



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, KANSAS CITY DISTRICT
935 FEDERAL BUILDING
601 E 12TH STREET
KANSAS CITY MO 64106-2824

29 August 2012

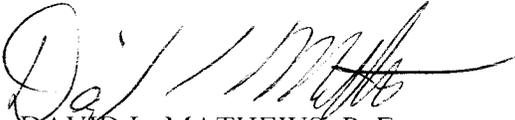
CENWK-ED-GD

MEMORANDUM FOR Commander, Northwestern Division, USACE, CENWD-RBT (Stephen Bredthauer)

SUBJECT: Harlan County Tainter Gate Rehabilitation, Project Review Plan (P2 #144384)

1. The review plan for the Harlan County Tainter Gate Rehabilitation project is attached for Northwestern Division's review and approval.
2. The review plan was prepared in accordance with EC 1165-2-209 and uses the Northwestern Division review plan template for ATR implementation documents and other work products in accordance with the policy memorandum dated 24 May 2011. The Harlan County Tainter Gate Rehabilitation project is currently in the design phase.
3. The point of contact for the memorandum is the Dam Safety Program Manager, Douglas Crum at (816) 389-3604.

Encls


DAVID L. MATHEWS, P. E.
Chief, Engineering Division
Kansas City District

CENWK-ED-GD

SUBJECT: Harlan County Tainter Gate Rehabilitation, Project Review Plan (P2 #144384)



CRUM
ED-GD



BELLEW
ED-GD



RYAN
OD-T



TURNER
ED-D



HOLM
PM-C



OWEN
ED-G



MATHEWS
ED

PROJECT REVIEW PLAN

ATR Review Plan for Implementation Documents and Other Work Products Northwestern Division (NWD)

Project Name: Harlan County Dam

Project Location: Harlan County, Nebraska

Project P2 Number: 144384

Project Manager: Doug Overmohle

Technical Lead: Doug Crum

NWD Original Approval Date: Pending

NWD Revision X Approval Date: XX

General Document Information

The first two pages of this document are the Cover sheet and the Table of Contents and are not numbered.

Review Plan Template. Information provided in **PAGES 3-8** is Review Plan Template information for ATR for Implementation Documents and Other Work Products. Do not alter. The controlled (approved) version of this template will be maintained on the NWD SharePoint site. Districts must use the most current version from the NWD SharePoint site and avoid shared versions outside of the NWD SharePoint. See the footer information in the template for document location.

Attachment 1 provides the review plan Review Plan Specifics that supplement the RP Template. These specifics are prepared by the District team and as coordinated with the NWD.

Attachment 2 provides acronyms and abbreviations for the document and may be altered as necessary.

Review Plan approval memorandums shall be documented with the RP and the dates recorded on the cover sheet.



US Army Corps
of Engineers ®

Approved Version: 31 May 2011. Printed Copies are for "Information Only". The controlled version resides on the shared documents folder of the NWD SharePoint site at:

<https://kme.usace.army.mil/NWD/RPP/default.aspx>

PROJECT REVIEW PLAN
ATR Review Plan for
Implementation Documents and Other Work Products
Northwestern Division (NWD)

Encl 1

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PROJECT REVIEW PLAN
ATR Review Plan for
Implementation Documents and Other Work Products
Northwestern Division (NWD)

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ATR Review Plan for Implementation Documents and Other Work Products

1. PURPOSE AND REQUIREMENTS.

a. Purpose. This ATR Review Plan (RP) Template and attachments describe requirements for the project identified on the cover sheet of this document. This RP describes Agency Technical Review (**ATR**) associated with implementation documents, or other work products. The RP Template and the completed RP Specifics attachment together describe the risks considered and the review plan proposed for this project or product.

b. General Process. The PDT considers the project risks and selects an appropriate RP Template based on the risks per EC 209. The risk consideration process is determined by Districts as appropriate to develop a risk informed review plan strategy.

1) When the District has considered the project risks and determined the applicability of this template, the PM/PDT prepares the “RP Specific” information in Attachment 1 and submits with the RP Template to NWD for approval. The RP Specifics provide the essential elements of the RP such as the scope, project cost, the review team and capabilities, review schedules and budgets and points of contacts.

2) The RP Specifics are coordinated with the appropriate levels of management in the District and the NWD. Potentially the RP may also need to be coordinated with the Risk Management Center (RMC) and others such as the relevant Planning Center of Expertise (PCX) if required. This may be necessary in cases where there is debate on the project risks, required review levels, the review team composition and areas of responsibility.

3) The approved RP Specifics and RP Template information together shall describe the project scope, review plan, schedule and budget in sufficient detail to allow review and approval for the RP. The RP information is a component of the Quality Management Plan within the Project Management Plan. Once approved, the RP is documented in the project PMP/QMP and project files and also placed on the District Website for a minimum of 30 days.

c. Applicability. Applicability of the review plan template is determined by NWD. Refer to the criteria provided below. This review plan template is applicable, **ONLY**, for projects that;

- Are agreed to require ATR review based on risk-informed decision process.
- Are agreed to **NOT** require Independent External Peer Review (IEPR) or Safety Assurance Review (SAR) based on a risk-informed decision process.
- Do **NOT** require an Environmental Impact Statement (EIS) for the project.
- And, the project for this review plan is **NOT** producing decision documents.

d. References

Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
ER 1105-2-100, Planning Guidance Notebook, Appendix F, Continuing Authorities Program, Amendment #2, 31 Jan 2007
ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007

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2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO for **ATR** is Northwestern Division (NWD) unless determined otherwise. The USACE Risk Management Center (RMC) shall serve as the RMO for Dam Safety Modification projects and Levee Safety Modification projects. NWD will coordinate and approve the review plan. The home District will post the approved review plan on its public website.

3. REVIEW FUNDAMENTALS

- a. The USACE review process is based on a few simple but fundamental principles:
 - Peer review is key to improving the quality of work in planning, design and construction;
 - Reviews shall be scalable, deliberate, life cycle and concurrent with normal business processes;
 - A review performed outside the home district shall be completed on all decision and implementation documents. For other products, a risk informed decision as described in EC 209 will be made whether to perform such a review.

- b. The EC 209 outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review.

4. DISTRICT QUALITY CONTROL (DQC)

The RMO for DQC is the home District. In accordance with EC 209 all work products and reports, evaluations, and assessments shall undergo necessary and appropriate District Quality Control (DQC).

DQC is the internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the project Quality Management Plan (QMP) of the Project Management Plan (PMP).

The DQC is the internal quality control process performed by the supervisors, senior staff, peers and the PDT within the home District and is managed by the home District. DQC consists of;

- a. Quality Checks and reviews. These are routine checks and reviews carried out during the development process by peers not responsible for the original work. These are performed by staff such as supervisors, team leaders or other senior designated to perform internal peer reviews.
- b. PDT reviews. These are reviews by the production team responsible for the original work to ensure consistency and coordination across all project disciplines.

DQC will be performed on the products in accordance with the QMP within the PMP.

5. AGENCY TECHNICAL REVIEW (ATR)

A risk informed process was completed for this project in accordance with EC 209. **See paragraph 7, RISK INFORMED DECISIONS.**

ATR Review Plan for Implementation Documents and Other Work Products

The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers.

ATR will be conducted by a qualified team from outside the home District that is not involved with the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC. In limited cases, when appropriate and independent expertise can be secured from Centers or Laboratories or when proper expertise cannot be secured otherwise, NWD may approve exceptions.

6. REVIEW DOCUMENTATION

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

- (1) The review concern – identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;
- (2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not been properly followed;
- (3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and;
- (4) Where appropriate, provide a suggested action needed to resolve the comment or 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 concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the district, RMO, MSC, and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-2-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

ATR shall be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team).

7. RISK INFORMED DECISIONS

ATR Review Plan for Implementation Documents and Other Work Products

- a. **ATR:** (Source: EC 209, paragraph 15). The process and methods used to develop and document the risk-informed decisions are at the discretion of the District but must be appropriate for the risk and complexity of the project. The following questions and additional appropriate questions were considered;

1. Does it include any design (structural, mechanical, hydraulic, etc)?
2. Does it evaluate alternatives?
3. Does it include a recommendation?
4. Does it have a formal cost estimate?
5. Does it have or will it require a NEPA document?
6. Does it impact a structure or feature of a structure whose performance involves potential life safety risks?
7. What are the consequences of non-performance?
8. Does it support a significant investment of public monies?
9. Does it support a budget request?
10. Does it change the operation of the project?
11. Does it involve ground disturbances?
12. Does it affect any special features, such as cultural resources, historic properties, survey markers, etc, that should be protected or avoided?
13. Does it involve activities that trigger regulatory permitting such as Section 404 or stormwater/NPDES related actions?
14. Does it involve activities that could potentially generate hazardous wastes and/or disposal of materials such as lead based paints or asbestos?
15. Does it reference use of or reliance on manufacturers' engineers and specifications for items such as prefabricated buildings, playground equipment, etc?
16. Does it reference reliance on local authorities for inspection/certification of utility systems like wastewater, stormwater, electrical, etc?
17. Is there or is there expected to be any controversy surrounding the Federal action associated with the work product?

*Note: A "yes" answer to questions above does not necessarily indicate ATR is required, rather it indicates an area where reasoned thought and judgment should be applied and documented in the recommendation.

Decision on ATR: The District considered the risks and determined that **ATR is required** considering the project risks. ATR will be performed on the products in accordance with the District QMP and this RP. **See Attachment 1** for RP Specifics.

- b. **INDEPENDENT EXTERNAL PEER REVIEW (IEPR).** The District considered risks and risk triggers for Type I IEPR and Type II IEPR, also referred as a Safety Assurance Review (SAR) as described in EC 1165-2-209.

- i. **Type I IEPR** is required for decision documents under most circumstances. This project does not involve the production of decision documents.

Decision on Type I IEPR: The District considered these risks and determined that **Type I IEPR is not required.**

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- II. **Type II IEPR (SAR).** Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.
- Any project addressing **hurricane and storm** risk management and **flood risk** management or;
 - any other project where Federal action is justified by **life safety** or;
 - the failure of the project would pose a **significant threat to human life**.
 - This applies to new projects and to the major repair, rehabilitation, replacement, or modification of existing facilities (based on identified risks and threats).

Other Factors to consider for Type II IEPR (SAR) review of a project, or components of a project;

- The project involves 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
- The project design requires redundancy, resiliency, and robustness.
- The project has unique construction sequencing or a reduced or overlapping design and construction schedule; for example, significant project features accomplished using the Design-Build or Early Contractor Involvement (ECI) delivery systems.

Decision on Type II IEPR: Based on the information and analysis provided in the preceding paragraphs of this review plan, the project covered under this plan is excluded from IEPR because it does not meet the mandatory IEPR triggers and does not warrant IEPR based on a risk-informed analysis. The District considered these risks and determined that **Type II IEPR (SAR) is not required** considering the risks triggers.

8. POLICY AND LEGAL COMPLIANCE REVIEW

All documents will be reviewed throughout the 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 by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.

This review plan template is not intended to describe requirements and processes to conduct policy and legal compliance review, or legal sufficiency reviews.

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9. TEMPLATE APPROVAL

NWD is responsible for maintaining the current version of this Review Plan template and ensuring the information accurately describes the criteria and considerations necessary to arrive at a risk informed decision. The review plan template is a living document and is subject to change.

The home District is responsible to complete the Review Plan Template Cover page, adjust the Table of Contents and the complete Review Plan specifics in **Attachment 1**. Significant changes to the review plan specifics (such as changes to the scope and/or level of review) should be re-approved by NWD. The completed Template information and the Attachment 1 will be submitted to the NWD for coordination and approval.

END OF TEMPLATE INFORMATION

**ATR Review Plan for
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ATTACHMENT 1
Review Plan Specifics

The information in this attachment is prepared by the District PM/PDT for the project specific information required for this review plan. The DQC is managed by the District and is described in the PMP/QMP. This document should be attached or included in the PMP/QMP to document the ATR.

A-1. PROJECT INFORMATION

a. **Study/Project Description.** The purpose of this Review Plan (RP) is to define the scope and level of review for implementation documents for the Harlan County Tainter Gate Rehabilitation project. This RP is a standalone document but is also included in an appendix of the Project Management Plan (PMP). The project is authorized and funded by the Operations and Maintenance program of the Kansas City District. The project prioritization is based on both dam safety concerns and meeting authorized project purposes for flood control. The Kansas City District will execute the project and report to the Northwestern Division in Portland, Oregon.

Nation Inventory of Dams (NID) = NE01066
Civil Works Information System (CWIS) Code = 007330

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 Harlan County Dam operations and maintenance manual.

Implementation Documents. Implementation documents include construction contract documents and O&M materials for reference. Specifically the documents include plans, specifications, design documentation report (DDR), and revisions to the dam Operations and Maintenance (O&M) manual. The plans, specifications, and DDR are under development by a USACE project delivery team (PDT). Construction will be completed under contract.

Updates to the O&M manual will be prepared after construction. Because the project is not fully funded, the O&M manual revisions will be reviewed separately under DQC.

Significant items of work:

- 1) Removing lead based paint and repainting the Tainter gates, electrical/mechanical equipment, and catwalk
- 2) Welding several braces on the structural gate arms
- 3) Replacing the trunion bearing hub and pins
- 4) Replace lift chains with wire rope
- 5) Replace electrical controls
- 6) Temporary water control with a bulkhead. Will probably have permanent anchors installed in the ogee sill below the multipurpose pool elevation. For the anchors, a female end approximately flush with the concrete surface is being evaluated. A floating bulkhead that

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would require some minor anchors in the piers for setting in position was also considered as an option but will probably be abandoned.

5) Traffic control will be required during the work for working from the 2-lane highway bridge.

b. Current Total Project Cost. The total cost of the project is estimated to be about \$20 million. This includes \$2M for bulkheads, \$9M for mechanical work, and \$9M for painting. The current working estimate only includes work breakdown for the bulkheads. Optional work also includes rehabilitation of sluiceway gates and hydraulic operators, and also replacement of the operating machinery including changing roller chains to wire ropes.

Current funding for the project includes \$750,000 in the FY12 O&M program. The O&M activities were identified as

\$400,000	Replace Electrical Controls for 18 Tainter Gates
\$300,000	P&S for Tainter Gate and Electrical Controls
\$ 50,000	Tainter Gate Bearing Evaluation

Due to incompatibilities that could occur between the electrical controls and possible new mechanical equipment, the electrical controls replacement has been postponed and replaced with replacement of the project's electrical utility service line in FY12 which has reached the end of its useful life and the risk of failure is high.

c. Required ATR Team Expertise. ATR team and required expertise;

ATR Team Members/Disciplines	Expertise Required
ATR Lead	Structural
Structural Engineering	Tainter gate analysis and structural steel design
Mechanical Engineering	Tainter gate bearing design and operating machinery
Electrical Engineering	Controls for gates on dams
Operations	Operating and maintaining gated spillways
Hydrology	Water control deviation requests and annual exceedence curves

A-2. REVIEW SCHEDULES AND COSTS

a. ATR Schedule.

Review Milestone	Review Products	Date Planned
95% ATR review	Bulkhead P&S/DDR	9 - 18 May, 2012
95% Backcheck	Bulkhead P&S/DDR	29 June, 2012
65% ATR review	Tainter gate rehab P&S/DDR	16 – 20 July 2012
95% ATR review	Tainter gate rehab P&S/DDR	20 – 24 August 2012

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b. ATR COSTS - Labor/Expenses

Review Milestone	#reviewers	Total hours	Approx. cost/hr	Totals
Coordination, Startup Conference Call, etc.	5	40	\$120	\$4800
95% ATR review for Bulkheads	5	80	\$120	\$9600
95% Backcheck	5	20	\$120	\$2400
65% ATR review & backcheck rehab P&S/DDR	5	240	\$120	\$28,800
100% ATR review & backcheck rehab P&S/DDR	5	50	\$120	\$6,000
ATR Expenses (travel etc)	5	5	\$1500	\$ 7500
Total ATR costs				\$59,100

c. Engineering Models. The following engineering models are anticipated to be used in the development of the implementation documents or other work products:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study
STAAD	Finite Element model for structural analysis

A-3. REVIEW PLAN POINTS OF CONTACT

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

Contact	Role	Title	Office/District/Division	Phone
Doug Overmohle	Project Manager	Project Mgr/Civil Engr	Operations Division, Kansas City District, US Army Corps of Engineers,	816-389-3555
Steve Bredthausen	RMO - Point of contact	Quality Assurance Manager	Northwestern Division, US Army Corps of Engineers	503-808-4053

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A-4. PROJECT DELIVERY TEAM (PDT) ROSTER. The following team is at the Kansas City District (CENWK).

Name	Organization	Roles and Responsibilities
Katrina Marx	ED-DS	Structural lead for bulkhead design
Fred Sheffield	ED-DS	Peer reviewer for bulkhead design & subject matter expert for Tainter gate rehab
Annette Cedarholm	ED-DS	Structural lead for Tainter gate rehab
Ken Olson	ED-DS	Peer reviewer for Tainter gate rehab
tbd	ED-DS	CADD Support
Mark Little	ED-DM	Mechanical engineer
Mike Scott	OD-TM	Lead mechanical engineer
Tom Swanson	ED-DM	Electrical engineer
Chris Ray	OD-TM	Lead electrical engineer
Jim Bowen	OF-HC	Operations
Kyle Haake	ED-DC	Cost Engineering
Stephanie Kretzer	ED-DF	Specifications
Adam Jones	ED-HH	Pool levels for hydraulic loading on bulkheads
Alan Chestnut	ED-HH	Pool levels for hydraulic loading on bulkheads
Adam Alexander	CD-AK	Construction
Curtis Hoagland	PM-PR	NEPA compliance
John Grothaus	PM-PF	Coordination with USBR and Irrigators
Doug Crum	ED-GD	Technical Lead
Doug Overmohle	OD-TM	Project Manager
Siv Sivakumar	ED-DS	Section Chief and ITR
Jake Owen	ED-GD	Section Chief
John Dillon	ED-DC	Section Chief
John Benson	ED-DT	Section Chief
Steve Burns	ED-DM	Section Chief

A-5. ATR TEAM ROSTER.

Name	Discipline/Role	District/Agency	Phone
Phil Sauser	ATR Lead	CEMVP-EC-D	651-290-5722
Travis Adams	Structural Engineering	CENWP-EC-DS	503-808-4954
Tim Paulus	Mechanical Engineering	CEMVP-EC-D	651-290-5530
Matt Hess		CENWP-EC-DM	503-808-4955
Chuck Palmer		CENWW-EC-DM	509-527-7571
Doug Richards	Electrical Engineering	CENWP-EC-DE	503-808-4923
Wayne Mattox	Operations	CENWP-OD-D	541-298-4007
Lori Ebner	Hydrology	CENWP-EC-HD	503-808-4880

There will be one mechanical engineer from the three options listed.

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A-6. REVIEW PLAN SPECIFICS - APPROVAL

The information provided in the Review Plan Template and the Review Plan Specifics in **Attachment 1** are hereby submitted for approval.

NWD will review this plan and route by NWD staffing sheet. If the plan is complete and appropriate for the risk and complexity of the project/products, the NWD will recommend approval by the appropriate Senior Executive Service (SES) in NWD. The NWD approval memorandum will be sent to the District PM responsible for the plan. The NWD approval memorandum shall be documented with the review plan, and the approval date should be noted on the cover sheet of this document.

Approved revisions should be recorded in the A-7 block below.

A-7 REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number	Date Approved
Original			
Revision 1			

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ATTACHMENT 2

B-1. ACRONYMS AND ABBREVIATIONS

<u>Acronyms</u>	<u>Defined</u>
ATR	Agency Technical Review
CAP	Continuing Authorities Program
DCW	Director of Civil Works
DQC	District Quality Control
EC	Engineering Circular
ECI	Early Contractor Involvement
EIS	Environmental Impact Statement
ER	Engineering Regulation
FAQ's	Frequently Asked Questions
HQUSACE	Headquarters, U.S. Army Corps of Engineers
IEPR	Independent External Peer Review
NWD	Northwestern Division
MSC	Major Subordinate Command
PCX	Planning Center of Expertise
PDT	Project Delivery Team
PMP	Project Management Plan
QA	Quality Assurance
QMP	Quality Management Plan
QMS	Quality Management System
RIT	Regional Integration Team
RMC	Risk Management Center
RMO	Review Management Organization
RP	Review Plan
SES	Senior Executive Service
SAR	Safety Assurance Review (also referred as Type I IEPR)

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**ATTACHMENT 3
Review Plan Justification**

Factors Affecting the Scope and Level of Review.

ATR will be conducted on the Tainter gate rehabilitation work. The project does not include decision documents or implementation of new features. The work is limited to maintenance that generally involves replacement in kind with similar components as the existing structure. As such, the work could be exempt from ATR, however some minor modifications to upgrade to current industry standards and products are unavoidable.

Factors considered but not deemed influential. The engineering employed to support the implementation documents includes structural engineering, mechanical engineering, electrical engineering, hydraulics, and water control. The design and design methods in the implementation documents are not be based on novel methods, do not present complex challenges for interpretation, do not contain precedent-setting methods or models, and do not present conclusions that are likely to change prevailing practices. The Harlan County Dam is a source of historic interest; however the changes to the project will be perceptible only in minor details that would not be obvious to the casual observer. This project does not have known environmental impact provided that precautions are taken to contain the lead based paint during removal. The only portion of the project that could disturbs cultural or historically significant sites would be contractor staging area, which can be located to avoid sensitive areas. The staging area can be limited to a small land-based construction area less than 1 acre of disturbed ground. The construction period could span multiple years and involve road closure. Little to no public controversy is expected.

Risk Considerations. The following items were considered as itemized in paragraph 7.a:

- (1) **Does it include any design (structural, mechanical, hydraulic, etc)?** Yes it includes structural, mechanical, and electrical design, with input of lake levels from water control. However, the design is a retrofit to improve the existing conditions for structural, mechanical, and electrical reliability. There is little risk of making conditions worse.
- (2) **Does it evaluate alternatives?** Yes, there are alternatives for materials and design details, but there are not planning alternatives that impact the project benefits.
- (3) **Does it include a recommendation?** Recommendations are limited to maintenance and repair of the existing structure. The work is defined well enough that there is minimal public interest.
- (4) **Does it have a formal cost estimate?** IGE for contract award will be prepared. Some preliminary cost estimating will be completed to compare engineering alternatives. The cost estimates are expected to have minimal public interest.

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(5) **Does it have or will it require a NEPA document?** The identified NEPA interests include traffic diversion during construction, and lead based paint containment. This will probably not require an Environmental Assessment. It is anticipated that the project will be a Categorical Exclusion, and a “CatEx” memo will be placed in the project file to document the use of a categorical exclusion. External interest is mostly from two irrigation districts. There were 2 public meetings held as part of the DSAP study, with minimal interest with exception of a misunderstanding about an option to remove the dam.

(6) **Does it impact a structure or feature of a structure whose performance involves potential life safety risks?** Yes, but the whole purpose of the project is to improve the existing conditions and re-establish the original project operational condition.

(7) **What are the consequences of non-performance?** Cost of repeating contract work.

(8) **Does it support a significant investment of public monies?** It will be mostly federally funded. The irrigation districts are required to pay 15.35% under major maintenance and 2.3% under dam safety assurance. This cost is a major concern to the irrigation districts.

(9) **Does it support a budget request?** Yes.

(10) **Does it change the operation of the project?** No.

(11) **Does it involve ground disturbances?** The only ground disturbance would be contractors staging area.

(12) **Does it affect any special features, such as cultural resources, historic properties, survey markers, etc, that should be protected or avoided?** These can be avoided in selection of a suitable staging area.

(13) **Does it involve activities that trigger regulatory permitting such as Section 404 or stormwater/NPDES related actions?** No.

(14) **Does it involve activities that could potentially generate hazardous wastes and/or disposal of materials such as lead based paints or asbestos?** Yes. Lead based paint removal will need to be contained and properly disposed of.

(15) **Does it reference use of or reliance on manufacturers’ engineers and specifications for items such as prefabricated buildings, playground equipment, etc?** No.

(16) **Does it reference reliance on local authorities for inspection/certification of utility systems like wastewater, stormwater, electrical, etc?** No.

(17) **Is there or is there expected to be any controversy surrounding the Federal action associated with the work product?** The only controversy expected is cost share responsibility of the irrigation districts.

ATR Review Plan for Implementation Documents and Other Work Products

District Quality Control. DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the PMP. DQC will be managed in the NWK district and will include:

- Quality Management Plan providing for seamless review,
- peer quality checks and reviews,
- supervisory reviews,
- project delivery team (PDT) reviews,
- biddability, constructability, operability, and environmental (BCOE) review,
- certification of the plans, specifications, and DDR as part of the BCOE.

Quality tools also include in-house product development checklists, and established Business Quality Practices (BQPs) used to ensure quality procedures are followed.