DEPARTMENT OF THE ARMY
US ARMY ENGINEER DIVISION, SOUTHWESTERN
1100 COMMERCE STREET, SUITE 831
DALLAS TX 75242-1317

CESWD-PD-P

19 JUL 2012

MEMORANDUM FOR Commander, Little Rock District

SUBJECT: Trout Production, Beaver Lake, White River, Carroll County, Arkansas, Water Supply Storage Reallocation Report (PWI # 12339) - Approval of Review Plan

1. References:

a. Change 1, 31 Jan 12, to EC 1165-2-209, Civil Works Review Policy, 31 Jan 10.

b. E-mail, CEMP-SWD, Ms. Yvonne Haberer, 4 Jun 12, subject: Beaver Lake Trout Production – Review Plan.

2. In accordance with the referenced guidance for review of civil works products, I hereby approve the Review Plan (RP), enclosed, for the subject study.

3. The RP was prepared in accordance with the referenced guidance and was reviewed and recommended for approval by the Water Management and Reallocation Studies Planning Center of Expertise.

4. The District should post the final approved RP and a copy of this memorandum to the District public internet website and provide the internet address to the Water Management and Reallocation Studies Planning Center of Expertise. Before posting to the District website, the names of USACE employees should be removed. Public comments received as a result of the posting will be incorporated into the plan as the study progresses.

5. The SWD point of contact for this action is Ms. Margaret Johanning at 469-487-7045.

Thomas W. Kula

Encl

THOMAS W. KULA
Brigadier General, USA
Commanding

CF:
CESWL-PE-P (Smethurst)

REVIEW PLAN

Trout Production, Beaver Lake, White River, Carroll County, Arkansas
Water Supply Storage Reallocation Report

Little Rock District

MSC Approval Date: 19 July 2012
Date: 7 November 2011
Updated 15 May 2012

US Army Corps
of Engineers ®

REVIEW PLAN

Trout Production, Beaver Lake, White River, Carroll County, Arkansas
Water Supply Storage Reallocation Report

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1. PURPOSE AND REQUIREMENTS

This Review Plan defines the scope and level of peer review for the **Trout Production, Beaver Lake, White River, Carroll County, Arkansas, Water Supply Storage Reallocation Report.**

a. References

(1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
(2) EC 1105-2-412, Assuring Quality of Planning Models, 31 March 2010.
(3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
(4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007

b. Requirements. This review plan was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC 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. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-209) and planning model certification/approval (per EC 1105-2-407).

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this Review Plan. The RMO for decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is the PCX for Water Supply Reallocations at SWD.

The RMO will coordinate with the Cost Engineering Directory of Expertise (DX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies.

3. STUDY INFORMATION

a. Decision Document. The decision document is titled: "**Trout Production, Beaver Lake, White River, Carroll County, Arkansas, Water Supply Storage Reallocation Report"**

b. Section 105 of Public Law 94-587 authorized the construction of trout production facilities at Beaver Dam in an amount not to exceed $6,000,000. Section 132 of the Energy and Water Development Appropriations Act, 2006, stated that losses to the Federal hydropower purpose at Beaver Lake, for the trout production facilities would be offset by a reduction in the costs allocated to the Federal hydropower purpose based on the estimated future lifetime replacement cost of the electrical energy and capacity at the time the operation of the facilities begin. Authority for the Corps to reallocate existing storage space to M&I water supply is contained in Public Law 85-500, Title III,

Water Supply Act of 1958, as amended.

c. The level of approval for the decision document is ASA(CW) because new policies are required to address the cost-sharing and compensation aspects of the Section 105 and 132 (b) authorizations. Section 13. Pertinent Correspondence includes CECW-P/CEMP-SWD Memo of 27 Nov 2007, Subject: Implementation of Section 105, WRDA 1976, Beaver Lake, Trout Production Facility. The ATR is to assure that the HQ report guidance is addressed.

d. Study/Project Description. The Beaver Dam and Reservoir Project is located on the White River about 9 miles northwest of Eureka Springs in northwest Arkansas. It is the upstream reservoir of six White River Basin Lakes constructed by the Corps in northern Arkansas and southern Missouri. The project was completed in 1965 for the purposes of flood damage reduction, hydropower, water supply, recreation, fish/wildlife, and other purposes. The amount of storage originally allocated for municipal and industrial (M&I) water supply (108,000 acre-feet) was placed under contract immediately after construction was completed. In addition, the lake, as built, had 817,100 acre-feet of storage for hydropower, and over 287,000 acre-feet for flood control. Since construction, an additional 21,207 acre-feet of storage space has been reallocated from the hydropower and flood control pools for M&I water supply to nearby small towns and rural areas.

When originally constructed, an 18" diameter pipe was placed in the dam structure for potential future provision of water for a tail-water fishery and/or a trout hatchery should they be developed. These facilities were authorized to be constructed immediately downstream of Beaver dam by Section 105 of P.L. 94-587, dated 22 October 1976, in compensation for the reduced number of fresh [warm] water fish in the White River Basin and other streams in Arkansas. An amount not to exceed $6,000,000 was authorized by that act for construction of the trout production facilities. In 1997 the Arkansas Game and Fish Commission requested and funded a concept design and cost estimate of locating a Trout Production Facility below Beaver Dam.

The water supply storage reallocation study is to determine under what terms and conditions water for the trout production facilities can come from Beaver Lake. Only after this study, would the design with its own NEPA documentation and construction of the trout production facilities proceed.

Under the USACE Dam Safety Program, Beaver Lake is classified as a Dam Safety Action Classification (DSAC) 4 dam. Dams in this classification do not meet all essential dam safety guidelines; however, the overall risk is low considering the probability of failure and potential public safety and economic consequences. A dam safety letter is included in the report. Current Corps policy allows for reallocation of storage in the conservation pool to water supply at DSAC 4 projects. According to ASA(CW), the state of Arkansas, the sponsor, has no cost sharing obligations for OMRR&R pertaining to dam safety and water storage.

An Environmental Assessment with a draft Finding of No Significant Impact is included in the report. In 13. Pertinent Correspondence, a Memorandum For Record of the current status of the EA and signed FONSI is included. Brief review of Ea is to be done to check that MFR is consistent with report and FONSI.

e. Factors Affecting the Scope and Level of Review.

- The proposed reallocation of water supply storage from the conservation pool would not affect operation of the project for flood risk reduction, nor would it significantly affect conservation operations. This action would not cause any threat to public life or safety.
- Southwestern Power Association, an important stakeholder, does not agree with our calculations of hydropower benefits forgone for storage reallocation. However, Congress has directed how and when SWPA will do the calculations for the losses to the Federal hydropower purpose to reduce the costs allocated to hydropower.
- The report found that the reallocation will be from the conservation pool based on environmental considerations. (See next item.) Also, ASA(CW) has determined that the cost of the storage would be free to the sponsor. Thus, there is no risk as to economics for plan selection, cost of the reallocated storage, or credit to hydropower for its losses. (See item above.)
- Reallocation from the flood control pool was eliminated in consideration for the endangered species, the grey bat.
- The Environmental Considerations that previously were reviewed were updated by an Memorandum For Record.
- It is expected that there will be no request by the governor for IEPR.
- The study was not controversial to the public.
- Design is not recommended by the decision document; therefore, it will not require novel construction methods or sequencing.
- Total Federal project cost for the Trout Production facilities that would use the reallocated storage is expected to be no more than $10,000,000. The design will be finalized with a subsequent decision document that will support a Project Cooperation Agreement .
- Little Rock District/ USACE routinely does water supply storage reallocation feasibility reports.
- A Dam Safety Certification was added to the report since the previous report review.
- ASA(CW)/HQ comments were added to the report since the previous review.

f. In-Kind Contributions. The sponsor did not provide any in-kind services or technical documents for this study.

4. DISTRICT QUALITY CONTROL (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC.

a. Documentation of DQC. DQC includes documenting and maintenance of records for internal audits of proper DQC implementation. The reviewers will make written comments, the respective team member will respond to comments noting concurrence or nonconcurrence with an explanation of revised work and its location in the reviewed document. The review leader will compile all the comments and responses, note if the review and responses are comprehensive, note significant issues and responses and non resolved issues, before signing the DQC statement of technical review. The project manager will also sign and date the statement. Subsequently the Chiefs of Planning,

Engineering, and Real Estate will describe the significant concerns and resolution and will sign a certification of Quality Assurance Review.

b. Products to Undergo DQC. Final Report to include MFR updating the EA with a cursory review of EA and documentation

c. Required DQC Expertise.

DQC Members/Disciplines	Expertise Required
Planning	The Planning reviewer should be a senior water resources planner with experience in water supply reallocation.
Dam Safety Professional	The professional engineer shall have experience in Dam Safety, and be able to verify the reliability of stability assessments.
Environmental	The reviewer should have experience in NEPA for planning studies.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). 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 is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in 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.

a. **Products to Undergo ATR.** Final Report to include MFR updating the EA with a cursory review of the EA and documentation.

b. Required ATR Team Expertise.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with extensive experience in preparing Civil Works decision documents and conducting ATR. The lead should also have the necessary skills to lead a team through the ATR process. The ATR lead may also serve as a reviewer for a specific discipline.
Planning – Water Supply Specialist	The Planning reviewer should be a senior water resources planner with experience in water supply reallocation.
NEPA Specialist	The reviewer shall be an expert in the NEPA process. The reviewer shall be familiar with the impacts from water supply reallocation.
Dam Safety Professional	The professional engineer shall have experience in Dam Safety, and be able to verify the reliability of stability assessments.

c. 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 be 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) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers 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 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 1110-1-12 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.

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- 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 their review and their findings and conclusions;
- Identify and summarize each unresolved issue (if any); and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

ATR may 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). A Statement of Technical Review should be completed, based on work reviewed to date, for the AFB, draft report, and final report. A sample Statement of Technical Review is included in Attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision documents under certain circumstances. 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. A risk-informed decision, as described in EC 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist 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. There are two types of IEPR:

- Type I IEPR. 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 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. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.

- Type II IEPR. 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.

Decision on IEPR. IEPR is not expected to be performed. This project contains none of the triggers described in Appendix D of EC 1165-2-209.

- There is no public safety component of the project.
- The report does not contain influential scientific information.
- No Environmental Impact Statement is being prepared.
- A request to conduct IEPR from a head of a Federal or state agency charged with reviewing the project is not expected.
- There are no implementation costs associated with this phase of the project. A follow up decision document will address implementation costs for the trout production facility and their related environmental considerations.
- The governor is not expected to request IEPR.
- The district routinely does water supply reallocation feasibility reports.
- It is not expected that the project would benefit from IEPR because the models used in the feasibility study have been used numerous times for reallocations. Also, the science used to determine the water supply storage pool is empirical data.

- The study should be excluded from IEPR because of the small size of the reallocation; it is only 2.3% (21,972 ac-ft) of the total conservation pool storage (937,307 acre-ft). Previous reallocations from the conservation pool were 9,000 ac-ft and 31,153 ac-ft (Congressionally directed). With this proposed reallocation, the cumulative percentage of conservation pool reallocations would be 6.6 %.
- IEPR panel recommended exclusion on 14 February 2012.

a. Products to Undergo Type I IEPR. Not-Applicable

b. Required Type I IEPR Panel Expertise. Not-Applicable

c. Documentation of Type I IEPR. Not-Applicable

7. POLICY AND LEGAL COMPLIANCE REVIEW

All decision documents will be reviewed throughout the study 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 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.

8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION

Cost DX involvement is not expected based on the current scope of the study. The RMO or PCX will coordinate as needed.

9. MODEL CERTIFICATION AND APPROVAL

EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined 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 use of a certified/approved planning model does not constitute technical review of the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

EC 1105-2-412 does not cover engineering models used in planning. 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. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR, if required.

a. Planning Models. The following planning models are anticipated to be used in the development of the decision document : None

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
Project Benefit Accomplishment Package, HEC-PBA	*Calculates agricultural and urban benefits from a flood record. Results were used to show average annual flood control benefits foregone for a flood pool reallocation.*	NA
PROSYM	*Computes the value of lost hydropower generation by simulating the operation of the power system (the five White River basin Corps power projects) to display the computed hydropower benefits and revenues foregone.*	NA

PBA and PROSYM were used to calculate benefits foregone. Benefits foregone estimates supported the report conclusion; but the selected alternative was, in the end, determined by an environmental consideration. SWL is requesting a waiver from model review as the models were the state-of-the-art at the time and the output doesn't determine the selection of the recommended plan.

b. Engineering Models. The following engineering models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
SWD-SUPER	Estimates hydrologic yield and elevation to determine storage requirements.	

SUPER has long been effectively used for yield analysis to include water supply storage reallocations. **SUPER** is a frequently used SWD model that has been thoroughly tested and validated.

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost. Preliminary estimated Cost for ATR is $15,000.

ATR Schedule	Start	Finish
ATR of Draft Final Feasibility Report	22-May-12	6-Jun-12

b. Type I IEPR Schedule and Cost. Not-Applicable

c. Model Certification/Approval Schedule and Cost. Not-Applicable

11. PUBLIC PARTICIPATION

The Little Rock District made the draft documents available for the public review. Draft documents will be posted on the district website. Public comments will be taken into account in determining the types and scope of peer reviews for the study. All the public involvement requirements for NEPA have been and will continue to be met. Public comments will be made available for consideration by peer review teams. The RP will be posted on the SWL web page for public comment.

12. REVIEW PLAN APPROVAL AND UPDATES

The Southwestern Division 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. The home district is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last MSC 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 MSC 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 home MSC.

13. REVIEW PLAN POINTS OF CONTACT

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

- District Contact, Project Manager: Julia Smethurst, 501-324-5037
- MSC Contact: Margaret Johanning, 469-487-7045
- Review Management Organization: Brad Hudgens, 469-487-7033

ATTACHMENT 1: TEAM ROSTERS

Project Delivery Team	
Plan Formulation	Julia Smethurst
Environmental	Jim Ellis
Structural	Steve Barg
DQC Team	
Plan Formulation	Chad Dulaney
Environmental	Jonathan Hiser
Structural	Craig Evans
ATR Team	
Plan Formulation	
NEPA Specialist	
Dam Safety Professional	

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECSION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the water supply reallocation for Beaver Lake Reallocation Study for Carroll-Boone II, Two-Ton, Madison County. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-209. 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
Office Symbol

SIGNATURE _____ _____

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

SIGNATURE _____ _____

Name Date
Review Management Office Representative
Office Symbol

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
Office Symbol

SIGNATURE _____ _____

Name Date
Chief, Planning Division
Office Symbol

[1] Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

Term	Definition	Term	Definition
AFB	Alternative Formulation Briefing	NED	National Economic Development
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
DPR	Detailed Project Report	OMB	Office and Management and Budget
DQC	District Quality Control/Quality Assurance	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DX	Directory of Expertise	OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PAC	Post Authorization Change
ER	Ecosystem Restoration	PMP	Project Management Plan
FDR	Flood Damage Reduction	PL	Public Law
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
GRR	General Reevaluation Report	RED	Regional Economic Development
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMC	Risk Management Center
IEPR	Independent External Peer Review	RMO	Review Management Organization
ITR	Independent Technical Review	RTS	Regional Technical Specialist
LRR	Limited Reevaluation Report	SAR	Safety Assurance Review
MSC	Major Subordinate Command	USACE	U.S. Army Corps of Engineers
		WRDA	Water Resources Development Act