Jim Homann	CEMVR-PM-M	Project Manager
Jon Fleischman	CEMVR-EC-DM	Project Engineer
John Kincaid	CEMVR-EC-DM	Chief, Project Engineer Section
Nick Peschang	CEMVR-EC-DM	Lead Technician
Fred Joers	CEMVR-EC-DS	Chief, Structural Engineering Section
Brant Jones	CEMVR-EC-DS	Lead Structural Engineer
Dennis Padakis	CEMVR-EC-DS	Structural Technician
Cathy Tillberg	CEMVR-EC-DG	Landscape Architect
Bryan Radtke	CEMVR-EC-DG	Lead Electrical Engineer
Bryan Pattschull	CEMVR-EC-DG	Electrical Engineer
Chuck VanLaarhoven	CEMVR-EC-TE	Chief, Cost Engineering and Specifications
Mike Cummings	CEMVR-EC-TE	Lead Cost Engineer
Fred Hanshaw	CEMVR-EC-TE	Lead Specifications Engineer
Jotham Povich	CEMVR-EC-G	Lead Geotechnical Engineer
Dan Johnson	CEMVR-EC-TS	Lead Survey Branch Technician
Kevin Landwehr	CEMVR-EC-H	Chief, Hydrology and Hydraulics
Robert Lazenby	CEMVR-OC	Real Estate Attorney
Stu Jackson	CEMVR-RE-P	Chief of Real Estate
Ron Williams	CEMVR-RE-P	Real Estate Specialist
Jim Ross	CEMVS-PM-A	Cultural/Historical Resources
Chuck Gerdes	CEMVR-PM-M	GIS Specialist
Heather Rentz	CEMVR-PM-P	Program Analyst
Donna Jones	CEMVR-OD-PE	Regulatory/Permits
Barb Lester	CEMVR-EC-C	Chief, Construction Branch
Paul Holcomb	CEMVR-EC-CC	Contracting Officer's Representative
Mark Pratt	CEMVR-EC-CC	Construction Representative
Pete Corken	CEMVR-EC-CC	QA Inspector

## District Quality Control Review

NAME	DISTRICT/ORG	DISCIPLINE
Padmakar Srivastava	CEMVR-EC-G	Geotechnical
Gary Loss	CEMVR-EC-DM	Civil-Site
Bob Riebe	CEMVREC-DM	Civil-Site
Cory DeLong	CEMVR-EC-DS	Structural
Marv Martens	CEMVREC-HH	Hydraulics
Steve Gustafson	CEMVR-EC-DN	Environmental
Mike Cummings	CEMVR-EC-TE	Cost Estimating
Ron Mott	CEMVR-EC-TE	Technical Services
Bryan Radtke	CEMVR-EC-DG	Electrical

## BCOE #1 Reviewers

NAME	DISTRICT/ ORGANIZATION	DISCIPLINE
Rhonda Johanson	CEMVR-CT	Contracting
Sally Duncan	CEMVR-CT	Contracting
Dennis Hawley	CEMVR-EC-C	Construction
Randy Braley	CEMVR-EC-C	Construction
Paul Holcomb	CEMVR-EC-CC	Construction
Charles Bauer	CEMVR-EC-CC	Construction
Kathleen Sullivan	CEMVR-EC-CC	Construction
Jake Cawiezell	CEMVR-EC-CC	Construction
Dean Cerny	CEMVR-EC-CE	Construction
Chuck Van Laarhoven	CEMVR-EC-TE	Cost Estimating
Bob McAfee	CEMVR-EC-TE	Specifications
Heather Anderson	CEMVR-EC-DN	Environmental
Charlie Bishop	CEMVR-EC-G	Geotechnical
Tom Mack	CEMVR-EC-G	Geotechnical
Bob Lazenby	CEMVR-OC	Office of Counsel
Ken Barr	CEMVR-PM-A	Environmental Compliance
CPT Millman	CEMVR-PM-M	Project Management
Joanne Lieving	CEMVR-RE-P	Real Estate
Tony Larson	CEMVR-SO	Safety

## BCOE #2 Reviewers

NAME	DISTRICT/ ORGANIZATION	DISCIPLINE
John Dangler	CEMVR-CT	Contracting
Joanne Traicoff	CEMVR-EC-C	Construction
Dean Cerny	CEMVR-EC-C	Construction
Mark Pratt	CEMVR-EC-CC	Construction
Kathleen Sullivan	CEMVR-EC-CC	Construction
Jake Cawiezell	CEMVR-EC-CC	Construction
Mike Cummings	CEMVR-EC-TE	Cost Estimating
Fred Hanshaw	CEMVR-EC-TE	Specifications
Phil Valenti	CEMVR-EC-DN	Environmental
Charlie Bishop	CEMVR-EC-G	Geotechnical
Tom Mack	CEMVR-EC-G	Geotechnical
Bob Lazenby	CEMVR-OC	Office of Counsel
Lonn McGuire	CEMVR-PM-A	Environmental Compliance
Ron Williams	CEMVR-RE-P	Real Estate
Tony Larson	CEMVR-SO	Safety

## Drawing Approval for In-House Design

NAME	DISTRICT/SECTION	DISCIPLINE
Denny Lundberg	CEMVR-EC	Engineering- Construction Division Chief
Kevin Landwehr	CEMVP-EC-H	Hydraulic Branch Chief
Roger Less	CEMVP-EC-D	Design Branch Chief
Tom Mack	CEMVP-EC-D-G	Geotechnical Branch Chief

**ATTACHMENT 2**  
**REVIEW PLAN REVISIONS**

Revision Date	Description of Change	Page/Paragraph Number

## ATTACHMENT 3

### REVIEW PLAN CHECKLIST FOR IMPLEMENTATION DOCUMENTS

**Date:** 06/01/2013

**Originating District:** Rock Island District

**Project/Study Title:** Mississippi River at Davenport, Iowa Flood Damage Reduction Project, Reach 1

**District POC:** Jim Homann, Project Manager, 309-794-5704

Please fill out this checklist and submit with the draft RP when coordinating with the appropriate RMO. For DQCR, the District is the RMO; for ATR of Dam and Levee Safety Studies, the Risk Management Center is the RMO; and for non-Dam and Levee Safety projects and other work products, the MSC is the RMO; for Type II IEPR, the Risk Management Center is the RMO. Any evaluation boxes checked 'No' indicate the RP possibly may not comply with EC 1165-2-214 and should be explained. Additional coordination and issue resolution may be required prior to MSC approval of the RP.

REQUIREMENT	REFERENCE	EVALUATION
<b>1. Is the Review Plan (RP) a stand-alone document?</b>	EC 1165-2-214, Appendix B Para 4a	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
a. Does it include a cover page identifying it as an RP and listing the project/study title, originating district or office, and date of the plan?		a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
b. Does it include a table of contents?		b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
c. Is the purpose of the RP clearly stated and EC 1165-2-214 referenced?	EC 1165-2-214 Para 7a	c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
d. Does it reference the Project Management Plan (PMP) of which the RP is a component including P2 Project #?	EC 1165-2-214 Para 7a (2)	d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
e. Does it include a paragraph stating the title, subject, and purpose of the work product to be reviewed?	EC 1165-2-214 Appendix B Para 4a	e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
f. Does it list the names and disciplines in the home district, MSC and RMO to whom inquiries about the plan may be directed?*	EC 1165-2-214, Appendix	f. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

<p><i>*Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.</i></p>	<p>B, Para 4a</p>	
<p><b>2. Documentation of risk-informed decisions on which levels of review are appropriate.</b></p>	<p>EC 1165-2-214, Appendix B, Para 4b</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it succinctly describe the three levels of peer review: District Quality Control (DQC), Agency Technical Review (ATR), and Independent External Peer Review (IEPR)?</p> <p>b. Does it contain a summary of the CW implementation products required?</p> <p>c. DQC is always required. The RP will need to address the following questions:</p> <p>i. Does it state that DQC will be managed by the home district in accordance with the Major Subordinate Command (MSC) and district Quality Management Plans?</p> <p>ii. Does it list the DQC activities (for example, 30, 60, 90, BCOE reviews, etc)</p> <p>iii. Does it list the review teams who will perform the DQC activities?</p> <p>iv. Does it provide tasks and related resource, funding and schedule showing when the DQC activities will be performed?</p> <p>d. Does it assume an ATR is required and if an ATR is not required does it provide a risk based decision of why it is not required? If an ATR is required the RP will need to address the following questions:</p> <p>i. Does it identify the ATR District, MSC, and RMO points of contact?</p>	<p>EC 1165-2-214 7a</p> <p>EC1165-2-214 Para 15</p> <p>EC1165-2-214 Para 15a</p> <p>EC1165-2-214 Para 8a</p> <p>EC 1165-2-214 Appendix B (1)</p> <p>EC 1165-2-214 Appendix B, 4g</p> <p>EC 1165-2-214 Appendix B Para 4c</p> <p>EC1165-2-214 Para 15a</p> <p>EC 1165-2-214 Para 7a</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>i. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>ii. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>iii. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>iv. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>i. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>

<p>ii. Does it identify the ATR lead from outside the home MSC?</p>	<p>EC 1165-2-214 Para 9c</p>	<p>ii. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>iii. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)? If the reviewers are listed by name, does the RP describe the qualifications and years of relevant experience of the ATR team members?*</p>	<p>EC 1165-2-214 Appendix B 4g</p>	<p>iii. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>iv. Does it provide tasks and related resource, funding and schedule showing when the ATR activities will be performed?</p>	<p>EC 1165-2-214 Appendix C Para 3e</p>	<p>iv. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>v. Does the RP address the requirement to document ATR comments using Dr Checks?</p>	<p>EC 1165-2-214 Para 7d (1)</p>	<p>v. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p><i>*Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.</i></p>		
<p>e. Does it assume a Type II IEPR is required and if a Type II IEPR is not required does it provide a risk based decision of why it is not required including RMC/ MSC concurrence? If a Type II IEPR is required the RP will need to address the following questions:</p>	<p>EC1165-2-214 Para 15a</p>	<p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>  (Type II IEPR not required for this project)</p>
<p>i. Does it provide a defensible rationale for the decision on Type II IEPR?</p>	<p>EC 1165-2-214 Para 7a</p>	<p>i. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
<p>ii. Does it identify the Type II IEPR District, MSC, and RMO points of contact?</p>	<p>EC 1165-2-214 Appendix B Para 4a</p>	<p>ii. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
<p>iii. Does it state that for a Type II IEPR, it will be contracted with an A/E contractor or arranged with another government agency to manage external to the Corps of Engineers?</p>	<p>EC 1165-2-214 Appendix B Para 4k (4)</p>	<p>iii. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
<p>iv. Does it state for a Type II IEPR, that the selection of IEPR review panel members will be made up of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of</p>	<p>EC 1165-2-214 Appendix B, Para 4k(1) &amp; Appendix E, Para's 1a &amp; 7</p>	<p>iv. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>

<p>expertise suitable for the review being conducted?</p> <p>v. Does it state for a Type II IEPR, that the selection of IEPR review panel members will be selected using the National Academy of Science (NAS) Policy which sets the standard for “independence” in the review process?</p> <p>vi. If the Type II IEPR panel is established by USACE, has local (i.e. District) counsel reviewed the Type II IEPR execution for FACA requirements?</p> <p>vii. Does it provide tasks and related resource, funding and schedule showing when the Type II IEPR activities will be performed?</p> <p>viii. Does the project address hurricane and storm risk management or flood risk management or any other aspects where Federal action is justified by life safety or significant threat to human life?</p> <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i>  <i>If yes, Type II IEPR must be addressed.</i></p> <p>ix. Does it address Type II IEPR factors?  Factors to be considered include:</p> <ul style="list-style-type: none"> <li>• Does the project involve the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent setting methods or models, or presents conclusions that are likely to change prevailing practices?</li> <li>• Does the project design require redundancy, resiliency and robustness</li> <li>• Does the project have unique construction sequencing or a reduced or overlapping design construction schedule; for example, significant project features accomplished using the Design-Build or Early Contractor Involvement (ECI) delivery systems.</li> </ul> <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i>  <i>If yes, Type II IEPR must be addressed.</i></p>	<p>EC 1165-2-214  Para 6b (4) and  Para 10b</p> <p>EC1165-2-214  Appendix E,  Para 7c(1)</p> <p>EC1165-2-214  Appendix E,  Para 5a</p> <p>EC1165-2-214  Appendix E  Para 2</p>	<p>v. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>vi. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>vii. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>viii. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>ix. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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f. Does it address policy compliance and legal review? If no, does it provide a risk based decision of why it is not required?	EC 1165-2-214 Para 14	f. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>3. Does the RP present the tasks, timing, and sequence of the reviews (including deferrals)?</b>	EC 1165-2-214, Appendix B, Para 4c	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
a. Does it provide an overall review schedule that shows timing and sequence of all reviews?	EC 1165-2-214, Appendix C, Para 3g	a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
b. Does the review plan establish a milestone schedule aligned with the critical features of the project design and construction?	EC 1165-2-214, Appendix E, Para 6c	b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>4. Does the RP address engineering model certification requirements?</b>	EC 1165-2-214, Appendix B, Para 4i	N/A
a. Does it list the models and data anticipated to be used in developing recommendations?		a. N/A
b. Does it indicate the certification /approval status of those models and if certification or approval of any model(s) will be needed?		b. N/A
c. If needed, does the RP propose the appropriate level of certification/approval for the model(s) and how it will be accomplished?		c. N/A
<b>5. Does the RP explain how and when there will be opportunities for the public to comment on the study or project to be reviewed?</b>	EC 1165-2-214, Appendix B, Para 4d	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
a. Does it discuss posting the RP on the District website?		a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
b. Does it indicate the web address, and schedule and duration of the posting?		b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>6. Does the RP explain when significant and relevant public comments will be provided to the reviewers before they conduct their review?</b>	EC 1165-2-214, Appendix B, Para 4e	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
a. Does it discuss the schedule of receiving public comments?		a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
b. Does it discuss the schedule of providing significant comments to the reviewers?		b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

<p><b>7. Does the RP address whether the public, including scientific or professional societies, will be asked to nominate professional reviewers?*</b></p>	<p>EC 1165-2-214, Appendix B, Para 4h</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
<p>a. If the public is asked to nominate professional reviewers then does the RP provide a description of the requirements and answer who, what, when, where, and how questions? <i>* Typically the public will not be asked to nominate potential reviewers</i></p>		<p>a. N/A</p>
<p><b>8. Does the RP address expected in-kind contributions to be provided by the sponsor?</b></p>	<p>EC 1165-2-214, Appendix B, Para 4j</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. If expected in-kind contributions are to be provided by the sponsor, does the RP list the expected in-kind contributions to be provided by the sponsor?</p>		<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p><b>9. Does the RP explain how the reviews will be documented?</b></p> <p>a. Does the RP address the requirement to document ATR comments using Dr Checks and Type II IEPR published comments and responses pertaining to the design and construction activities summarized in a report reviewed and approved by the MSC and posted on the home district website?</p> <p>b. Does it explain how the Type II IEPR will be documented in a Review Report?</p> <p>c. Does it document how written responses to the Type II IEPR Review Report will be prepared?</p> <p>d. Does it detail how the district/PCX/MSX and CECW-CP will disseminate the final Type II IEPR Review Report, USACE response, and all other materials related to the Type II IEPR on the internet?</p>	<p>EC 1165-2-214, Para 7d</p> <p>EC 1165-2-214 Appendix B Para 4k (14)</p> <p>EC 1165-2-214 Appendix B Para 4k (14)</p> <p>EC 1165-2-214 Appendix B Para 5</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. N/A</p> <p>c. N/A</p> <p>d. N/A</p>
<p><b>10. Has the approval memorandum been prepared and does it accompany the RP?</b></p>	<p>EC 1165-2-214, Appendix B, Para 7</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>

**ATTACHMENT 4**  
**IEPR DECISION DOCUMENT**



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT  
PO BOX 2004 CLOCK TOWER BUILDING  
ROCK ISLAND, ILLINOIS 61204-2004

CEMVR-EC

19 June 2013

MEMORANDUM FOR RECORD

SUBJECT: Mississippi River at Davenport, Iowa Flood Damage Reduction Project, Reach 1, Type II Independent External Peer Review (IEPR) Determination

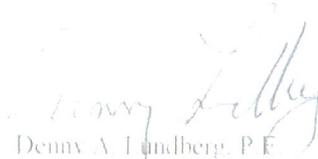
1. Purpose. The purpose of this memorandum is to document the decision process and final determination of whether a Type II Independent External Peer Review (IEPR) is required for the subject project in accordance with USACE Civil Works Policy EC 1165-2-214, dated 15 Dec 2012. Paragraph 1 a. of Appendix E, of EC 1165 -2 -214 requires a type II IEPR be conducted for projects where potential hazards pose a significant threat to human life.
2. Background. The overall Mississippi River at Davenport, Iowa Flood Damage Reduction Project, Reach 1 is located adjacent to the Mississippi River at river mile 484. The project's scope of work includes the construction of a primary floodwall (2,200 feet), a portion of earth embankment (200 feet), access closure structures (2 railroad and 1 road), an operation and maintenance (O&M) access road, interior flood control features that include sewer work and gated storm pipe gravity outlets (gatewells), utility modifications, and a utility relocation. The levee and floodwall system is approximately 2,400 feet in length and protects approximately 9.5 acres to an elevation of 570.7 (1912 MSI) with a top elevation of 573.9 (1912 MSI) to allow for wave wash and increased reliability. The primary benefit of the project is the protection of the Davenport Water Treatment Plant (DWTP), which provides potable water service for more than 131,000 customers in Davenport and Bettendorf, Iowa and other parts of Scott County, Iowa.
3. Risk Assessment. A qualitative risk assessment was performed in order to make a risk informed decision on if the project poses a significant threat to human life (public safety), involves the use of innovative materials or techniques, has robustness, resiliency, and redundancy; or involves unique construction sequencing. Both during construction and after construction risk phases were evaluated. The project's protected area is the DWTP, which does not include any residential, commercial, or industrial developments. Thus, the population at risk (PAR) that is directly impacted due to a Mississippi River flood event is limited to the staff at the DWTP, a maximum of 10 people at any one time.

During a flood event, all plant staff will be intimately involved with and fully versed in emergency procedures and developing situations. A flood event escape of simply walking out the back of the plant to high ground or up a flight of stairs within the plant would serve to easily evacuate the protected area if a failure of the project were to occur. Thus, the threat to human life is not significant and the threat to public safety is limited to possible inundation that already existed at a greater potential prior to the project.

Currently the DWTP constructs a temporary line of flood protection using HESCO barriers, sandbags, or a poly-wrapped clay dike during a Mississippi River flood event. The project will provide significantly more robustness, resiliency, and redundancy than these temporary measures. The project plans and specifications were internally and independently reviewed in accordance with prevailing review procedures for compliance with U.S. Army Corps of Engineers (USACE) design standards and project site conditions. No innovative materials, techniques, or unique or overlapping construction sequencing is involved in the project. Additionally, based upon the ample amount of flood warning time that the Mississippi River provides at Davenport, Iowa, any during construction or after construction flood event will not be flashy in nature.

- a. During Construction Phase. The project involves construction of a steel reinforced concrete floodwall and an earthen dike with closure structures at three (3) locations (2 railroad and 1 road). The project design and specified construction sequencing reflect sufficient factors of safety to minimize the potential of failure during construction. The project design and methods of construction are of standard practice in the industry and will not present unique challenges to a qualified contractor. Lessons learned from previous flood damage reduction projects have been incorporated into this project. If flooding occurs during construction of the project, temporary measures including HESCO barriers, sandbags, and pumping would be set in place to protect the DWTP as it is currently done without the project. If the temporary measures fail, the result would be increased inundation and possible flooding of the DWTP, resulting in possible contamination of the potable water supply for the area and inundation of the project area. In the event a failure does occur during project construction, the resulting consequences will not pose a significant threat to human life.
- b. After Construction Phase. The probability of failure after the project is complete is very unlikely. The materials and method of construction are robust, resilient, and redundant to minimize the probability of failure. In the event a failure does occur after project construction, the result would be increased inundation and possible flooding of the DWTP, resulting in possible contamination of the potable water supply for the area. In the event a failure does occur after project construction, the resulting consequences will not pose a significant threat to human life.

4. Conclusion. While the subject project is a flood risk management project, there is no significant threat to human life because the project protects the municipal water system and no residential, commercial, or industrial developments are located within the protected area. The construction is conventional and the construction acquisition does not involve design build or early contractor involvement. These factors support the determination that a Type II-IFPR is not required. This risk assessment has been discussed with Bob Fitzgerald, Chief Business Technical Division and he concurs with this determination.



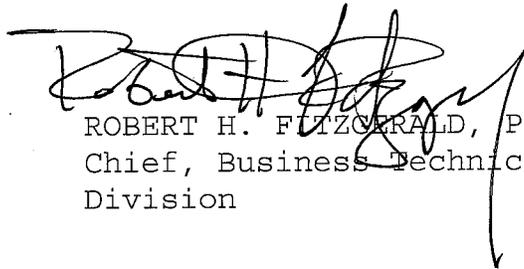
Denny A. Lundberg, P.E.  
Chief, Engineering & Construction Division  
Rock Island District

3 July 2013

MEMORANDUM FOR CEMVD-PD-SP (Mark Moore)

SUBJECT: Mississippi River at Davenport, Iowa, Flood Damage Reduction Project, Reach 1, Project Review Plan

1. Reference memorandum, CEMVR-PM-M, 1 July 2013, subject as above.
2. This office concurs with subject Review Plan.
3. The RB-T point of contact is Mr. Will Bradley, 601-634-5644.



ROBERT H. FITZGERALD, P.E.  
Chief, Business Technical  
Division