



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, NORTHWESTERN DIVISION  
PO BOX 2870  
PORTLAND OR 97208-2870

CENWD-RBT

13 DEC 2012

MEMORANDUM FOR Commander, Portland District (CENWP-PM-FP/Natalie Richards)

SUBJECT: Review Plan (RP) Approval for Bradford and Cascade Island Adult Fishways Assessment Phase II Report, Engineering Documentation Report, Portland District

1. References:

a. RP for Bradford and Cascade Island Adult Fishways Assessment Phase II Report, Engineering Documentation Report (EDR) (Encl).

b. EC 1165-2-209 Change 1, Civil Works Review Policy, 31 January 2012.

2. Reference 1.a. above has been prepared in accordance with reference 1.b. above.

3. The RP has been coordinated with the Business Technical Division, Northwestern Division, U.S. Army Corps of Engineers, which is the lead office and point of contact to execute this plan. The Review Plan includes District Quality Control and Independent Technical Review.

4. I hereby approve this RP, which is subject to change as circumstances require, consistent with the study development process and the Project Management Business Process. Subsequent revisions to this RP or its execution will require written approval from this office.

5. For further information, please contact Mr. Steve Bredthauer at (503) 808-4053.

Encl

ANTHONY C. FUNKHOUSER, P.E.  
COL, EN  
Commanding

CF: PDS



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, PORTLAND DISTRICT  
PO BOX 2946  
PORTLAND OR 97208-2946

REPLY TO  
ATTENTION OF

CENWP-EC

22 OCT 2012

MEMORANDUM FOR Commander, Northwestern Division (CENWD-DE)  
(Stephen Bredthauer, Quality Assurance Manager, CENWD/RBT)

Subject: P2 354296-Bradford and Cascade Island Adult Fishways Assessment Phase II Report,  
Engineering Documentation Report (EDR)

1. This memorandum details modifications to the Bradford and Cascade Island Adult Fishways Assessment Phase II Report Review Plan. This Review Plan provides for a procedure that was compliant with ER 1165-2-209 Civil Works Review Process and further specified that both District Quality Control (DQC) and Independent Technical Review (ITR) and no Agency Technical Review (ATR) would be performed. It also indicates the project would not require an Independent External Peer Review.
2. In accordance with NWD Implementation Guidance for Engineering Circular 1165-2-209 Civil Works Review Policy dated 24 May 2011, Bradford and Cascade Island Adult Fishways Assessment Phase II Report is classified as "Other Work Products" and that the risk assessment project that is without life safety issues do not require completion of ATR if evaluation of risks deem that it is not necessary. The decision to not perform ATR has been delegated to the Portland District and does not require NWD approval.
3. The Bradford and Cascade Island Adult Fishways Assessment Phase II Report Team has reviewed the risks associated with the project and have concluded that the project does not pose significant risks or life safety issues and therefore have recommended that this report does not require ATR. In recognition of Portland District policy, in lieu of completion of ATR, sufficient independent technical review shall be accomplished during the review process.
4. As part of the process for completion of this report:
  - a. TetraTech performed an internal Independent Technical Review of design products at the 60%, 90% stages of completion of EDR. These ITR's are included in the Review Plan as documentation verifying completion. Once the DDR and Plans and Specification (P&S) resources are determined, this RP will be updated accordingly.
  - b. ITR supplementation by Hydraulic, Structural and Construction/Cost Estimating Staff.
  - c. The Portland District of the Corps of Engineers will participate in reviewing all design products at the 30%, 60%, 90% for EDR; 30%, 60%, 90% for DDR and 30%, 60%, 90% BCOE for P&S.

CENWP-EC

SUBJECT: P2 354296 – Bradford and Cascade Island Adult Fishways Assessment Phase II  
Report, Engineering Document Report (EDR)

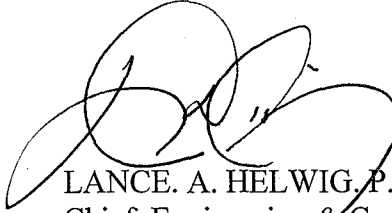
5. The District point of contact (POC) for questions or requests for additional information may be referred to Natalie A. Richards, Project Manager, at (503) 808-4755 or email at [natalie.a.richards@usace.army.mil](mailto:natalie.a.richards@usace.army.mil). A secondary POC are Technical Leads Liza Roy, (503)808-4849, email at [elizabeth.w.roy@usace.army.mil](mailto:elizabeth.w.roy@usace.army.mil) or Gary Henrie, (503)-808-4831, email at [gary.s.henrie@usace.army.mil](mailto:gary.s.henrie@usace.army.mil).

FOR THE COMMANDER

Encl

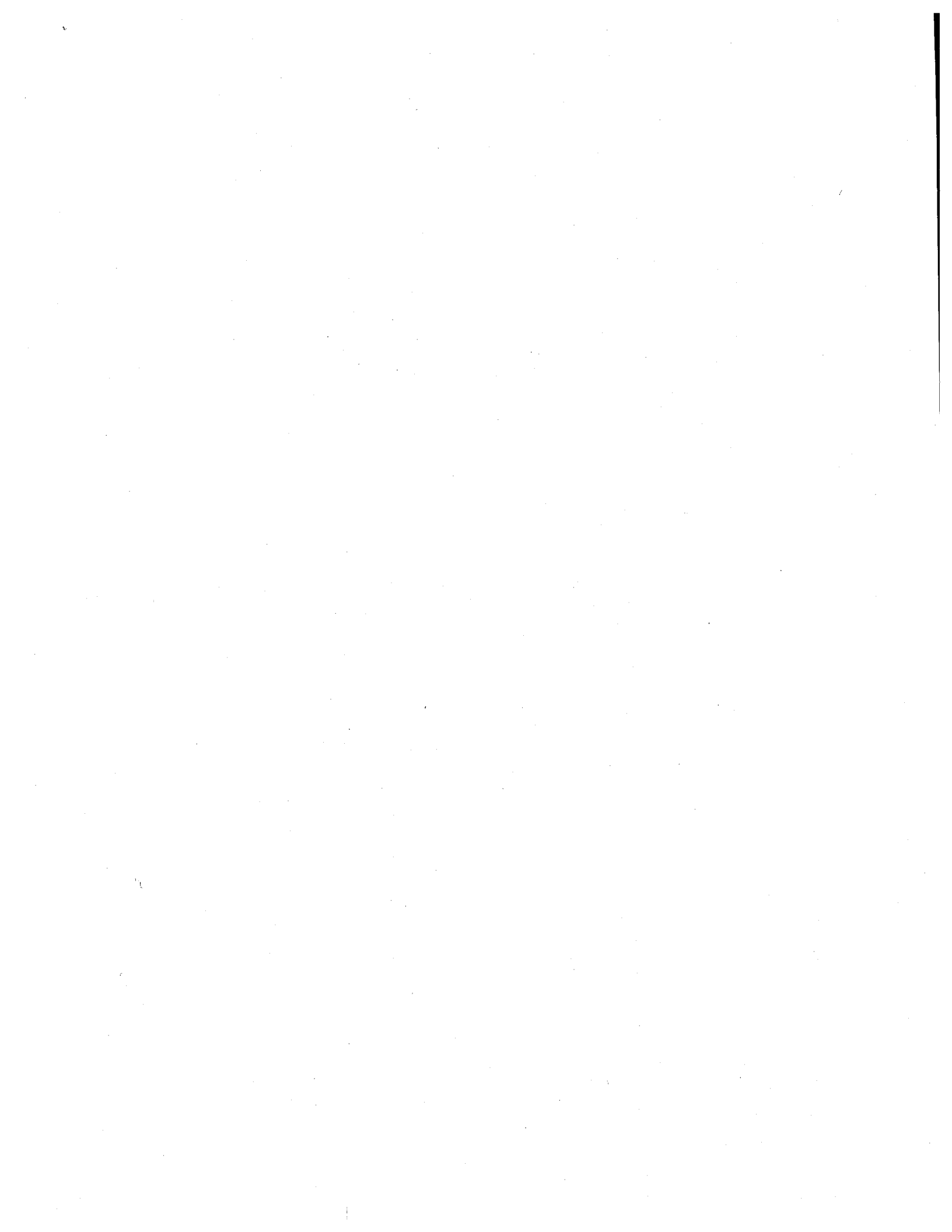
CF:

CENWD-RBT (Bredthauer)

A handwritten signature in black ink, appearing to read "Lance A. Helwig", is written over the typed name and title.

LANCE. A. HELWIG, P.E

Chief, Engineering & Construction Division



# **REVIEW PLAN**

**Bonneville Bradford Island and Cascade Island, Engineering Design Report  
(EDR)**

**P2- 354296**

**Portland District**

**September 2011**



**US Army Corps  
of Engineers®**

**REVIEW PLAN**

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**US Army Corps  
of Engineers ®**

## I. PURPOSE AND REQUIREMENTS

The purpose of this project is to provide five critical ladder components affecting ladder reliability and a cost estimate such that future budgeting can proceed to make the needed improvements at Bonneville Bradford and Cascade Island Ladders. The project delivery team (PDT) is overseeing INCA who will complete the site visit and complete an EDR which will ultimately lead to Plans and Specifications to repair reliability features.

Reviews shall include:

- District Quality Control (DQC)
- Independent Technical Review (ITR) - required and completed in Appendix with supplementation by Hydraulic, Structural and Construction/Cost Estimating staff, which is being determined.
- Agency Technical Review (ATR) - PDT assessed need for ATR with guidance from EC-209 and recommends that ATR is not required for this product.

### A. References

- (1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Dec 2009
- (2) Engineering Regulation (ER) 1105-2-100, Planning Guidance Notebook
- (3) ER 1110-2-12, Quality Management, 30 Sep 2006

B. **Requirements.** This RP was developed in accordance with EC 1165-2-209, which establishes the procedures for ensuring the quality and credibility of U.S. Army Corps of Engineers (USACE) implementation documents through independent review. These various elements shall be documented in a RP as part of the Project Management Plan (PMP).

### C. Project Authorization

- (1) **General.** Bonneville Dam was authorized in 1933. The multi-purpose project is part of the Columbia River navigation system and provides recreational and hydropower benefits. This work is funded under Operations and Management and Bonneville Power Administration (BPA).
- (2) **Project Background and History.** These Fish ladders are original to Bonneville Dam which was completed in 1937 and presents a significant reliability threat affecting the Regional fish as they migrate upstream for reproduction. The purpose of the Bonneville Dam Bradford and Cascade Island Ladders Reliability modifications is to increase the likelihood of ladder being down due to component failure improving salmon and lamprey migration up the Columbia.

The PDT and the A/E INCA will completed the EDR in order to identify the 5 critical reliability components, provide budgetary level estimates and these estimates will be incorporated into future budgets to design a reliable Bradford and Cascade Island Ladder existing plans and specs accordingly.

## II. DISTRICT QUALITY CONTROL (DQC)

**A. General.** All draft products and deliverables will be reviewed within the district as they are developed by the PDT to ensure they meet project and customer objectives, comply with regulatory and engineering guidance, and meet customer expectations of quality. Work products will be forwarded to the appropriate Branch Chiefs of disciplines directly involved with the development of the document. The Branch Chiefs will determine the most appropriate person to carry out the review of the document.

**B. Products for Review.** Prior to the inception of work, in this case an EDR, a PMP, Scope, Schedule and Budget will be provided and routed through Engineering and Construction for approval. In a bigger picture role throughout the process, each phase is reviewed and the District Management is kept apprised of the progress through the Project Review Board (PRB) meetings. Periodically, approximately every 6 weeks, the Fish Facility Design Research Work Group, Regional Fishery Managers, are also updated on the progress.

WBS products and deliverables shall be reviewed as they are developed to ensure they meet project and customer objectives, comply with regulatory and engineering guidance, and meet customer expectations of quality. Informal reviews, consisting of PDT presentations and discussions, shall be documented with meeting minutes. Formal reviews, consisting of review comments, review conferences, and back checking, shall be documented using Dr. Checks. Formal reviews will involve all members of the PDT at 50% and 90% EDR and Plans and Specifications reviews are anticipated at 30%, 60% and 90%.

**C. ITR-Formal ITR reviews** will be coordinated with NWW and they will be involved at 90% EDR and Plans and Specifications reviews are anticipated at 30%, 60% and 90%.

**D. Agency Technical Review (ATR)- Not required**

## III. DQC REVIEW SCHEDULES AND COSTS

This is the tentative schedule negotiated with INCA. The NPT was provided 9/13 so everything shifts 6 days:

<b>EVENT (Bradford Island)</b>	<b>Completion by</b>
Notice to Proceed	Sept 2, 2011
List of Contractor Personnel	Sept 9, 2011
QCP	Sept 16, 2011
Investigation of Existing Conditions	Dec 1, 2011 to 15 Feb 2012
30% EDR Due	30 March 2012
60% EDR Due	30 Apr 2012
90% EDR Due	31 May 2012
Final Bradford Island EDR Due	29 June 2012
<b>Option A- OWA- FY12 funding</b>	<b>Completion by</b>
EVENT (Cascade Island)	Completion by
Investigation of Existing Conditions	Dec 1, 2012- Feb 15, 2013



30% EDR Due	30 March 2013
60% EDR Due	30 Apr 2013
90% EDR Due	31 May 2013
Final Cascade Island EDR Due	29 June 2013

The DQC schedule and cost estimate is presented below

**TABLE 1. SCHEDULE**

<u>Task</u>	<u>Date</u>	<u>Estimated Cost</u>
60% EDR Due	30 Apr 2012	\$20,000
90% EDR Due	31 May 2013	\$20,000
60% P&S Review	TBD	\$20,000
90% P&S Review	TBD	\$20,000
BCOE P&S Review	TBD	\$20,000

Budgeted hours for reviews are as follows:

- DDR Supplement: NWP Team to be Determined
- P&S: NWP Team to be Determined

**A. IEPR Schedule and Cost.** This reliability study for an existing project ladder. An IEPR is not applicable since there is no threat to human life and this report is estimated to cost \$325,000. This document helps clarify future cost and is not a decision document. This does not cover work requiring a Type I or Type II IEPR.

**B. Model Certification/Approval Schedule and Cost.** Existing Hydraulic Evaluation of Lower Columbia River Adult Bypass Systems (HELCRAB) models have been completed and are being provided to INCA. No further Hydraulic Numerical modeling will be completed during this phase.

#### **IV. AGENCY TECHNICAL REVIEW TEAM MEMBERS- Not Needed**

##### **Public Involvement**

A 30 day review will be provided to the public at the following website if needed:

<http://www.nwp.usace.army.mil/op/g/notices.asp>

##### **Sponsors**

BPA

#### **V. MSC APPROVAL**

Northwestern Division is the MSC that oversees and is responsible for approving the RP. A MSC approval letter is required for each review plan and must be signed by the MSC Commander. The commander's approval should reflect vertical team input (involving district, MSC, PCX, and HQUSACE members) as to the appropriate scope and level of review for the decision document.

Like the PMP, the RP is a living document and may change as the study progresses. Changes to the RP should be approved by following the process used for initially approving the plan. In all cases the MSC will review the decision on the level of review and any changes made in updates to the project.

**VI. PRODUCT DEVELOPMENT TEAM CERTIFICATION**

<b>DISCIPLINE</b>	<b>PDT MEMBER</b>	<b>SIGNATURE</b>	<b>DATE</b>
<b>Project Manager</b>	<b>Natalie Richards</b>		<b>9/21/2011</b>
<b>Team Technical Lead</b>	<b>Liza Roy</b>		
<b>Hydraulics</b>	<b>Gary Henri</b>		
<b>Structures</b>	<b>Mike Crump</b>		
<b>Mechanical</b>	<b>Alan Stokke</b>		
<b>Electrical</b>	<b>TBD</b>		
<b>Fisheries</b>	<b>Jon Rerecich/Ben Hausmann</b>		
<b>Cost/Construction</b>	<b>Gary Bechtel</b>		
<b>Operations</b>	<b>Kevin Perletti</b>		
<b>Environmental</b>	<b>TBD</b>		

## ATTACHMENT 1: GLOSSARY

### **Agency Technical Review (ATR):**

ATR is an in-depth review, managed within USACE, and conducted by a qualified team outside of the home district that is not involved in the day-to-day production of the project/product. The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices. The ATR team reviews the various work products and assure that all the parts fit together in a coherent whole. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists, etc.), and may be supplemented by outside experts as appropriate. To assure independence, the leader of the ATR team shall be from outside the home Major Subordinate Command (MSC).

### **District Quality Control (DQC):**

DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the PMP. It is managed in the home district and may be conducted by staff in the home district as long as they are not doing the work involved in the study, including contracted work that is being reviewed. Basic quality control tools include a Quality Management Plan providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. Additionally, the PDT is responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before approval by the District Commander.

### **Independent External Peer Review (IEPR):**

IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. Any work product, report, evaluation, or assessment that undergoes DQC and ATR may also be required to undergo IEPR. IEPR is coordinated by the appropriate Planning Center of Expertise (PCX) and managed by an Outside Eligible Organization (OEO) external to the USACE. The OEO will select panel members using the National Academies of Science (NAS) policy for selecting reviewers. The scope of review will be scalable to the work product being reviewed and will address all underlying planning and engineering, including safety assurance, economics, and environmental analyses performed, not just one aspect of the project. Type I IEPR is generally for decision documents whereas Type II IEPR is generally for implementation documents.

- a. Type I IEPR is mandatory if any of the following are true: 1) Significant threat to human life; 2) Total estimated project cost is > \$45M; 3) A request is made for independent peer review by a State Governor of an affected state; 4) Chief of Engineers determines that the project study is controversial due to significant public dispute over either the size, nature, or effects of the project or the economic or environmental costs or benefits of the project. If a decision document does not automatically trigger a Type I IEPR, a risk-informed recommendation will be developed. Type I IEPR is discretionary where a request is made by the head of a Federal or state agency charged with reviewing the project study if he/she determines that the project is likely to have significant adverse impacts.
- b. Type II IEPR – Safety Assurance Review (SAR). All design and construction activities addressing hurricane and storm risk management; flood risk management; and other projects where existing and potential hazards pose a significant threat to human life are required to undergo SAR. External panels will review the design and construction

activities prior to initiation of physical construction and periodically thereafter until construction activities are completed on a regular schedule sufficient to inform the Chief of Engineers on the adequacy, appropriateness, and acceptability of the design and construction activities for the purpose of assuring public health, safety, and welfare.

**Model Certification/Approval:**

EC 1105-2-407 requires certification (for Corps models) or approval (for non-Corps models) of planning models used for all planning activities. The EC defines planning models as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives, and to support decision-making.

**Outside Eligible Organization:**

An organization that:

- (1) is described in section 501(c)(3), and exempt from Federal tax under section 501(a), of the Internal Revenue Code of 1986;
- (2) is independent;
- (3) is free from conflicts of interest;
- (4) does not carry out or advocate for or against Federal water resources projects; and
- (5) has experience in establishing and administering peer review panels.

**Peer Review:**

Peer Review is the process of subjecting research, assumptions, analyses, and conclusions to the scrutiny of others who are experts in the same field. Peer review requires a community of experts in a given (and often narrowly defined) field, who are qualified and able to perform impartial review.

**Policy and Legal Compliance Review:**

Decision documents will be reviewed throughout the study process for their compliance with law and policy. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority. Guidance for policy and legal compliance reviews is addressed further in Appendix H, ER 1105-2-100, Planning Guidance Notebook. DQC and ATR will address compliance with pertinent USACE policies. IEPR teams are not expected to be knowledgeable of Army and administration policies, nor are they expected to address such concerns. The home district Office of Counsel is responsible for the legal review of each decision document and signing a certification of legal sufficiency.