DECISION DOCUMENT & IMPLEMENTATION PHASE REVIEW PLAN

For

Water Control Manuals

Union City Dam, Erie County, PA

Pittsburgh District

MSC Initial Approval Date: 8-27-13

Last Revision Date: None

US Army Corps of Engineers ®

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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the Union City Dam, Erie County, PA Water Control Manual.

Reservoirs, locks and dams, re-regulation and major control structures and inter-related water resources systems are required to have an up-to-date Water Control Manual as required by Engineering Regulation 1110-2-240. The water control plans contained in the manuals must be prepared giving appropriate consideration to the original project authorizing legislation and subsequent specific authorizations as well as all applicable Congressional Acts relating to operation of Federal facilities, i.e., Fish and Wildlife Coordination Act, National Environmental Policy Act, the Clean Water Act, etc. Water Control Manuals should comply with EC 1165-2-214, Water Resources Policy and Authorities, Civil Works Review. Guidance on the content and format of water control manuals is contained in ER 1110-2-8156 with additional guidance in EM 1110-2-3600. The level of review is predicated upon the criteria as detailed in this regional model review plan.

Additional Information on water control plan development can be found in Engineering Regulation 1105-2-100, Planning Guidance Notebook and in ER 1165-2-119, Modifications to Completed Projects.

b. Applicability. This review plan is for Water Control Manuals prepared in accordance with ER 1165-2-214 Civil Works Review. A Water Control Manual may require a Type I IEPR if any of the following specific criteria are met:

- The project involves a significant threat to human life/safety assurance;
- There is a request by the Governor of an affected state for a peer review by independent experts;
- The project requires an Environmental Impact Statement (EIS),
- The project/study is likely to involve significant public dispute as to the size, nature, or effects of the project;
- The project/study is likely to involve significant public dispute as to the economic or environmental cost or benefit of the project;
- The information in the decision document or anticipated project design is likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices;
- The project design is anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule; and
- There are other circumstances where the Chief of Engineers or Director of Civil Works determines Type I IEPR is warranted.

If any of the above criteria are met, a study/project specific review plan must be prepared by the home district, coordinated with the appropriate Planning Center of Expertise (PCX) and approved by the home Major Subordinate Command (MSC) in accordance with EC 1165-2-214.

c. References

(1) EC 1165-2-214, Water Resources Policy and Authorities, Civil Works Review, December 2012.Director of Civil Works' Policy Memorandum #1, Jan 19, 2011
(2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 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
(5) ER 1110-2-240, Water Control Management
(6) ER 1110-2-8156, Preparation of Water Control Manuals
(7) Memorandum, CELRD-DE, Subject: CWMS Implementation and Water Control Manual Revisions

d. Requirements. This Review Plan was developed in accordance with EC 1165-2-214, Water Resources Policy and Authorities, Civil Works Review, 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 must ensure that planning models and analysis are compliant with Corps policy, theoretically sound, computationally accurate, transparent, described to address any limitations of the model or its use, and documented in study reports (per EC 1105-2-412).

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 Water Control Manuals is the home MSC. The MSC will coordinate and approve the review plan. The home District will post the approved review plan on its public website.

3. STUDY INFORMATION

a. Other Work Product Document. The Union City Dam, Erie County, PA Water Control Manual will be prepared in accordance with ER 1110-2-240, Water Control Management and ER 1110-2-8156, Preparation of Water Control Manuals. The approval level of the document (if policy compliant) is the home MSC. An Environmental Assessment (EA) will be prepared, where required, along with the Water Control Manual, if changes to the water control plan are made.

b. Study/Project Description. The project is to complete a Water Control Manual for Union City Dam on French Creek in Erie County, PA. The project has been in operation since 1971, however, only a draft Water Control Manual was ever completed. This project will produce a final, updated Water Control Manual in compliance with current guidance and following existing water control plan practices. No changes to the existing operation of the project are being recommended at this time, and therefore no alternatives were formulated. Any changes to current project operations would require a separate authority and a reauthorization study. Changes to the water control plan are not within the scope of this Water Control Manual update process.

c. Factors Affecting the Scope and Level of Review.

- The development of the Water Control Manual for Union City Dam is routine and will not be technically, institutional or socially challenging. It will utilize existing engineering and operational procedures and therefore will not be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices
- The Water Control Manual will document existing operation of the project and therefore does not have risks with its completion
- There is no significant threat to human life/safety assurance in the development of a Water Control Manual since no changes to current operation of the project are to be suggested
- The Governor of Pennsylvania has not requested a peer review by independent experts for this Water Control Manual
- The project has been in operation since 1971 and is not likely to involve significant public dispute as to the size, nature, or effects of the project or public dispute as to the economic or environmental cost or benefit of the project. A public meeting was held in August 2012 and had very minimal attendance
- The information in the Water Control Manual is not to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices due to the routine nature of bringing the manual into compliance with current engineering regulations and practices; and
- No construction is associated with this project and therefore the project will not require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule

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.

Throughout the design process, a seamless internal review will be performed by senior level Pittsburgh District staff and will focus on fulfilling the project quality requirements for the work products produced. Seamless DQC review involves the review of sub-products and products as they are prepared. The DQC is performed in a proactive manner throughout the entire planning and design process to take advantage of collective experience including interaction with the ATR team. This review is in the form of formal and informal meetings, telephone conversations, and other forms of informal communication that may involve one or more review team members. Also, includes detailed reviews and checks, which must be carried out as routine management practice. These reviews are performed by personnel responsible for the work, such as supervisors, team leaders, or designated individuals and shall be performed prior to Agency Technical Review. A design review should include a comprehensive evaluation of:

- the correct application of methods,

- adequacy of basic data and assumptions,
- correctness of calculations (error free)
- completeness of documentation,
- compliance with guidance, standards, regulations, and laws,
- testing, modeling, assumptions, calculations, text, and graphic presentations in all documents are complete, satisfy appropriate design criteria, and utilize sound engineering practice.

In addition to the seamless DQC mentioned above, a formalized DQC consisting of a complete objective review by members of the District not involved in preparation of the work will be completed. The following disciplines will be on this formalized DQC;

- Park Ranger
- Hydraulic Engineer
- Public Affairs Specialist

The formalized DQC will be documented in DrChecks and will be provided to the ATR team.

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. ATR will be performed throughout the study in accordance with the District and MSC Quality Management Plans. The ATR shall be conducted according to protocol set forth in the regional model review plan. Certification of the ATR will be provided prior to the District Commander approving the final water control manual. Products to undergo ATR include the Water Control Manual and related plates and appendices.

b. Required ATR Team Expertise.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional preferably with experience in preparing water management decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. Typically, the ATR lead will also serve as a reviewer for a specific discipline (such as planning, hydraulics/hydrology, economics, environmental resources, etc). The ATR Lead MUST be from outside LRD.

Hydraulic Engineering	The Hydraulic Engineer reviewer should be a professionally registered engineer with expertise in the field of water management and have a thorough understanding of reservoir operations including but not limited to flood control, drought, river and reservoir modeling, authorized project purposes, and hydropower. The reviewer should be familiar with standard Corps hydrologic and hydraulic computer models (HEC-RAS, HEC-HMS, & HECResSim).
Biologist/Physical Scientist	The Biological reviewer will be an expert in the field of water quality and have a thorough understanding of the water quality relationship with reservoir operations including but not limited to physical, chemical and biological investigations; knowledge of environmental law, regulation, requirements, and policies; fishery biology; and botany related to aquatic plants, wetlands, and rivers, as it pertains to water management.

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 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) 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 1110-2-12 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.

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 prior to the District Commander signing the 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. For example, the development of a controversial Master Manual for which numerous alternatives are considered may fall in this category. A risk-informed decision, as described in EC 1165-2-214, 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 1165-2-214.

  For Water Control Plans prepared under the Regional Model Review Plan, Type 1 IEPR will typically not be required.

- 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.

Type II IEPR is not usually anticipated for water control plans unless they are integral to the design and implementation phase, but this will need to be verified and documented in the review plan prepared for the design and implementation phase of the project.

a. Decision on IEPR. The subject project does not meet the mandatory or discretionary triggers for a Type I IEPR per section 2034 of the Water Resources Development Act of 2007 or EC 1165-2-214. The project does not represent a threat to health and safety, is not controversial, and has not had a request for IEPR from the Governor of Pennsylvania or the head of a Federal or state agency. There is not an expectation that there will be any public dispute as to the size, nature or effects of the project. It is not expected that there will be any public dispute as to the economic or environmental cost or benefit of the project. No governmental agencies have demonstrated any concerns to date. For all these reasons the project should not be considered controversial. It is not expected to have adverse impacts on scarce or unique cultural or historic resources. It is not expected to have adverse impacts on any fish or wildlife species or their habitat whether or not they are listed as endangered or threatened under the Endangered Species Act of 1973. The WCM update will not lead into any construction. It is not likely to contain influential scientific information, nor is it likely to be a highly influential scientific assessment. It does not involve the rehabilitation or replacement of existing hydropower turbines, lock structures, or flood control gates. It is not expected to be based on novel methods, does not present complex challenges for interpretation, does not contain precedent-setting methods or models, and will not present conclusions that are likely to change prevailing practices. It has no life safety risk because it will not lead to any construction nor significant operational changes. It does not involve changing any storage allocation or guide curves at the project. The project has a Capital Improvement/Investment of $0 for routine WCM updates; therefore, the estimated project cost is $0 which is less than the $45M criteria for a mandatory Type I IEPR.

Based on the information and analysis provided in the preceding paragraphs of this review plan, the PDT has concluded that no major changes of the operation of the reservoir have been proposed for this update of the Union City Dam Water Control Manual. A water control manual update is limited in scope and impact and would not benefit from a Type I IEPR. The PDT has prepared a review plan that discusses District Quality Control and Agency Technical Review, which utilizing a risk informed rationale, have been determined to be sufficient.

b. Products to Undergo Type I IEPR. Not Applicable

c. Required Type I IEPR Panel Expertise. Not Applicable

d. 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. MODEL CERTIFICATION AND APPROVAL

MSC Commanders are responsible for assuring models for all planning activities are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Therefore, the use of certified/approved planning or water management models is highly recommended and should be used whenever appropriate. Planning and water management models 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 selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC and ATR.

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 and ATR.

a. Planning Models. No planning and water management models will be used in the development of this Water Control Manual.

b. Engineering Models. The following engineering models are anticipated to be used in the development of the Water Control Manual:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
HEC-DSSVue, 2.0.1	Hydrologic Engineering Center's Data Storage System Visual Utility Engine, USACE Hydrologic Engineering Center, Version 2.0.1. The HEC-DSSVue is a java-based visual utilities program that allows user to plot, tabulate, edit and manipulate data in a HEC-DSS database file. The HEC-DSSVue is a useful tool for working with the HEC softwares that will be used for the Water Control Manual.	Certified
HEC-SSP, 2.0	Hydrologic Engineering Center's Statistical Software Package, USACE Hydrologic Engineering Center, Version 2.0. The HEC-SSP software allows user to perform Statistical analysis of hydrologic data. The HEC-SSP will be used to compute Inflow, Pool, stage frequency and duration curve for the Water Control Manual.	Certified

HEC-HMS, 3.5	Hydrologic Engineering Center 's Hydrologic Modeling System, USACE Hydrologic Engineering Center, Version 3.5. The HEC-HMS software is designed to simulate the precipitation-runoff processes of dendritic watershed systems. HEC-HMS will be used to compute reservoir Inflow, Outflow and peak elevation for the Water Control Manual.	Certified
HEC-RAS, 4.1	Hydrologic Engineering Center 's River Analysis System, USACE Hydrologic Engineering Center, Version 4.1. HEC-RAS is designed to perform one-dimensional hydraulic calculations for a full network of natural and constructed channels. This software allows user to perform steady or unsteady flow calculations, sediment transport/ mobile bed computations and water temperature modeling. HEC-RAS will be used to compute water surface profile and velocity of the river system needed for developing the Water Control Manual.	Certified

9. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost.

MILESTONE	*DATE*
District Quality Control Review	Continuous
Begin ATR	15 April 2013
Complete ATR	30 July 2013
ATR Certification	15 August 2013

Cost for the ATR not including PDT resources for incorporation of ATR comments will be approximately $15,000.

b. Type I IEPR Schedule and Cost. Not applicable

c. Model Review Schedule and Cost. For decision documents use of existing certified or approved planning models is encouraged. Where uncertified or unapproved model are used, review of the model for use will be accomplished through the ATR process. The ATR team should apply the principles of EC 1105-2-412 during the ATR to ensure the model is theoretically and computationally sound, consistent with USACE policies, and adequately documented. If specific uncertified models are identified for repetitive use within a specific district or region, the appropriate PCX, MSC(s), and home District(s) will identify a unified approach to seek certification of these models.

10. PUBLIC PARTICIPATION

State and Federal resource agencies may be invited to participate in the study covered by this review plan as partner agencies or as technical members of the PDT, as appropriate. Agencies with regulatory review responsibilities will be contacted for coordination as required by applicable laws and procedures. The ATR team will be provided copies of public and agency comments.

A public and stakeholder meeting was held in August 2012. Additionally, upon MSC approval of this Review Plan, it will be posted on the Pittsburgh District Internet for Public Review.

11. REVIEW PLAN APPROVAL AND UPDATES

The home MSC Commander is responsible for reviewing this review plan and approving this review plan if no deviations or waivers are requested that require HQUSACE approval. 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, will be posted on the home district's webpage.

12. REVIEW PLAN POINTS OF CONTACT

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

- Project Lead, 412-395-7312
- District Liaison, 513-684-3159

ATTACHMENT 1: TEAM ROSTERS. Include contact information for the DQC, PDT, ATR team, Vertical team and MSC. The credential and years of experience for the ATR team should be included when it is available.

Project Deliver Team (PDT) Responsibility & Seamless District Quality Control (DQC)	Name
Project Management	
Hydraulic Engineer	
Dam Safety	
Biologist / Water Quality Specialist	
Planning/ Economics	
GIS/Other Technical	

Formalized DQC Responsibility	Name
Park Ranger/ Natural Resources	
Hydraulic Engineer	
Public Affairs	
Security	

Primary Area of Review (ATR) Responsibility	Name/Office Symbol	Years of Experience
Technical Review Team Leader	NWS	22 years
Hydraulic Engineer	LRN	28 years
Biologist / Physical Scientist	LRH	37 years

MSC / HQ Review	Office Symbol	Name
Water Management Div	CELRD-RBW	
Business Tech Div / Dam Safety	CELRD-RBT	
Operations Div	CELRD-PD-O	
Planning Div / NEPA	CELRD-PD-P	
Real Estate Div	CELRD-PD-R	
Office of Counsel	CECC-LRD	
Headquarters / HH&C CoP	CECW-CE	

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the *<type of product>* for *<project name and location>*. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-209. 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 _____ Date _____
Name
ATR Team Leader
Office Symbol/Company

SIGNATURE _____ Date _____
Name
Project Manager (home district)
Office Symbol

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

SIGNATURE _____ Date _____
Name
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 _____ Date _____
Name
Chief, Engineering Division (home district)
Office Symbol

SIGNATURE _____ Date _____
Name
Chief, Planning Division (home district)
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
CAP	Continuing Authorities Program	O&M	Operation and maintenance
CSDR	Coastal Storm Damage Reduction	OMB	Office and Management and Budget
DL	District Liaison	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DPR	Detailed Project Report	OEO	Outside Eligible Organization
DQC	District Quality Control/Quality Assurance	OSE	Other Social Effects
DX	Directory of Expertise	PCX	Planning Center of Expertise
EA	Environmental Assessment	PDT	Project Delivery Team
EC	Engineer Circular	PAC	Post Authorization Change
EIS	Environmental Impact Statement	PMP	Project Management Plan
EO	Executive Order	PL	Public Law
ER	Ecosystem Restoration	QMP	Quality Management Plan
FDR	Flood Damage Reduction	QA	Quality Assurance
FEMA	Federal Emergency Management Agency	QC	Quality Control
FRM	Flood Risk Management	RED	Regional Economic Development
FSM	Feasibility Scoping Meeting	RMC	Risk Management Center
GRR	General Reevaluation Report	RMO	Review Management Organization
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RTS	Regional Technical Specialist
IEPR	Independent External Peer Review	SAR	Safety Assurance Review
ITR	Independent Technical Review	USACE	U.S. Army Corps of Engineers
LRR	Limited Reevaluation Report	WRDA	Water Resources Development Act
MSC	Major Subordinate Command		