DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
Washington, D.C. 20314-1000
DRAFT

EC 1165-2-217

CECW

Circular
No. 1165-2-217

20 February 2018

EXPIRES 20 February 2020
Water Resources Policies and Authorities
REVIEW POLICY FOR CIVIL WORKS

Signed – Official Publication Pending

TABLE OF CONTENTS

1. Purpose……1
2. Applicability…….....1
3. Distribution Statement……1
4. References ……..……1
5. Policy……...2
6. Background……..4
7. The Review Plan……..4
8. District Quality Control/Quality Assurance…….……13
9. Agency Technical Review…….……20
10. Independent External Peer Review……..33
11. Type I IEPR……34
12. Type II IEPR Safety Assurance Review……..44
13. Special Cases……..……53
14. Policy and Legal Compliance Reviews……...55
15. Risk-Informed Reviews…..……55
16. Administration……57
17. Implementation……58

APPENDICES
Appendix A References……..……A-1
Appendix B Acronyms…….....B-1
Appendix C Roles and Responsibilities……...C-1

Glossary…….……..….GL-1

This Engineer Circular supersedes EC 1165-2-214.

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
Washington, D.C. 20314-1000
DRAFT

CECW

Circular
No. 1165-2-217

20 February 2018

EXPIRES 20 February 2020
Water Resources Policies and Authorities
REVIEW POLICY FOR CIVIL WORKS

Signed - Official Publication Pending

1. Purpose. This Circular 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). It provides the procedures for ensuring the quality and credibility of U.S. Army Corps of Engineers (USACE) decision, implementation, and operations and maintenance documents and work products. This Circular puts quality and comprehensive review on equal footing with cost and schedule compliance. It presents a framework for establishing the appropriate level of independence of reviews, as well as detailed requirements to accomplish this, including documentation and dissemination. This Circular addresses Office of Management and Budget (OMB) peer review requirements under the "Information Quality Act" (Public Law [P.L]) 106-554) and the Final Information Quality Bulletin for Peer Review by the Office of Management and Budget (referred to as the "OMB Peer Review Bulletin"). It also provides guidance for the implementation of Independent External Peer Review (IEPR) in accordance with both Sections 2034 and 2035 of the Water Resources Development Act (WRDA) of 2007 (P.L. 110-114), as amended by Sections 1044 and 3028 of the Water Resources Reform and Development Act (WRRDA) of 2014 (P.L. 113-121). Feedback is requested to improve follow-on policy and guidance related to Civil Works Reviews. For improvement in the next version of this guidance please send concerns or issues to EC217@usace.army.mil.

2. Applicability. This Circular applies to all USACE Headquarters (HQUSACE) elements, major subordinate commands (MSCs), districts, laboratories, centers of expertise, and field operating activities that have civil works planning, engineering, design, construction, and operations and maintenance (O&M) responsibilities. (See Paragraph 14 for further clarification on HQUSACE policy and legal review.)

3. Distribution Statement. Approved for public release; distribution is unlimited.

4. References. References are provided as Appendix A.

5. Policy. It is the policy of USACE that all of its Civil Works products will undergo an open, dynamic, and rigorous review process. Technical, scientific, engineering, and other information that is relied upon to support recommendations in decision documents or form the basis of designs (at any scale), specifications, and/or O&M requirements and/or other assessments will be reviewed to ensure technical quality and practical application.

5.1. A review performed outside the "home" district must be completed on all decision and implementation documents, unless otherwise specified. Review approaches will be scalable and customized for each effort, commensurate with the level of complexity and relative importance of the actions being supported. All decisions on the types and scopes of review required on a particular product will be risk-informed, as described in Chapter 15, and documented.

5.2. Depending on the particular circumstances, reviews may be managed entirely within USACE or in various combinations with external parties. In cases requiring the most independence, the management of the review will be performed by an organization other than USACE and will involve independent experts. Commanders must be actively involved in establishing effective review approaches for all work products. The quality management procedures of each MSC, as contained in its Quality Management Plan, must comply with the principles of this Circular.

5.3. All civil works planning, engineering, and O&M products must undergo review. As illustrated in Figure 1, all products must undergo District Quality Control/Quality Assurance (DQC/QA), described in Chapter 8. A subset of these work products will undergo Agency Technical Review (ATR), described in Chapter 9. Smaller subsets of the ATR group will undergo one or both types of IEPR described in Chapters 10 through 12. For simplicity, HQ Policy Compliance Review and Legal Certification are not shown. See Figure 2 for a broad overview of civil works stages of development and review requirements.

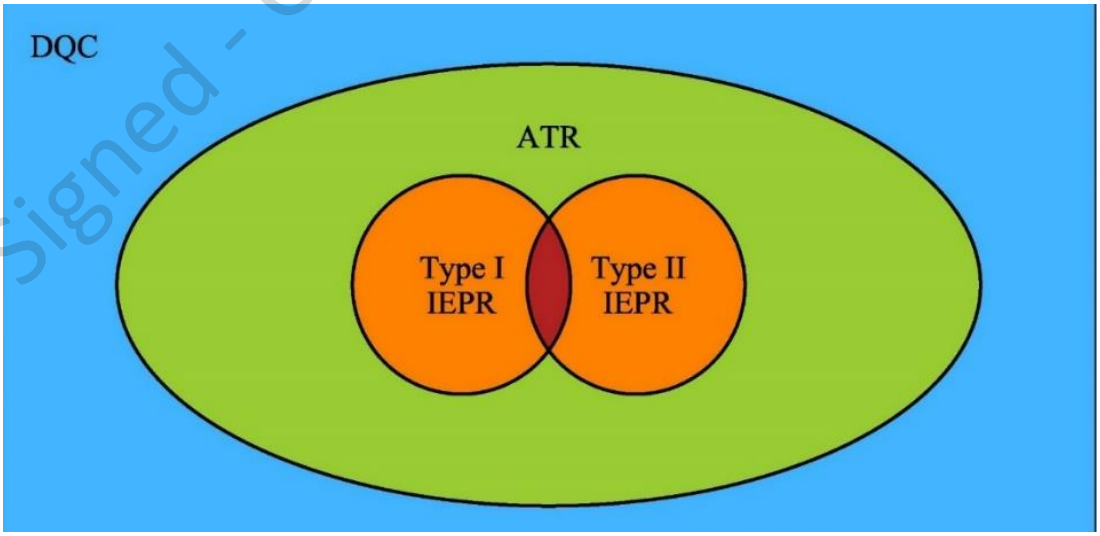
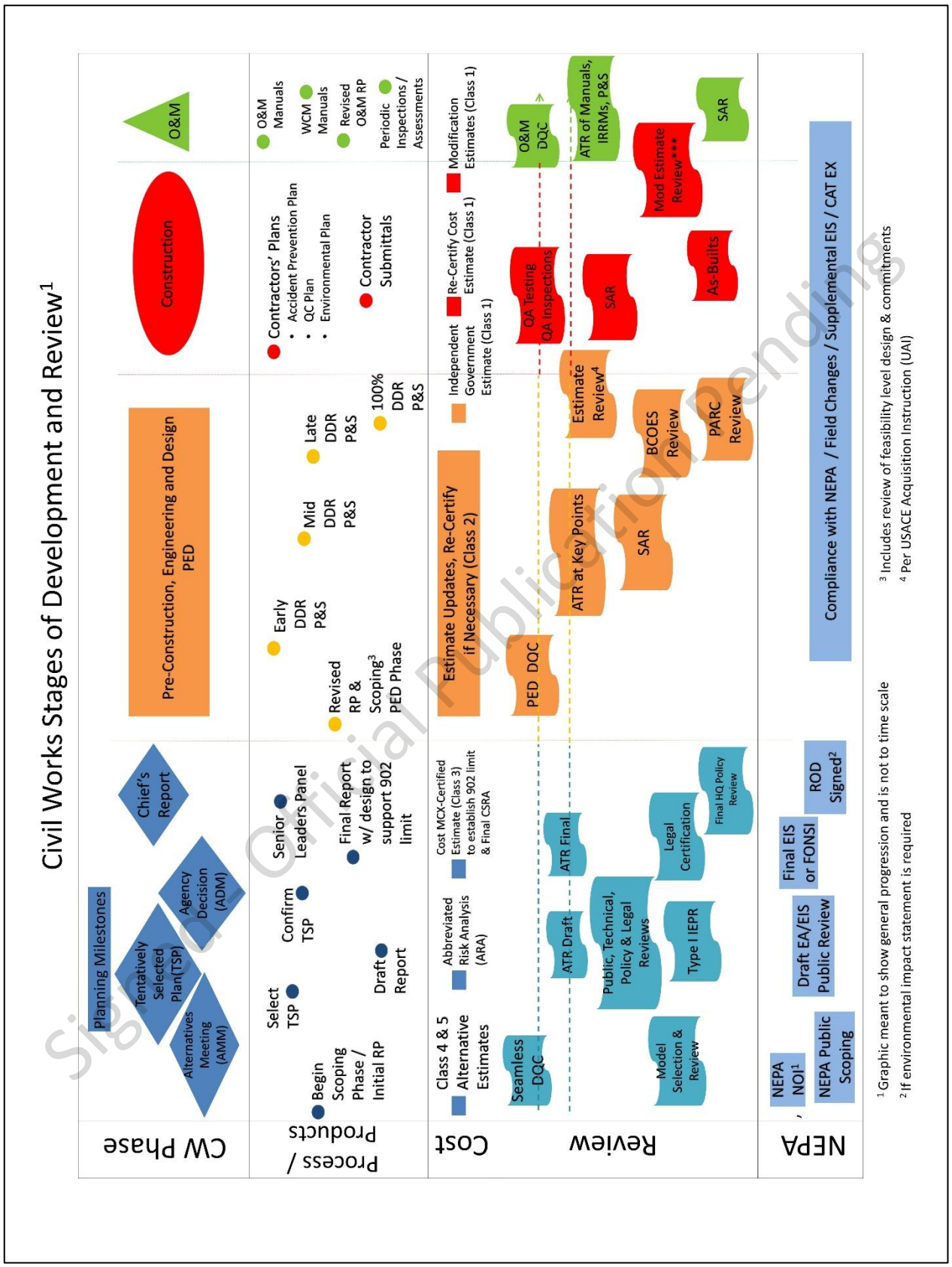


Figure 1. Civil Works Review Products

Signed - Official Publication Pending



Signature Official Publication Pending

Figure 2. Civil Works Stages of Development and Review

6. Background.

6.1. The mission of the USACE Civil Works program is to serve the public by providing the Nation with quality and responsive management of the Nation's water resources. USACE review processes are essential to confirming the planning analyses, optimization of design, project safety, reliability, and quality of the decisions and products USACE provides to the Nation. The following reports demonstrate the importance of external peer review in improving USACE plans, projects, and programs:

- Review Procedures for Water Resources Project Planning, report of the National Research Council (NRC 2002);
- Decision-Making Chronology for the Lake Pontchartrain and Vicinity Hurricane Protection Project, report of the (USACE 2008);
- Performance Evaluation of the New Orleans and Southeast Louisiana Hurricane Protection System, final report of the Interagency Performance Evaluation Taskforce (USACE 2006);
- The New Orleans Hurricane Protection System: Assessing Pre-Katrina Vulnerability and Improving Mitigation and Preparedness, report of the Committee on New Orleans Regional Hurricane Protection Project appointed by the National Academy of Sciences (CNORHPP 2009).

6.2. The USACE Civil Works review process is based on the following fundamental principles:

6.2.1. Consistent review policy must be applied to all Civil Works work products.

6.2.2. Peer review contributes to improved quality of work.

6.2.3. Reviews must be scalable, deliberate, life-cycle, and concurrent with normal business processes.

7. The Review Plan.

7.1. The Review Plan (RP) is the foundational document that presents the endorsed/approved documentation of accountability and the steps to produce a credible product, in accordance with this Circular. The RP is also the basis for compliance with the Information Quality Act requirement to confirm and maximize the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by the agency. To the extent practical, reviews should not extend the schedule but should be embedded in the development of the product. DQC reviewers (including Office of Counsel) must be involved at key decision points and should be included throughout project development. The RP describes the scope of review for the current and/or upcoming phase of work (feasibility, pre-construction engineering and design [PED], construction, etc.) and is a component of the Project Management Plan (PMP) or Program Management Plan (PgMP). All appropriate levels of review (DQC, ATR, IEPR, policy and legal, biddability, constructability, operability, environmental, and sustainability [BCOES])

Signed - Official Publication Pending

should be included in the RP and any levels not included will require documentation in the RP of the risk-informed decision not to undertake that level of review (as discussed in Chapter 15). The endorsement by the Review Management Organization (RMO) and the MSC Commander's approval of the RP are the essential first steps in product accountability, and are required to assure that the plan complies with the principles of this Circular and the MSC's Quality Management Plan and that all elements of the command have agreed to the review strategy. Like the PMP, the RP is a living document and must evolve with the study to reflect the proper scale and scope of the anticipated reviews. It is the responsibility of the Project Manager to implement the RP and validate the execution and appropriate documentation of each step.

7.1.1. The RP provides the primary opportunity to scale reviews appropriate to project size, level of complexity, and level of risk throughout the project life cycle. In addition to the "Charge" discussed in Paragraph 7.9 (which will indicate the specific advice sought), the RP will identify the most important skill sets needed in each review (which will dictate the number of reviewers), and will also identify the objective of the review, thus setting the appropriate scale and scope of review for a product. A RP must be detailed enough to assess the necessary level and focus of review, including potential challenges, use of Architect-Engineers (A-Es), models and data to be used, model certification needs, etc. RPs must anticipate and define the appropriate level of review from the very start of the effort, based upon a preliminary assessment of project risks and their magnitude.

7.1.2. To the maximum extent practicable, reviews will be scheduled and conducted early in the process to avoid or minimize any delays in completion of the study or project. The PMP or PgMP must list all review requirements (in the RP that is appended to the PMP or PgMP), costs, and schedules as integrated features of the overall project execution. This is particularly pertinent in the case of IEPR. The following guidance is essential to timely review:

7.1.2.1. The project budget will include adequate funds for all necessary reviews.

7.1.2.2. The project schedule will provide sufficient time for all reviews, and at the appropriate points in the schedule.

7.1.2.3. For decision documents, all required reviews, with the exception of final USACE policy compliance review, will be completed before the District Commander signs the report. The USACE policy compliance review will be completed before approval by the appropriate HQUSACE office.

7.1.2.4. In developing a RP, the home district will provide an opportunity for public comment by posting the approved RP on its public website. This is not a formal comment period and there is no set timeframe for the opportunity for public comment. If and when comments are received, the project delivery team (PDT) should consider them and decide if RP revisions are necessary. This engagement will allow for a review approach responsive to the wide array of stakeholders and customers, both within and outside the Federal government.

Signed - Official Publication Pending

7.1.2.5. Project managers will ensure that the P2 schedule for the project identifies the required activities for both Type I IEPR and Type II IEPR, when required, including any meetings to be held with the project team and the independent reviewers. The P2 schedule will also be resourced for the various organizations involved in the review (DQC, ATR, RMO, IEPR contractor, etc.).

7.2. Applicability. In general, all products or activities will be covered by a RP. For large projects, whether in planning, design, construction, or an operating project, a single RP covering all the various work associated with the project should be developed. However, when a product generally covered under such an overarching RP involves complexities, controversy, or other attributes that would require review beyond that envisioned in the overall RP, a separate RP is required for that activity. For example, at an operational USACE reservoir, most routine activities and their associated products, such as inspection reports, would be covered under an overarching RP while other products such as major rehabilitation studies, dam safety modification reports, activities requiring a separate Environmental Impact Statement (EIS), etc. would require individual RPs. Similarly, to ensure consistency, MSCs may develop programmatic RPs for the Continuing Authorities Program (CAP) that describe the regional review process and also describe cases when an individual RP must be developed. Programmatic RPs may be appropriate in other cases, such as work performed under regional environmental infrastructure authorities. Prior to initiating RP development, the RMO should coordinate with HQUSACE for guidance on whether a programmatic RP is appropriate. Approval of all programmatic RPs (except for CAP, see 13.2.1) rests with the Director of Civil Works (DCW), HQUSACE.

7.3. Responsibilities. The development of the RP is generally the responsibility of the PDT, in concert with the RMO. The PDT is responsible for recommending the necessary type(s) of reviews as well as the particular disciplines/expertise required, including an assessment by district counsel on the scope of legal reviews. The RP will be published on the district's public internet site following review by district leadership/counsel, endorsement by the RMO and signature approval by the MSC Commander. The district, MSC, or RMO should periodically examine older RPs and invalidate them when appropriate and then require an updated RP.

7.4. Development of RPs.

7.4.1. The RP will be prepared within the district or other USACE office responsible for the project, in coordination with the appropriate RMO, and approved by the MSC Commander. For prospective projects, an initial RP will be developed within the first 90 days after executing a Feasibility Cost Sharing Agreement (FCSA). As the scope of the study is developed, the draft RP will be updated and presented at the Alternatives Milestone for a single phase planning study. The RP will then be endorsed by the RMO and sent to the MSC for approval. The RP will be revised prior to the completion of the feasibility phase to detail the reviews in subsequent phases. The RP must be updated and re-approved by the MSC as the project moves through the PED and

Signed - Official Publication Pending

Construction Phases. For projects not initiated in the planning phase, RPs must be developed at the beginning of the work effort and be updated as appropriate.

7.4.2. The RP is a living document and must be kept up-to-date, in coordination with the MSC and RMO, to reflect the proper scale and scope of the anticipated reviews. The PDT will update the RP to reflect minor changes as they occur without the need for re-approval. Re-approval of RPs by the MSC will be required when there are significant changes, such as in the level of review (i.e., if Type I or Type II IEPR is added to or deleted from the RP). Other situations requiring RMO re-endorsement and MSC re-approval should be very limited but could include significant changes in study/project scope (e.g., adding or subtracting a purpose, etc.).

7.5. Content of RPs. The following paragraphs identify and describe required content of a RP.

7.5.1. Overview. An overview should include the project title, purpose of the work product, and designated points of contact (titles only) in the home district, MSC, and RMO, to whom inquiries about the plan may be directed.

7.5.2. Documentation of Issues/Risk. The RP should include a section that documents risk and related issues, which should provide the following at a minimum:

7.5.2.1. Documentation of risk-informed decisions (see Chapter 15) on which levels of review are appropriate for the product. This documentation is to include:

7.5.2.1.1. The district Chief of Engineering's assessment prior to RMO endorsement as to whether there is a significant threat to human life associated with aspects of the study or failure of the project or proposed projects. When appropriate, this should be done in consultation with the Dam Safety Officer/Levee Safety Officer (when they are not the same person as the Chief of Engineering).

7.5.2.1.2. Basic background information on the project or study area, maps, satellite images, and plan and cross-section views, to provide an overview for the PDT, RMO, review teams, and vertical team (involving district, MSC, RMO, and HQUSACE members). The documentation should briefly describe the project or study area with special emphasis on the inherent risk(s) involved; should indicate whether existing conditions, failure of the project, or future conditions would pose a significant threat to the environment or to human life; identify the population at risk; the problem(s) the study/project is addressing; the study/project goals and objectives; the description of the action, the timing of implementation/construction; and the estimated cost (or range of cost) for proposed projects or the specific construction features for the portion of the project under review.

7.5.2.1.3. Discussion of the risk during construction, which is especially important when modifying an existing project; discussion of whether the level of service is compromised during

Signed - Official Publication Pending

modifications; discussion of risk for cofferdams, overtopping risk, and other inherent risks during construction, etc.

7.5.2.1.4. Appropriate protection of sensitive or security related information such as detailed drawings or information revealing infrastructure vulnerabilities. These items should be placed in an appendix of the RP and removed prior to posting on the district's website.

7.5.2.1.5. A list of the anticipated deliverables/products that are expected to be technically evaluated during study/project development and the schedule for their delivery.

7.5.2.2. The discussions must be detailed enough to support the PDT, RMO, and vertical team decisions on the appropriate level of review and types of expertise to be represented on the various review teams.

7.5.3. The timing and sequence of the reviews (including deferrals). Refer to ER 1105-2-100, Planning Guidance Notebook, Appendix H for further procedures on timing and sequence of public, technical, legal, and policy reviews of feasibility studies and reports.

7.5.4. How and when there will be opportunities for the public to comment on the study or project to be reviewed.

7.5.5. When significant and relevant public comments will be provided to the reviewers.

7.5.6. A succinct description of the primary disciplines or expertise needed in the review.

7.5.7. The anticipated number of reviewers for each review.

7.5.8. Whether the public, including scientific or professional societies, will be asked to nominate potential reviewers.

7.5.9. A list of the models expected to be used in developing recommendations, and the model certification/acceptance status of those models.

7.5.10. A list of expected in-kind contributions to be provided by the sponsor.

7.5.11. Whether a site visit will be required for members of ATR Team and/or IEPR Panel.

7.5.12. An execution plan that explains how all the reviews will be accomplished and documented. The following are factors that must be considered in developing the RP and selecting reviewers:

7.5.12.1. Reviewers' Expertise and Balance. Subject matter experts (SMEs) from USACE or outside USACE may conduct ATR. Selections will be based on expertise, experience, and skills, including specialists from multiple disciplines as necessary to ensure comprehensive review.

Signed - Official Publication Pending

The group of qualified reviewers will be formed into panels that are sufficiently broad and diverse to fairly represent the relevant scientific and engineering perspectives and fields of knowledge.

7.5.12.2. Reviewers' Conflicts. RMOs will ensure that Federal employees serving as reviewers (including special government employees) comply with applicable Federal ethics requirements. In selecting reviewers who are not Federal government employees, the National Academy of Sciences (NAS) Policy on Committee Composition and Balance and Conflicts of Interest for Committees Used in the Development of Reports (NAS Policy on selecting reviewers; NAS 2003) for selecting reviewers with respect to evaluating the potential for conflicts (e.g., those arising from investments; agency, employer, and business affiliations; grants, contracts, and consulting income) will be adopted or adapted.

7.5.12.3. Reviewers' Independence. For independence, ATR reviewers will be selected by the RMO and IEPR reviewers by the RMO, contractor, or Outside Eligible Organization (OEO), as appropriate. IEPR must be performed by SMEs from outside of USACE. Peer reviewers will not have participated in development of the report, appendix, or other work product to be reviewed. RMOs are encouraged to rotate membership on standing panels across the pool of qualified reviewers. OEOs will bar participation of scientists currently employed by USACE.

7.5.12.4. Reviewers' Privacy. Peer reviewers will be advised whether information about them (name, credentials, and affiliation) will be disclosed prior to initiating reviews. The RMO will comply with the requirements of the Privacy Act of 1974 (Public Law 93-579) and the following Privacy Act Statement should be included in all external peer review contracts.

7.5.12.4.1. Authority: Sections 2034 and 2035 of the Water Resources Development Act (WRDA) of 2007 (P.L. 110-114), as amended by Sections 1044 and 3028 of the Water Resources Reform and Development Act (WRRDA) of 2014 (P.L. 113-121).

7.5.12.4.2. Purpose: To notify potential peer reviewers of the requirement to make public the review reports and the names and qualifications of panel members.

7.5.12.4.3. Routine Uses: Peer reviewer’s information will be shared with Congress and posted on the internet, as required by law.

7.5.12.4.4. Effects of nondisclosure: Disclosure of the information sought is voluntary, however, failure to agree will not allow reviewers to participate in reviews.

7.5.12.5. Confidentiality. Review will be conducted in a manner that protects confidential business information and intellectual property.

7.5.12.6. Choice of Review Mechanism. The choice of a review mechanism (including the make-up of the review panel and the number of external reviewers) will be based: on the novelty and complexity of the information to be reviewed, the importance of the information to decision

Signed - Official Publication Pending

making, the risks associated with the decision or technical details being reviewed, the extent of prior reviews, and the expected benefits and costs of review; and also the factors regarding transparency described below. For decision documents undergoing Type I IEPR, the RMO must commission eligible entities to manage the review process, including the selection of reviewers, in accordance with this Circular.

7.5.12.7. Reviewers' Access to Information. The RMO will provide reviewers with sufficient information, including background information about key studies or models, to enable them to understand the data, analytic procedures, and assumptions used to support the key findings or conclusions. Reviewers will be informed of applicable access, objectivity, and other quality standards under the federal laws governing information access and quality. The information provided is pre-decisional and is not to be shared with others who do not have the need to know or without authorization granted by the agency from which it came; sensitive material must be handled in a manner that provides reasonable assurance that unauthorized persons do not gain access.

7.5.13. Disclaimer. Information distributed for review must include the following disclaimer: "This information is distributed solely for the purpose of pre-dissemination review under applicable information quality guidelines. It has not been formally disseminated by USACE. It does not represent and may not be construed to represent any agency determination or policy."

7.5.14. Public Participation on Products. Depending on the Civil Works product, soliciting public feedback on that specific product may be necessary. Whenever feasible and appropriate the RMO will provide reviewers with access to public comments received. The RMO will ensure reviewers are aware of scheduled public participation activities as they relate to the review schedule.

7.5.15. Transparency. The RMO will notify reviewers in advance regarding the extent of disclosure and attribution of their comments planned by USACE. The RMO, ATR Team Lead, or OEO will prepare a Review Report after the ATR or IEPR is complete that will:

7.5.15.1. Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer.

7.5.15.2. Include the Charge to the reviewers.

7.5.15.3. Describe the nature of their review and their findings and conclusions.

7.5.15.4. 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 and include any disparate and dissenting views.

7.5.16. Documentation of Responses. The RP will document how written responses to the review report will be prepared to explain the agreement or disagreement with the views

Signed - Official Publication Pending

expressed in the report, the actions undertaken or to be undertaken in response to the report, and the reasons those actions are believed to satisfy the key concerns stated in the report (if applicable). The plan will detail how the PDT will disseminate the final Review Report, USACE responses, and all other materials related to the review, and include them in the applicable decision document. The final decision document for project studies that undergo Type I IEPR will summarize the Review Report and USACE responses.

7.6. Approval of the Review Plan.

7.6.1. The MSC Commander that oversees the home district is responsible for approving the RP. An MSC approval memorandum (Figure 3) is required for each RP and must be included in the internet-posted version of the RP. The MSC Commander approves and signs each RP; the MSC Commander may delegate signature authority for RPs to either the MSC Programs Directorate Chief or the MSC Regional Business Directorate Chief, but no further. If there is disagreement over the scope, content or other aspects of the RP, the MSC should coordinate resolution between the district and the RMO. The MSC Commander's approval should: reflect vertical team input; indicate whether the covered subject matter (including data, use of models, assumptions, and other scientific and engineering information) has life safety concerns, is novel, is controversial, is precedent setting, has significant interagency interest, or has significant economic, environmental and social effects to the nation; and indicate whether specific requests for IEPR are likely. For decision documents, if the RP does not include Type I IEPR, the MSC must obtain an exclusion from IEPR from the DCW prior to approval of the RP.

7.6.2. Upon MSC approval of each RP, the MSC will provide a copy of the signed MSC Approval Memorandum to the RMO and its respective HQUSACE Regional Integration Team (RIT). An approved RP does not supersede or waive regulatory requirements.

Date:

Subject: Review Plan approval for (work product name here)

The attached Review Plan for the (work product name here) has been prepared in accordance with EC 1165-2-217.

The Review Plan has been coordinated with the (RMO name here) which is the lead office to execute this plan. For further information, contact the RMO at xxx-xxx-xxxx. The Review Plan (includes /does not include) independent external peer review.

I hereby approve this Review Plan, which is subject to change as circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution due to significant changes in the study/scope or level of review will require new written approval from this office.

MSC Commander Signature Block

Figure 3. Sample MSC Commander's RP Approval Memorandum

Signed - Official Publication Pending

7.6.3. Like any aspect of a PMP, the RP is a living document and may change or be updated as the study/project progresses, to reflect the proper scale and scope of the anticipated reviews. These updates are especially important in those rare cases where an exclusion from IEPR has been granted. As part of the update, the specific conditions and circumstances that supported the exclusion must be reassessed. The PDT, RMO, and the vertical team will jointly recommend whether or not the exclusion should be withdrawn and IEPR be undertaken. For studies where IEPR has been planned but not yet initiated, the RP updates will include an assessment of whether IEPR initiation should occur earlier than previously planned. Re-approval of a RP due to significant changes in the study/scope or level of review should be approved by following the process used for initially approving a RP. In all cases the MSCs will review the decision on the level of review and any changes made to the RP.

7.6.4. The district and MSC should ensure that, at a minimum, the next phase of work is covered by an up-to-date RP that outlines the upcoming reviews and milestones. If the next phase of the project has never been covered in a previously approved RP (including RMO endorsement memorandum and MSC Commander's signature), then the formal process for RP approval is required.

7.7. Posting Review Plans. Each district will maintain an internet (i.e., publicly accessible) website with electronic versions of RPs with links to the current documents for its studies/projects along with their RMO endorsements and MSC approval memos. The RP should use titles in lieu of names as much as possible, in posted documents, the names of USACE reviewers should not be displayed. Internet-posted references to the RPs by the respective Planning Center of Expertise (PCX), the respective MSC, and HQUSACE Civil Works Planning Community of Practice (CECW-CP) will link to the district's site. Each district will establish a mechanism on their RP-postings internet site for allowing the public to comment on the adequacy of the RPs, and will consider public comments on RPs (see Paragraph 7.5.14).

7.8. Review Management Organization. The management of a review effort is a critical factor in assuring the level of independence of the review, as required by law, USACE policy, or both. With the exception of DQC and special cases in Chapter 13, all reviews will be managed by an office outside the home district and will be accomplished by professionals that are not associated with the work that is being reviewed. The USACE organization managing a particular review effort is designated the RMO for that effort. Different levels of review and reviews associated with different phases of a single project can have different RMOs.

7.9. Charge Questions. When preparing to initiate review of a USACE product, the Charge to the reviewers for both the ATR Teams and IEPR panels will contain the instructions regarding the objective of the review and the specific advice sought. Review should be conducted to identify, examine, and comment upon assumptions that underlie analyses (i.e., public safety, economic, engineering, environmental, cultural, real estate, and other types of assumptions) appropriate to the Charge, as well as to evaluate the soundness of models and analytic methods. The Charge should be determined in advance of the selection of the reviewers. It should include

Signed - Official Publication Pending

specific technical questions while also directing reviewers to offer a broad evaluation of the overall document. Panels should also be able to evaluate and provide comment on whether the information presented supports the conclusions. To provide effective review, in terms of both usefulness and credibility of results, the Charge should give reviewers the flexibility to bring important issues to the attention of decision makers. However, for decision documents, reviewers should be explicitly instructed in the Charge to not make a recommendation on whether a particular alternative should be implemented, as the Chief of Engineers is ultimately responsible for the final decision on USACE work products. The RMO, with project-specific input from the PDT, will prepare the Charge questions.

7.10. DrChecks^{sm} will be the official system for the continuity of the review record, see ER 1110-1-8159. DrChecks^{sm} will be used to document all ATR comments, responses, and associated resolutions accomplished throughout the review process. MSC and district Quality Manuals will establish procedures for documenting DQC.

8. District Quality Control and MSC Quality Assurance.

8.1. District Quality Control (DQC). District Quality Control is the backbone of the Corps of Engineers' quality process. All work products and reports, evaluations, and assessments will undergo necessary, robust, and appropriate District Quality Control (DQC). It is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the PMP. DQC is an integrated review approach that includes a Quality Management Plan providing for seamless review, Quality Checks (first line supervisory reviews, PDT reviews), a detailed peer review/checking of the documents, computations, and graphics, etc. Reliance on subsequent levels of review by external teams is not an acceptable substitute for DQC. A DQC review may also feature the use of checklists, templates, and/or other standardized DQC tools. The DQC of products and reports will also cover any necessary National Environmental Policy Act (NEPA) documents and other environmental compliance products and any in-kind services provided by local sponsors. DQC efforts will include the necessary expertise to address compliance with current USACE policy and procedures. When policy and/or legal concerns arise during DQC efforts between the PDT and the DQC reviewers that are not readily and mutually resolved by the DQC Review Lead, the district leadership/Counsel will try to resolve, then seek issue resolution support from the MSC, RMO, and HQUSACE in accordance with the procedures outlined in Engineer Regulation (ER) 1105-2-100, Appendix H, Amendment #1, or other appropriate guidance.

8.1.1. DQC Review Lead. The home district will manage and document DQC. The home district will assign a DQC Review Lead to each study who is responsible for ensuring that a formal DQC review is performed by all members who have been assigned to the DQC Review Team. The DQC Review Lead ensures coordination and interaction of team members, completeness of reviews, quality of review comments, and comment closeout and DQC Certification. The DQC Review Lead will be a qualified senior staff member (Supervisor, Regional Technical Specialist, Lead Planner, Engineering Technical Lead, or PM) who has no

Signed - Official Publication Pending

production role in the study/project. Note, for small projects the DQC Review Lead may be the only reviewer. The DQC Review Lead will assist in RP development and will regularly review the RP to ensure it is adequate and up to date for the current phase of the study. The DQC Review Lead ensures adequate DQC time and budget are identified in the RP, support Districts' risk identification and assessment, and leads in coordination of risk assessment with District management and the vertical team. As a minimum, the requirements in accordance with this Circular will be followed, beyond which the home district and MSC can require more stringent DQC. The DQC Review Lead is responsible for coordinating ATR that is triggered by key risk-informed decisions and high risk items/features that warrant additional evaluation. Additional reviews occur when key risk-informed decisions are made. Product issues identified via DQC should be resolved prior to final ATR and IEPR. The DQC Review Lead is responsible for documenting commitments where changes are to be incorporated in the next phase of work (see Paragraph 8.7.2) and this information should be provided to the next level of review, i.e. ATR.

8.1.2. Quality Assurance (QA). Quality Assurance (QA) are those procedures to verify that effective QC was performed. QA includes those processes employed to verify that QC activities are being accomplished in accordance with planned activities and that those QC activities are effective in producing a product that meets the desired end quality to assure that the districts are able to plan, design, and deliver quality projects on schedule, within budget, and acceptable to the customer and the Federal government. For QA, the responsible MSC has the primary role to verify that quality control was performed; i.e., the PDT (including assuring that QC was performed by A-E partners), Supervisors, the ATR Team, and the MSC, RMO, and HQUSACE. To verify performance of DQC (including QA) the RMOs may conduct audits as necessary. MSC and district quality manuals will prescribe specific procedures for the selection of DQC team members and the conduct of DQC including documentation requirements that require inclusion of comments and responses, and maintenance of associated records for internal audits to check for proper DQC implementation. MSCs are responsible for evaluating and recommending changes to subordinate districts' QC processes. The MSC has the responsibility to ensure vertical and lateral integration of organizational capabilities, to include resource sharing, technical expertise, project management, and project delivery to broaden and enhance the range of services and quality within its region. In addition to their oversight role in assuring the PDT is technically qualified, the MSC is also QA responsible is to assure the adequacy and capability of the DQC teams and supplementing the team members from outside the district when necessary. The MSC's QA process will verify that the QC for each project is appropriate.

8.2. Documents. Documents and records produced should present information in a manner that takes into account assumptions, analyses and rationale for achieving the final conclusion. Documents include Feasibility Reports, NEPA documents/environmental compliance products, Feasibility Reports' Engineering Appendices and Real Estate Plans, Design Documentation Reports, Engineering Documentation Reports, Plans and Specifications, In-Kind products, etc. The documents need to be prepared in accordance with applicable policies, such as ER 1105-2-100 Planning Guidance Notebook and ER 1110-2-1150 Engineering and Design for Civil Works Projects, including "telling the story" as explained in these two documents and other guidance.

Signed - Official Publication Pending

The documents will contain a full record of design decisions, assumptions and methods. Documents should be sufficiently clear so that a reviewer or other individual not familiar with the project could review the documents and understand how the project/analysis evolved into its final recommendation/configuration, and why each key decision was made. Documents should be sufficiently detailed, for each technical specialty, so that the criteria that were used, the critical assumptions that were made, and the analytical methods that were used will be evident for purposes of review and historical documentation. The documents should also contain summaries of important model/calculation results and selected example calculations for all critical elements of the study or design. The documents should usually be sufficient to support execution of the review process without reference to other records, except for confirming that all supporting documents/computations have been checked. The use of a technical editor is highly recommended for decision and implementation documents.

8.3. Quality Checks. Quality Checks are rigorous independent reviews that occur during the development process and are carried out seamlessly as a routine management practice. Quality Checks are performed by staff responsible for the work, such as supervisors, work leaders, team leaders, designated individuals from the senior staff, or other qualified personnel. However, they should not be performed by the same people who produced the original work or who managed/reviewed the work in the case of contracted efforts. If districts do not have the required expertise, they should coordinate with the MSC to consider qualified personnel from other districts or A-Es to supplement the DQC team. Comments and their resolution should be documented.

8.3.1. As a minimum, the following questions, and any appropriate additional questions, should be considered (see Paragraph 9.11 for additional considerations):

8.3.1.1 Is the identified water resource problem well understood and are the risks properly characterized?

8.3.1.2 Has an appropriate array of alternatives been selected that could solve the water resource problem?

8.3.1.3 Does the Tentatively Selected Plan solve the water resource problem needs and have implementation risks been appropriately considered?

8.3.1.4 Are the proposed construction methods appropriate?

8.3.1.5 Are the schedules and cost estimates reasonable?

8.3.1.6 What is the risk of potential cost and schedule growth?

8.3.1.7 Are there lessons learned that need to be considered?

8.3.1.8 Does the product comply with USACE criteria and policy requirements including environmental compliance requirements?

Signed - Official Publication Pending

8.3.2. PDT reviews are performed by members of the PDT to ensure consistency and effective coordination across all project disciplines. Additionally, the PDT is responsible for a complete reading of any reports and accompanying appendices prepared by or for the PDT to assure the overall coherence and integrity of the report, technical appendices, and the recommendations before approval by the District Commander. The DQC comments and PDT responses and associated resolutions accomplished will be made available to the ATR to demonstrate a thorough DQC was performed, see Paragraph 8.7. DrChecks^{sm} may be used to document all DQC throughout the review process.

8.4. Checking Computations. All computations will undergo a rigorous independent check during DQC. Sufficient time will be allocated in the project schedule to allow for a thorough quality check. The computations will be appropriately annotated by the designer with annotations that include, but are not limited to: all assumptions, loadings, design parameters, constraints, equations, model inputs, quantities, and references (including edition and page number) used to complete the design and/or analysis. A narrative will explain the conclusions drawn from the computations. Annotation will be thorough enough that the reviewer/checker can follow the computation process independently. For engineering products/documents and construction products/documents, for example, the author performing the computations will initial and date each computation sheet. A qualified reviewer/checker with experience and a thorough understanding of the computation will perform a quality check to assure all computations, calculations, assumptions, and models used are correct. The reviewer/checker will highlight (e.g., place a “red dot”) on each annotation and number on a computation sheet indicating concurrence with the correctness of the information shown and then initial and date each and every computation sheet being reviewed/checked. Since this is for verification of agreement by the reviewer/checker, typed initials are not allowed on the computations; however, an electronic PDF signature is encouraged.

8.4.1. For computations using computer models (software name and version identified if applicable) and other complex methods of analysis, the planner/ designer/ economist/ architect/ geologist, etc. should perform a review, hand check, or other independent verification of the output and assumptions to demonstrate the conclusions from the model being used are appropriate. The reviewer/checker will highlight (e.g., place a “red dot” on) these computations/annotations as well as the model input parameters. Spreadsheets should be laid out with sufficient clarity so that a reviewer/checker not familiar with the project could review the computational thought process.

8.4.2. The reviewer/checker assumes the same level of responsibility as the author of the computations (planner/designer/economist/architect/geologists, etc.) for determining that the conclusions from the computations are valid and used for the intended purpose. For Engineering and Construction documents, as an example, the first sheet of the computations should include the full name of the originator and reviewers/checkers. The computation sheets will be sequentially numbered. These reviewed/checked sheets will be scanned and made available to the ATR Team to demonstrate a thorough DQC was performed (see Paragraph 8.7).

Signed - Official Publication Pending

8.5. Checking Graphics/Plans. All graphics/plans will undergo a rigorous independent check as part of the DQC process. Sufficient time will be allocated in the project schedule to allow for a thorough quality check. The plans, drawings, sketches, charts, diagrams, maps, profiles, or other graphical information will clearly illustrate the design intent. The person designing the graphic (planner/designer/economist/architect/geologists, etc.) will initial and date each graphic/plan. A qualified reviewer/checker (planner/designer/economist/architect/geologists, etc.) with experience and a thorough understanding of the design intent will perform a "quality check" to assure all graphical information is correct. The reviewer/checker will place a highlight—e.g., "red dot"—on critical graphic/plan elements, e.g., dimension/elevation, note, or reference, showing concurrence with the correctness of the information shown and then initial and date each and every graphic/plan being reviewed/checked. Since this is for verification of agreement by the reviewer/checker, typed initials are not allowed on the graphics/plans; however, an electronic PDF signature is encouraged. Note: typed initials are acceptable for the contract set of plans. The checked verification set of graphics/plans will be scanned and made available to the ATR Team to demonstrate a thorough DQC was performed, (see Paragraph 8.7).

8.6. DQC Certification. The DQC certification will be signed by the lead author of the product, the product reviewer(s), the DQC Review Lead, the supervisor of the author, and the PM, in a format similar to the example shown in Figure 4. A supervisor may grant exceptions from the DQC certification requirement based on a risk-informed decision for minor reports or for design or computations that do not involve life safety, operational adequacy, or large economic consequences.

8.6.1. Within large PDTs there are usually several authors or work group leaders who guide, within their span of control, the development of a component or sub-component of work products. The work products may be decision, implementation, or operations and maintenance documents, or other products. These authors/work group leaders may be team leaders, and they may be in roles that include lead planner, designer, economist, architect, geologist, and others. The work group leaders support the PM, Lead Planner, and/or Engineering Technical Lead. The DQC certification that includes signature of the author or work group leader will provide ownership and accountability for the study/design process.

8.6.2. Upon completion of the DQC reviews, the author or work group leader will sign a DQC certification sheet, similar to the example shown in Figure 4, for the study product/project feature under their leadership. Larger products will usually have multiple certification sheets (separate sheets for components/sub-components of the reviewed work product); smaller reports may have only a single certification sheet. Cross checking among the narrative documentation (the "write-up"), computations, and plans and specifications is critical for the DQC process. The reviewer/checker will then sign to certify that appropriate and effective DQC has been performed.

Signed - Official Publication Pending

8.7. Control of Documents/Record of Design.

8.7.1. Once the documents, computations, graphics/plans, DQC comments and responses (unless DrChecks^{sm} is used), and certification sheets have been reviewed/checked and initialed, they will be converted or scanned into a PDF or equally accessible format to record the design and store it in the district's electronic file system. Reviewers are encouraged to use electronic files whenever possible but if documents are checked via hardcopy they will be converted to an electronic format for documentation purposes.

8.7.2. File directories should be set up to maintain documentation of intermediate efforts, such as Draft Report, Preliminary Design, Intermediate Design, Ready to Advertise, As-Builts, etc. However, a directory should also be set up for the DQC documents/graphics/plans/certifications that show the reviewers' markups and commitments and should be made available to the ATR Team for their QA to demonstrate DQC has occurred.

8.7.3. A clear page numbering system will be used so an accurate reference can be made to any portion of the Study or Record of Design.

8.7.4. Appropriate protection of detailed project cost estimates must be taken for document control.

Signed - Official Publication Pending

Project Name
Document Name
100% Review

DQC Certification of PRODUCT/FEATURE NAME
Project Team

As the (lead planner/designer/economist/architect/geologists, etc.) for the PRODUCT/ FEATURE NAME, I certify the following work shown herein was completed using the appropriate USACE guidance or industry standard if applicable. I certify the work is based on:

- Appropriate assumptions, methods, procedures, computations (including quantities) and materials used in the analyses
- Evaluation of alternative designs, if applicable
- Appropriate data and level of data
- Reasonable results that meet the customer's needs consistent with law and existing USACE policy.

I certify that the write-up (page 1-xx), computations (page 1-xx), drawings, (page 1-xx) and specifications (sec no.) meet the customer requirements shown herein. For items previously designed by others and included as the design basis shown herein, I certify that I have verified the work for adequacy, completeness, and accuracy.

Name	Title	Office Symbol	(Signature)

Project Team: (optional)

Name	Title	Office Symbol	(Initials)
Name	Title	Office Symbol	(Initials)
Name	Title	Office Symbol	(Initials)

As the Reviewer/Checker I have performed DQC and concur with the findings of the (lead planner/designer/economist/architect/geologist, etc.) for the PRODUCT/FEATURE NAME.

Name	Title	Office Symbol	(Signature)

DQC Review Lead

Name	Title	Office Symbol	(Signature)

Project Manager/Lead Planner/Technical Lead

Name	Title	Office Symbol	(Signature)

Supervisor (of the author or section where the product is produced)

Name	Title	Office Symbol	(Signature)

Figure 4. Sample DQC Certification form

Signed - Official Publication Pending

9. Agency Technical Review.

9.1. Agency Technical Review (ATR). ATR is undertaken to "ensure the quality and credibility of the government's scientific information" in accordance with this Circular and the Quality Manual of the responsible MSC. All Civil Works products will undergo necessary and appropriate ATR, as well as DQC. This level of review will also cover a comprehensive review of the conclusions to ensure that the results and decisions are clearly supported by the information presented and are in compliance with current agency policy and procedures. Any necessary NEPA documents, other environmental compliance products, in-kind services provided by local sponsors or their A-Es, and other supporting documents are also part of the ATR. The level of review should be commensurate with the significance of the information being reviewed, which should be determined in a risk-informed manner, see Chapter 15. Each ATR will be conducted by a qualified team of senior highly experienced experts in the type of work being reviewed who are from outside of the home district and are not involved in day-to-day production of the project/product. To ensure independence, the ATR Team Lead will be from outside the home MSC as selected by the RMO. ATR will not serve as a substitute for DQC. The DQC Review Lead will coordinate with the ATR Team Lead for reviews triggered by key risk-informed decisions and high risk items/features that warrant additional evaluation. If the ATR Team is asked to review any products for which the DQC activities do not appear to be appropriate and effective, the ATR Team Lead should work through the RMO to return those products to the PDT “with no action” and provide general guidance for revision. The role of ATR is to perform an assessment of DQC, validate PDT decisions, bring up important issues, concerns, and lessons learned. The ATR Team is not to make project decisions; the PDT is responsible for the product/design. The PDT must assess each ATR comment and then can either implement the comment or provide a logical, well-thought-out response as to why not to implement the comment. The dispute resolution process (see 9.12.3 and 9.12.4) is available when an impasse develops. The ATR Team will document any significant concerns or any unresolved comments for draft products in the ATR Certification. The objective is for ATR to be involved as appropriate throughout the project life cycle at an appropriate, scalable level based on the complexity, size and level of risk associated with the project, see Figure 2. Civil Works Stages of Development and Review. The ATR Team will furnish the PDT written feedback at critical points during project formulation and design, and will conduct formal reviews as products are completed. ATR Team members along with other SMEs will be available, knowledgeable, and willing to offer suggestions as major issues arise, saving time and money, and minimizing unproductive design effort and rework, however care must be taken to ensure independence of the ATR Team from the production team. Formal ATR of products occurs when a holistic, comprehensive review of the overall product(s) is performed.

9.2. ATR is mandatory for all decision and implementation documents. For other work products, a case-specific, risk-informed decision, as described in Chapter 15, will be made as to whether ATR is appropriate. Refer to ER 1105-2-100, Planning Guidance Notebook, Appendix H, for further procedures on ATR for feasibility studies and reports. For cost products, refer to ER 1110-2-1302 Civil Works Cost Engineering ATR requirements.

Signed - Official Publication Pending

9.3. Management of ATR reviews is dependent upon the phase of work (planning, design, or construction), and may be managed by different RMOs for different phases.

9.3.1. Decision Documents. For ATR on decision documents, the RMO generally will be the appropriate PCX; e.g., for flood risk management (FRM) decision documents, the FRM PCX would manage the effort. For dam or levee safety modification studies, the RMC will be the RMO, in close coordination with the FRM PCX or the Coastal Storm Risk Management (CSRM) PCX, as appropriate. For inland navigation studies, the RMO will be the PCXIN, in coordination with the Inland Navigation Design Center (INDC-MCX). See Chapter 13 for special provisions associated with the Continuing Authorities Program (CAP).

9.3.1.1. When decision documents are for multiple project purposes (or project purposes not clearly aligned with the PCXs), the home MSC should designate a lead PCX to conduct the review after coordinating with each of the relevant PCXs.

9.3.1.2. For decision documents, there must be appropriate consultation by the RMO throughout the review with the allied CoPs such as engineering and real estate, other relevant CXs, and other relevant offices to ensure that a review team with appropriate independence and expertise is assembled and a cohesive and comprehensive review is accomplished.

9.3.1.3. For decision documents there must be coordination with the Cost Engineering Mandatory Center of Expertise for Civil Works and Support for Others (Cost Engineering MCX), located in the Walla Walla District, which will provide the cost engineering review and resulting certification for the feasibility level cost estimate for the project.

9.3.2. Other Work Products. For other work products, ATR must be managed and performed outside of the home district with exceptions outlined in Chapter 13. The RMC must serve as the RMO for projects whose failure would pose a significant threat to human life. The INDC-MCX must serve as the RMO for products for inland navigation. For all other projects, the MSC must serve as the RMO. As with decision documents, ATR for other work products must have appropriate coordination and processing through CoPs, relevant PCXs, and other relevant offices to ensure that a review team with appropriate independence and expertise is assembled and a cohesive and comprehensive review is accomplished.

9.4. Definition of Success. The corporate intent is for an ATR to not only ensure technical analyses are correct but to also guide compliance with all pertinent USACE guidance, to achieve adequate quality and vertical alignment early in studies. The scope, extent and type of subsequent HQUSACE policy compliance review comments may be considered a measure of the effectiveness of the PDT, DQC, ATR, QA and IEPR efforts.

Signed - Official Publication Pending

9.5. Supporting Principles.

9.5.1. Each Commander is responsible for assuring that work products comply with all applicable statutory and policy requirements and, most importantly, have been read thoroughly and reviewed for consistency as well, prior to forwarding to higher authority.

9.5.2. The PDT is responsible for project success and for delivering a quality product in accordance with ER 5-1-11. The PDT is responsible for developing work products in accordance with the procedures and policies set forth in USACE Engineer Regulations, Engineer Circulars, Engineer Manuals, Engineer Technical Letters, Engineer Construction Bulletins, Policy Guidance Letters, implementation guidance, project guidance memoranda, and other formal guidance memoranda issued by HQUSACE. The PDT, supported by the appropriate CoPs, is knowledgeable of USACE water resources policies and procedures, and has the expertise to support the project development process.

9.5.3. The home district Office of Counsel is responsible for the legal review of each decision document and signing a certification of legal sufficiency.

9.5.4. MSC Commanders are responsible for ensuring policy and legal compliance, QA, and documenting technical, policy and legal compliance for decision documents that have been delegated to MSCs for review and approval in accordance with ER 1165-2-502, Delegation of Review and Approval Authority for Post-Authorization Decision Documents.

9.5.5. HQUSACE is responsible for: confirming the technical, cost, policy, and legal compliance of planning products; supporting the resolution of issues requiring HQUSACE, Assistant Secretary of the Army for Civil Works (ASA(CW)) or OMB decisions; continuously evaluating the overall project development process, including the review and policy compliance processes (including responsibilities delegated to MSCs); and recommending appropriate changes when warranted.

9.6. Objectives and Scope of ATR.

9.6.1. Objectives.

9.6.1.1 The ATR will ensure that proper and effective DQC has been conducted as evidenced in the products provided for review, DQC documentation, and the signed certification.

9.6.1.2. The ATR will ensure that the product is consistent with established criteria, guidance, procedures, and policy.

9.6.1.3. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and whether the document explains the analyses and results in a reasonably clear manner for the public and decision makers.

Signed - Official Publication Pending

9.6.2. Scope.

9.6.2.1. The ATR will examine the materials submitted to ensure the adequacy of the presented methods, assumptions, criteria, decision factors, applications, and explanations.

9.6.2.2. Policy compliance is explicitly within the scope of ATR. The corporate intent is for ATR to identify and, through participation of the vertical team, resolve common policy concerns early, and prior to HQUSACE policy compliance reviews. The scope, extent, and type of subsequent HQUSACE policy compliance review comments may be considered a measure of the efficacy of the study and ATR efforts.

9.7. Planning for ATR.

9.7.1. The ATR tasks and related resource, funding, and schedule needs for decision documents will be addressed in the RP after the Feasibility Cost Sharing Agreement (FCSA) is executed or, for design efforts, before the Design Agreement is executed.

9.7.2. The PDT will coordinate the RP with the appropriate RMO to ensure that ATR activities are reasonably represented in the PMP, particularly the schedule and resource needs. The ATR efforts should be integrated into the product development schedule to avoid or minimize impacts on the schedule as much as possible, and to avoid rework and delays that would likely occur if reviews are deferred to the end of the effort.

9.7.3. Once a review is opened for reviewers' comments (for one or more product components), a reasonable time should be established for both issue identification and issue resolution. Reviews will not be left open for indefinite periods and all comments should be backchecked prior to closing a review, see Paragraph 9.13 for comments involving disagreement. All comments should be back-checked prior to closing a review in DrChecks^{sm} (see Paragraphs 9.12.3 and 9.12.4 concerning resolution of comments).

9.8. ATR Team.

9.8.1. The disciplines represented on the ATR Team should generally mirror the significant disciplines involved in the accomplishment of the work. The ATR Team will be established shortly after the PDT is established, and in the case of feasibility studies, after the FCSA is executed and the scope of the study is established, generally after the Alternatives Milestone. ATR efforts will include the necessary expertise to address compliance with applicable published policy. The ATR Team member should be senior USACE personnel with expertise in the subject area being reviewed. ATR Teams will be assigned by the appropriate RMO and comprised of senior USACE personnel who have been vetted and certified by their respective CoP for their specific areas of expertise. The goal of ATR Team selections should be to find the most experienced subject matter experts available whose qualifications are commensurate with

Signed - Official Publication Pending

the complexity of the product(s) being reviewed. ATR Teams may be supplemented by experts outside of USACE, as long as the experts are endorsed by the respective technical sub-CoP Leader. For several major disciplines, the following paragraphs identify the CoP or sub-CoP that maintains a list of experts approved as ATR reviewers.

9.8.1.1. The Planning Community of Practice (PCoP) utilizes a certification process for planning disciplines that include Plan Formulation, Environmental, Economic, and Cultural Resources. ATR Team members in these disciplines must be certified by their respective Planning sub-CoP and listed in the Planners Database, which can be accessed at http://sme.planusace.us/.

9.8.1.2. The Engineering and Construction (E&C) CoP utilizes the Corps of Engineers Reviewer Certification and Access Program (CERCAP) as the process for the nomination, review and certification of ATR reviewers. To serve as an E&C reviewer on an ATR Team, USACE personnel must be listed in CERCAP. CERCAP can be accessed at https://maps.crrel.usace.army.mil/apex/f?p=105:LOGIN:15561893545473. The Cost Engineering MCX trains and maintains a list of qualified cost reviewers. The Cost Engineering MCX ATR coordinator will assign a qualified reviewer who is knowledgeable in the types of applied engineering and construction solutions.

9.8.1.3. The Real Estate CoP (CEMP-CR) also maintains a list of approved reviewers.

9.8.2. For decision documents involving hydrologic, hydraulic, and/or coastal related risk management measures, the ATR Team will include a subject matter expert in multi-discipline flood risk analysis to ensure consistent and appropriate identification, analysis, and written communication of risk and uncertainty.

9.8.3 At least one member of an ATR Team for inland hydrology studies, designs, and projects must be certified by the Climate Preparedness and Resilience CoP in CERCAP.

9.9. ATR Timing.

9.9.1. Each application of ATR should build upon any and all prior cycles of review for any product. Each ATR review iteration needs to address only incremental changes and additions to documents and analyses addressed in prior ATR reviews, unless the ATR Team determines that certain subjects or aspects warrant revisiting due to other changes or a need to adequately understand a larger portion of the product or project. The risk-informed decision process outlined in this Circular should help guide whether ATR should also be applied at different times in the project development process.

9.9.2. The scheduling of ATR should be presented as part of the RP. ATR will normally occur during key stages in the development of the particular work product and be discussed at milestone meetings, briefings, and in-progress reviews (IPRs).

Signed - Official Publication Pending

9.9.3. Decision documents must adhere to review requirements in ER 1105-2-100, Planning Guidance Notebook, and will be documented in the RP. ATR will be certified for the draft and final decision documents and supporting analyses.

9.9.3.1. The draft report and supporting analyses must undergo ATR because they provide the basis for HQUSACE to determine whether vertical team agreement with the future without-project condition and support for the tentatively selected plan is warranted.

9.9.3.2. The final report and supporting analyses must undergo ATR because they will provide the basis for the Chief of Engineers interagency coordination and the Chief's approval or further recommendation to the Secretary of the Army and the Congress, as needed.

9.9.4. During the design and construction phases, the timing of ATR will be dependent on the complexity of the project and will be explicitly laid out in the RP, with the concurrence of the vertical team, including the RMO.

9.9.5. All portions of the final work product submittal will have undergone ATR, including any recent revisions that impact cost, schedule, or scope. ATR certification of the final product cannot be completed until the DQC is certified.

9.10. Review Criteria for ATR.

9.10.1. Products will be reviewed against published guidance, including Engineer Regulations, Engineer Circulars, Engineer Manuals, Engineer Technical Letters, Engineer Construction Bulletins, Policy Guidance Letters, implementation guidance, project guidance memoranda, and other formal guidance memoranda issued by HQUSACE. Any justified and approved waivers for any deviations from USACE guidance should be obtained from HQUSACE before the start of review.

9.10.2. For any work product undergoing ATR, key considerations include the following.

9.10.2.1. The project meets the scope, intent, and quality objectives as defined in the PMP.

9.10.2.2. Formulation and evaluation of alternatives are consistent with applicable regulations and guidance.

9.10.2.3. Concepts and projected project costs are valid.

9.10.2.4. The non-Federal sponsor is aware of their requirements and concurs with the proposed recommendations.

9.10.2.5. The project is feasible and will be safe, functional, constructible, environmentally sustainable, within the Federal interest, and economically justified according to policy.

Signed - Official Publication Pending

9.10.2.6. All relevant engineering and scientific disciplines have been effectively integrated.

9.10.2.7. Appropriate computer models and methods of analysis were used and basic assumptions are valid and used for the intended purpose.

9.10.2.8. The source, amount, and level of detail of the data used in the analysis are appropriate for the complexity of the project.

9.10.2.9. The project complies with accepted practice within USACE.

9.10.2.10. Content is sufficiently complete for the current phase of the project and provides an adequate basis for future development effort.

9.10.2.11. Project documentation is appropriate and adequate for the project phase.

9.10.3. Additional considerations for Decision Documents.

9.10.3.1. Recognizing that the quality of each decision document has a direct and immediate impact on the credibility of the Corps of Engineers and the Department of the Army, ATR on decision documents should address the basic communication aspects of the documents. Quality decision documents allow the public and stakeholders to understand the planning effort and its results, and enable decision makers to reach the same conclusions as the reporting officers (i.e., quality decision documents are not a simple reporting of PDT findings or a record repository of PDT activities).

9.10.3.2. The main decision document and appendices should form an integrated and consistent product.

9.10.3.3. As an initial guide, the ATR Team should consider the Project Study Issue Checklist ER 1105-2-100, Planning Guidance Notebook, Appendix H, which includes many of the more frequent and sensitive policy areas encountered in studies.

9.10.3.4. Other key considerations include:

9.10.3.4.1. Are the existing and future without-project conditions reasonable and appropriate?

9.10.3.4.2. Are the planning objectives, constraints and assumptions consistent with the without-project conditions?

9.10.3.4.3. Do the alternative plans provide a reasonably complete array of solutions, make sense relative to the planning objectives and the without-project conditions, and are they complete, effective, efficient and acceptable?

Signed - Official Publication Pending

9.10.3.4.4. Are sufficient alternatives formulated to determine the appropriate combination of measures and a reasonable scale for the selected plan (the National Economic Development (NED), National Ecosystem Restoration (NER) or NED/NER Plan)?

9.10.3.4.5. Are the required plans included, such as nonstructural flood risk management plans?

9.10.3.4.6. Are alternatives safe, functional, constructible, economical, reasonable and sustainable?

9.10.3.4.7. Are calculations and results of analyses essentially correct? There should be documentation in the DQC record on this issue.

9.10.3.4.8. For final report ATR, is the engineering content at a feasibility level-of-detail and is it sufficiently complete to provide an adequate basis for the baseline cost estimate (ER 1110-2-1150)?

9.10.3.4.9. For final report ATR, is the real estate content at a feasibility level-of-detail and is it sufficiently complete to provide an adequate basis for the baseline cost estimate (ER 1110-2-1150)?

9.10.3.4.10. For final report ATR, is the environmental mitigation content at a feasibility level-of-detail and is it sufficiently complete to provide an adequate basis for the baseline cost estimate (ER 1110-2-1150)?

9.10.3.4.11. Are comparable cost products used to compare, screen and select alternative plans? For final ATR does the baseline cost estimate include a construction schedule and studied risk-based contingency? Are the cost products and supporting products up to date?

9.10.3.4.12. For final report ATR, are analyses for the engineering, economic, environmental, real estate and other disciplines fully described, technically correct, and do they comply with established policy requirements and accepted practices within USACE?

9.10.3.4.13. Is the appropriate plan selected based on the National Objectives and evaluation criteria expressed in Principles and Guidelines and USACE policy?

9.10.3.4.14. Does the implementation plan have an appropriate division of responsibilities?

9.11. ATR Comments.

9.11.1. Each review comment should be succinct and enable timely resolution of the concern. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment normally include:

9.11.1.1 The review concern – identify the product's information deficiency or incorrect application of policy, guidance, or procedures;

Signed - Official Publication Pending

9.11.1.2 The basis for the concern – cite the appropriate law, ASA(CW)/USACE policy, guidance or procedure that has not been properly followed;

9.11.1.3 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

9.11.1.4 The probable specific action needed to resolve the concern – identify the action(s) that must be taken to resolve the concern.

9.11.2. In some situations, especially addressing incomplete or unclear information, comments may seek clarification to then assess whether further specific concerns may exist. In such situations, the comments generally would defer identifying a probable solution as indicated under dispute resolution below.

9.11.3. The ATR Team may share value added lessons learned for consideration, keeping in mind the considerations in Paragraph 9.11.4.

9.11.4. ATR comments should generally not include:

9.11.4.1 Attempts to enforce personal preferences over otherwise acceptable practices; i.e., alternate solutions or analysis methods, when the practitioners have already used appropriate methods to develop an adequate solution.

9.11.4.2 Any other issues that do not add value toward the planning decisions and recommendations, or do not make the recommended plan safe, functional, or more economical.

9.12. ATR Process.

9.12.1. The ATR process will be conducted using the DrChecks^{sm} review documentation software. The ATR Team will provide a written summary of its actions and written specific concerns to the PDT through the RMO.

9.12.2. Upon receipt of the ATR comments, the PDT will develop responses to the specific concerns and coordinate those responses with the ATR team through the RMO. Technical responses will be made by product author or by an individual experienced in that discipline area. Responses will acknowledge and specifically address the comments, indicating resolution steps taken or to be taken.

9.12.3. Dispute Resolution. The ATR Team will complete its review in DrChecks^{sm}. Thereupon, the PDT will develop and coordinate responses with the ATR Team for each comment. The responses and the ensuing discussion are to seek resolution of the ATR concerns to the mutual satisfaction of the PDT and the ATR Team. The RMO should be engaged by the ATR Team Lead if issues arise between a reviewer and the PDT that cannot be fully resolved.

Signed - Official Publication Pending

When resolution is not readily achievable, the RMO should engage the PCX/RMC or MSC SMEs to help facilitate resolution, and they in turn may choose to engage HQUSACE SMEs. When policy and/or legal concerns arise during ATR efforts that are not readily and mutually resolved among the PDT members and the reviewers, the district will seek issue resolution support from the MSC and HQUSACE in accordance with the appropriate guidance. For planning products, resolution will follow the procedures outlined in ER 1105-2-100 (Appendix H). Unresolved comments involving disagreement between the ATR Team and the PDT will be closed with the notation that the comment has been elevated for resolution (except as described in 9.12.4). Any such issues will be explicitly listed on (or attached to) the ATR certification form prior to being routed for signature.

9.12.4. For ATR of decision documents and/or supporting analyses prior to the Agency Decision Milestone (ADM), significant unresolved concerns will be documented by the RMO in the ATR summary review report Those comments may remain open in DrChecks^{sm} until resolution. At the ADM, the path forward for addressing those comments, if necessary, would be documented. For remaining concerns post-ADM, the PDT with RMO support will forward the concerns through the MSC to the HQUSACE RIT, including basic research of USACE guidance and an expression of desired outcome, for further resolution or engagement with the vertical team through an IPR. Subsequent submittals of final reports for MSC and/or HQUSACE review and approval will include documentation of the issue resolution process.

9.12.5. The ATR Team will identify significant issues that they believe are not satisfactorily resolved and will note these concerns in the Statement of Technical Review Report/Certification documentation. Review reports will be considered an integral part of the ATR documentation process.

9.12.6. The ATR documentation in DrChecks^{sm} will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points from discussions, including any vertical coordination, and the agreed upon resolution.

9.12.7. Statement of Technical Review. The ATR Team Lead must complete a statement of technical review for all final products and final documents. For each ATR event, the ATR Team will examine relevant DQC records and previous ATR reports, and will provide written comment in the Statement of Technical Review Report as to the apparent adequacy of the DQC effort for the associated product or service. This report includes a summary of each unresolved issue, the Charge questions, a brief resume of ATR reviewers, and a printout of all DrChecks^{sm} comments with resolution in order for the process to be certified as complete. In the case of civil works decision documents forwarded to HQUSACE for review, the ATR Team Lead must complete a Statement of Technical Review Report for both draft and final decision documents. The ATR Team Lead, project manager, RMO, and the chief(s) of the function will certify that the issues raised by the ATR Team have been resolved, or have been escalated for resolution. By signing the ATR certification, the district leadership certifies policy compliance of the document and also that the DQC activities were sufficient and documented. Before the ATR certification is completed, the PDT will ensure that all agreed upon changes have been incorporated into the

Signed - Official Publication Pending

final product. For those cases where commitments are made to incorporate changes in the next phase of work (e.g. advancing from Planning into PED), agreed upon deferrals will be documented in the ATR certification. A sample Statement of Technical Review (ATR Completion) and Certification of ATR is included in Figure 5. The statement should always include signatures from the ATR Team Lead, RMO, and Project Manager and senior level staff as indicated in the sample. When an A-E contractor performs the ATR, the appropriate principal of the contractor will sign the statement.

9.13. Architect-Engineer (A-E) or Sponsor Work. All parties that produce deliverables for USACE (studies, designs, etc.), are responsible for the quality of those deliverables, whether by A-E or other non-USACE entity; examples of such deliverables include environmental compliance products or any in-kind services provided by local sponsors. That party's plan to manage quality should be presented in their Quality Control Plan (QCP) for the product and the district's quality assurance procedures must ensure reasonable adherence to the approved QCP. The QCP, including Quality Checks documentation and A-E QC certification sheets, similar to the USACE DQC certification sheet, will be submitted to USACE for a QA review. The A-E contractor will follow the quality control requirements described in Chapter 8. The Contractor QCP is the Contractor's management plan for ensuring quality in the contract. The Contractor QCP describes the way in which the Contractor will produce the deliverables, and the step-by-step approach that will be taken to ensure the quality of the engineering and design services and the products derived from those services. The formal ATR of the product will be the responsibility of the RMO. The A-E contractor or sponsor will be accountable for the resolution of any issues with their deliverable products identified during the ATR. If IEPR is required, A-E or Sponsor deliverables will be treated in the same manner as any other in-house product except that issue resolution will be a dual responsibility between the product provider and USACE, with USACE having the final authority.

Signed - Official Publication Pending

COMPLETION OF AGENCY TECHNICAL REVIEW

This Statement of Technical Review has been completed by the ATR Team for the [product type & short description of item] for [project name and location], see attached summary of unresolved issues and future commitments, the Charge questions, a brief resume of ATR reviewers, and a printout of all DrChecks[sm] comments with resolution. The ATR was conducted as defined in the project's RP to comply with the requirements of EC 1165-2-217. 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 USACE 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 either been resolved or have been elevated and are attached. All comments in DrChecks[sm] are closed.

SIGNATURE _____ Date _____

[Name]
ATR Team Lead
[Office Symbol or Name of A-E Firm]

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]

1 Only needed if some portion of the ATR was contracted

1 of 2

Signed - Official Publication Pending

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows:
[Describe the major technical concerns and their resolution and specifically list any agreed-upon deferrals to be completed in the next phase of work or state "There are no significant concerns or any unresolved comments".]

As noted above, all concerns resulting from the ATR of the project have been fully resolved or have been elevated and documented with this certification.

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

SIGNATURE _____ Date _____
[[Name]
Chief, Planning Division[2] (home district)
[Office Symbol]
Add appropriate additional signatures (Operations, Construction, A-E principal for ATR solely conducted by A-E, etc.) and/or modify to accommodate local organizational structure.

SIGNATURE _____ Date _____
[Name]
[as appropriate]
[as appropriate]

SIGNATURE _____ Date _____
[Name]
[as appropriate]
[as appropriate]

2 Only needed for Decision Documents

2 of 2

Signed - Official Publication Pending

*** Instructions: [Input] – Information in Blue brackets and text is required. Once the input is provided, text should be formatted in black and the brackets should be deleted. Delete these instructions in the completed form.*

Figure 5. Sample ATR Completion / Certification form

10. Independent External Peer Review.

10.1. Independent External Peer Review (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 under certain circumstances. A risk-informed decision, as described in Chapter 15, will be made as to whether IEPR is appropriate for that product and documented in the RP.

10.2. Review Teams and Panels. IEPR panels will be made up 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. Selection of review panel members for IEPR efforts will adhere to the NAS Policy on selecting reviewers, which sets the standard for "independence" in review processes and for complexity in a national context.

10.3. IEPR teams are not expected to be knowledgeable of Army and administration policies, nor are they expected to address such concerns. However, an IEPR team should be given the flexibility to bring important issues to the attention of decision makers.

10.4. The Water Resources Development Act of 2007 (WRDA 2007) includes two separate requirements for review by external experts. The first, Section 2034, requires Independent Peer Review (IEPR), hereafter called Type I IEPR, of project studies under certain conditions. The second, Section 2035, requires a Safety Assurance Review (SAR), also referred to as Type II IEPR, of "the design and construction activities for hurricane and storm damage reduction and flood damage reduction projects." USACE has extended this policy for Type II IEPR to all projects with life safety issues. Therefore, Districts/MSCs must consider life safety implications of the design of other projects and make a risk-informed determination whether a Type II IEPR would be beneficial. These statutory requirements, as well as the USACE existing requirements for review of work products, are the basis for this Circular. Sections 2034 and 2035, besides having different foci, also differ significantly in legislative language. This necessitates some variation in the scope and procedures for IEPR, depending on the phase and purposes of the project under review. For clarity, IEPR is divided into two types, Type I is generally for decision documents and Type II is generally for implementation documents. The differing criteria for conducting the two types of IEPR can result in work products being required to have Type I IEPR only, Type II IEPR only, both Type I and Type II IEPR, or no IEPR. The Water Resources Reform and Development Act of 2014 (WRRDA 2014) includes two changes from requirements stated above for review by external experts. The first, Section 1044, amends Section 2034 of WRDA 2007 to raise the threshold value from $45,000,000 to $200,000,000. The second, Section 3028, amends Section 2035 of WRDA 2007 to make the Federal Advisory Committee Act (5 U.S.C. App.) not applicable for a SAR.

Signed - Official Publication Pending

10.5. Where appropriate and reasonable, the district can conduct the ATR and IEPR concurrently if it enhances the review process of an implementation document. Concurrent ATR and IEPR review is standard for draft (non-CAP) decision documents.

10.6. Publishing comments and responses to IEPR. Regardless of whether or not the views expressed in the IEPR Report are adopted, the home district, with assistance from the RMO, will prepare a written USACE proposed response to the report, detailing any actions undertaken or to be undertaken in response to the report, and the reasons those actions are believed to satisfy the key concerns stated in the review report (if applicable). All issues in the IEPR must be addressed. The proposed USACE response will be coordinated with the MSC District Support Teams (and HQUSACE for Type I IEPR) to ensure consistency with law, policy, project guidance, ongoing policy and legal compliance review, and other USACE or National considerations.

11. Type I IEPR.

11.1. Type I IEPR is conducted on project studies (decision documents). It is of critical importance for those decision documents and supporting work products where there are public safety concerns, significant controversy, a high level of complexity, or significant economic, environmental, and social effects to the nation, see Paragraph 11.4.1. However, it is not limited to only those cases and most studies should undergo Type I IEPR.

11.2. The requirement for Type I IEPR is based upon Section 2034 of WRDA 2007 and Section 1044 of WRRDA 2014, the OMB Peer Review Bulletin and other USACE policy considerations.

11.3. Type I IEPR reviews are managed outside the USACE; panel members will be selected by an OEO using the NAS policy for selecting reviewers. Although the NAS is frequently cited for the Type I IEPR process the USACE should follow, actual reviews by the NAS are expected to be rare. Decisions to approach NAS must be made by the DCW based on the recommendation of the appropriate RIT at HQUSACE in coordination with the appropriate CoP, generally the Planning and Policy CoP. Each Type I IEPR review will cover the entire project concurrent with the product development.

11.4. In keeping with the principle that IEPR should be scalable to the work product being reviewed, there may be cases that warrant a project study or decision document, which would otherwise be required to undergo a Type I IEPR, being excluded from the Type I process. For IEPR on decision documents, the RMO will be the appropriate PCX or, in the case of dam or levee safety modification reports, the USACE RMC in close coordination with the appropriate PCX. If exclusion is sought, the vertical team (involving district, MSC, RMO [PCX or RMC] and HQUSACE) will advise the MSC Commander as to whether Type I IEPR is appropriate or whether sufficient rationale exists to support a request for exclusion. Requests seeking an exclusion from Type I IEPR must comply with requirements in Chapter 15, Risk-Informed

Signed - Official Publication Pending

Decisions on Appropriate Reviews. The conditions determining whether Type I IEPR will be undertaken are as follows:

11.4.1. Type I IEPR is mandatory if any of the following are true:

11.4.1.1. Significant threat to human life. The decision document phase is the initial concept design phase of a project. Therefore, USACE has determined when life safety issues exist, a Type I IEPR that includes a Safety Assurance Review is required;

11.4.1.2. When the estimated total cost of the project, including mitigation costs, is greater than $200 million based on a reasonable estimate made after execution of the FCSA and prior to the Alternatives Milestone, with few exceptions. In considering the $200 million cost trigger, the term "total cost" means the cost of construction (including designing) of the project and includes lands, easements, rights of way, relocations, and disposal areas (LERRDs). In the case of a project for hurricane and storm risk management or flood risk management that includes periodic nourishment over the life of the project, the "total cost" term includes total cost of the renourishment cycles. If a project has a cost estimate of less than $200 million at initial RP development, but the estimated costs subsequently increase to more than $200 million during the course of the study, a determination will be made by HQUSACE whether a Type I IEPR is required. There is a potential, albeit an extremely limited one, for projects costing over $200 million to be excluded from Type I IEPR. This potential only exists when no other mandatory conditions listed in this section are met, the project does not include an EIS, the various aspects of the problems or opportunities being addressed are not complex, and there is no controversy surrounding the study. An exclusion from Type I IEPR for a project costing more than $200 million can only be granted by the Chief of Engineers or their delegate.

11.4.1.3. When the Governor of an affected State requests a peer review by independent experts. (An affected State is all or a portion of a State which is within the drainage basin in which the project is or would be located and would be economically or environmentally affected as a consequence of the project.)

11.4.1.4 When the Chief of Engineers determines the project study is controversial due to significant public dispute over the size, nature, or effects of the project or the economic or environmental costs or benefits of the project.

11.4.1.5. There is significant public dispute as to size, nature, or effects of the project.

11.4.1.6. There is significant public dispute as to the economic or environmental cost or benefit of the project.

11.4.1.7. Is required by USACE for cases where information is based on novel methods, presents complex challenges for interpretation, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices.

Signed - Official Publication Pending

11.4.1.8. Any other circumstance that leads the Chief of Engineers to determine Type I IEPR is warranted.

11.4.2. Type I IEPR is discretionary when the head of a Federal or state agency charged with reviewing the project study determines that the project is likely to have a significant adverse impact on environmental, cultural, or other resources under the jurisdiction of the agency after implementation of proposed mitigation plans and he/she requests a Type I IEPR.

11.4.2.1. A decision whether to conduct Type I IEPR must be made within 21 days of the date of receipt of the request by the head of the Federal or State agency.

11.4.2.2. If the Chief of Engineers decides not to conduct a Type I IEPR following such a request the Chief will make publicly available the reasons for not conducting the Type I IEPR.

11.4.2.3. If the Chief of Engineers decides not to conduct a Type I IEPR after such a request, it may be appealed to the Chairman of the Council on Environmental Quality within 30 days of the Chief's decision. The Chairman will decide the appeal within 30 days of the date of the appeal.

11.4.3. Section 2034 of WRDA 2007, as amended, permits project studies to be excluded from independent peer review under certain circumstances. In most cases, requests for exclusions will be decided by the DCW. As noted in Paragraph 11.4.1.2, requests for exclusions for projects costing over $200 million will be routed through the DCG-CEO with the decision made by the Chief of Engineers or their delegate.

11.4.4. A project study may be excluded from Type I IEPR in cases where none of the mandatory triggers listed above are met (with the limited exception noted in Paragraph 11.4.1.2) AND if any of the following three sets of conditions apply (11.4.4.1, 11.4.4.2 or 11.4.4.3):

11.4.4.1. If the project study:

11.4.4.1.1 Does not include an EIS; AND

11.4.4.1.2 The Chief of Engineers determines it is not controversial; AND

11.4.4.1.3 It has no more than negligible adverse impacts on scarce or unique tribal, cultural, or historic resources; AND

11.4.4.1.4 It has no substantial adverse impacts on fish and wildlife species and their habitat prior to the implementation of mitigation measures; AND

11.4.4.1.5 It has, before implementation of mitigation measures, no more than a negligible adverse impact on a species listed as endangered or threatened species under the Endangered

Signed - Official Publication Pending

Species Act of 1973 (16 U.S.C. 1531 et seq.) or the critical habitat of such species designated under such Act.

OR

11.4.4.2. If the project study:

11.4.4.2.1 Involves only the rehabilitation or replacement of existing hydropower turbines, lock structures, or flood control gates within the same footprint and for the same purpose as an existing water resources project; OR

11.4.4.2.3 Is for an activity for which there is ample experience within the USACE and industry to treat the activity as being routine; AND

11.4.4.2.4 Has minimal life safety risk.

OR

11.4.4.3. The project study does not include an EIS and is under CAP.

11.5. Type I IEPRs are exempted by law from the Federal Advisory Committee Act.

11.6. Type I IEPR will be performed if the triggers specified in the subsections of Paragraph 11.4.1 are met. This information will documented in the approved RP.

11.7. Type I IEPR Panels. Panels should be able to evaluate whether the interpretations of analysis and conclusions based on analysis are reasonable. To provide effective review, in terms of both usefulness of results and credibility, review panels should be given the flexibility to bring important issues to the attention of decision makers. However, review panels should be instructed to not make a recommendation on whether a particular alternative should be implemented, as the Chief of Engineers is responsible for the final decision on a planning or re-operations study. External panels may offer their opinions as to whether there are sufficient analyses upon which to base a recommendation. Type I IEPR panels will accomplish a concurrent review that covers the entire decision document or action. The panel will address all the underlying engineering, economics, and environmental work, not just one aspect of the project. This level of review is governed primarily by Sections 2034 and 2035 of WRDA 2007, as amended by Sections 1044 and 3028 of WRRDA 2014 and the OMB Peer Review Bulletin.

11.7.1. Establishment of Panels.

11.7.1.1. For Type I IEPR, an OEO will select the reviewers according to the guidance in Paragraph 11.7.2.

Signed - Official Publication Pending

11.7.1.2. OEO. Type I IEPR panels will be established by the RMO through contract with an independent scientific and technical advisory organization that must be a Section 501(c)(3) (Internal Revenue Code of 1986) organization or with the National Academy of Sciences.

11.7.1.3. The highest degree of credibility of external reviews will be achieved if the responsibility for coordinating the external review process is granted to an organization independent of USACE. Such an independent OEO must be in charge of selecting reviewers, all of whom should be independent of USACE and free of conflicts of interests. The OEO will also be assessed for potential organizational conflict of interest on a task order basis.

11.7.1.4. The OEO should be knowledgeable about the USACE mission, its statutory authorities and related administrative regulations, and other evaluation procedures.

11.7.1.5. The OEO must have the following qualifications:

11.7.1.5.1 Is described in Section 501(c)(3), and exempt from Federal tax under Section 501(a) of the Internal Revenue Code of 1986.

11.7.1.5.2 Is independent.

11.7.1.5.3 Is free from conflicts of interest.

11.7.1.5.4 Does not carry out or advocate for or against Federal water resources projects.

11.7.1.5.5 Has experience in establishing and administering independent review panels.

11.7.1.5.6 Has proven ability to deliver on time as agreed, in spite of significant time constraints.

11.7.1.6. Type I IEPR reviews will be more effective if the review panel maintains communication with USACE during the review. This communication, which should not compromise the reviewers' independence, can help the panel understand USACE assumptions and methods, as well as the practical implications of the review panel's finding and recommendations. The OEO should coordinate this communication among the PDT, RMO (usually PCX for planning studies or RMC for dam and levee safety modification studies), and review panel, as well as communication among the panel and relevant federal agencies, interest groups, and the public.

11.7.2. Guidelines for Selection. The three most important considerations in selecting reviewers are the credentials of the reviewers (which include affiliations as well as expertise), the absence of conflict of interest, and the independence of the group that selects the reviewers. The OEO should select reviewers and structure the review such that good science, sound engineering, and public welfare are the most important factors producing a sound review.

Signed - Official Publication Pending

11.7.2.1. All potential reviewers carry professional and personal biases, and it is important that these biases be disclosed when reviewers are considered and selected. The OEO leading the review will determine which biases, if any, will disqualify prospective reviewers.

11.7.2.2. The OEO will also develop criteria for determining if review panels are properly balanced, in terms of both professional expertise and points of view on the study or project at hand.

11.7.2.3. The necessity for reviewers to have adequate knowledge of USACE's guidance and analytical methods, which are often highly complex, increases the challenge of selecting review panels that are viewed as credible and balanced.

11.7.3. Panel Responsibilities. The panel of experts established for a project review for a will:

11.7.3.1. Conduct reviews in a timely manner in accordance with the study and RP schedule.

11.7.3.2. Assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analyses, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in evaluation of economic or environmental impacts, and any biological opinions.

11.7.3.3. For those decision documents that require a SAR as described in Chapter 12, the panel should address the following additional questions for the selected alternative:

11.7.3.3.1 In accordance with ER 1110-2-1150, is the quality and quantity of the surveys, investigations, and engineering sufficient for a concept design?

11.7.3.3.2 Are the models used to assess hazards appropriate?

11.7.3.3.3 Are the assumptions made for the hazards appropriate?

11.7.3.3.4 Does the analysis adequately address the uncertainty and residual risk given the consequences associated with the potential for loss of life for this type of project?

11.7.3.4. Assess the considered and recommended alternatives from the perspective of systems. This includes (but is not limited to) aspects such as the hydraulic and hydrologic effects throughout a watershed; the impact on competing ports within an area of influence; the impacts on resources used by transiting migratory species; and the systemic aspects considered from a temporal perspective, including the potential effects of climate change.

11.7.3.5. Receive from USACE and consider any public written and oral comments provided on the project.

Signed - Official Publication Pending

11.7.3.6. Provide timely written and oral comments throughout the development of the project, as specified in the scope of work with the OEO; and

11.7.3.7. Submit a final report, no more than 60 days following the close of the public comment period for the draft project study to enable the district to address all necessary actions before the final report is signed. The report will contain the panel's economic, engineering, and environmental analysis of the project study, including the panel's assessment of the adequacy and acceptability of the economic, engineering, and environmental methods, models, and analyses used. All comments in the report will be finalized prior to their release to USACE for each project phase. If the panel does not complete its review in this period, the processing of the report will continue without delay.

11.7.4. Panel Findings.

11.7.4.1. The panel will submit to USACE through the managing organization a final report containing the panel's economic, engineering, and environmental analysis of the project study, including the panel's assessment of the adequacy and acceptability of the economic, engineering, and environmental methods, models, and analyses used by USACE.

11.7.4.2. The report from the panel of experts will be considered and documentation will be presented on how issues were resolved or will be resolved by the District Engineer (DE) before the district report is signed by the DE. The findings and responses will be presented to the DCG-CEO by the District Engineer with a Type I IEPR panel or OEO representative participating, preferably in person.

11.7.4.3. After receiving a report on a project from a panel of experts, USACE will consider all recommendations contained in the report and prepare a written response for all findings adopted or not adopted. Upon satisfying any reviewers' concerns, HQUSACE will determine the appropriate command level for issuing the formal USACE response to the Type I IEPR Review Report. When the USACE response is issued, the district will post the final Type I IEPR Review Report, USACE response, and all other materials related to the review on its website and include them in the applicable decision document. Chief of Engineers' reports for decision documents that undergo Type I IEPR will summarize the Type I IEPR Review Report and provide full USACE responses to each concern raised by the Type I IEPR panel. The panel's final report and the responses of USACE must also accompany the publication of any report of the Chief of Engineers for the project. In cases where there is no Chief's report, the DCW will certify the agency response. The Type I IEPR documentation will become a critical part of the review record and will be addressed in recommendations made by the Chief of Engineers.

11.7.5. Guidelines for Developing the "Charge."

11.7.5.1. Reviews should identify, explain, and comment upon assumptions that underlie all the analyses, as well as evaluate the soundness of models, surveys, investigations, and methods. A

Signed - Official Publication Pending

review panel should bring important issues to the attention of the agency. Review panels should be able to evaluate whether the interpretations of analysis and the conclusions based on analysis are reasonable. However, review panels should be instructed to not present a final judgment on whether a project should be constructed or whether a particular operations plan should be implemented, as the Chief of Engineers is ultimately responsible for this final decision.

11.7.5.2. Peer reviews, no matter how useful, should not be expected to resolve fundamental disagreements and controversies. Reviewers should aim to draw distinctions between criticisms of the regulations and guidelines and criticisms of how well USACE conformed to the guidance. Reviews should focus on assumptions, data, methods, and models.

11.7.5.3. Reviews will assist USACE in making decisions, but reviewers should not be asked to make decisions. Reviewers should avoid findings that become "directives" in that they call for modifications or additional studies or suggest new conclusions and recommendations. In such circumstances, the reviewers may have assumed the role of advisors as well as reviewers, thus introducing bias and potential conflict in their ability to provide objective review later in the project. Reviewers engaged in the review processes should be selected based upon their independence and professional expertise and should not be "stakeholders."

11.7.5.4. The MSC's choice about the appropriate level of review should be informed by deliberation with the vertical team.

11.7.5.5. Frequent communication facilitated by the OEO will help the review panel understand the technical and practical implications of their comments. Review panels should highlight areas of disagreement and controversies that may need resolution.

11.7.5.6. Defining a review panel's boundaries of inquiry is an issue that frequently arises in review and is not always easily agreed upon. It is not uncommon for an agency or other administrative group to try to limit a review panel's deliberation. However, the line between technical and policy issues is often blurred, and it is often difficult to clearly separate them. USACE should accept comments but make a distinction in responses when comments pertain to policy which is beyond the scope of a Type I IEPR and have been elevated to HQUSACE for consideration under a non-project-specific policy review. It is important that panelists focus on their review and not become defenders of their findings.

11.7.6. Record of Review. USACE must make all written findings of a reviewer or panel of reviewers and related USACE responses available to the public, including through electronic means on the internet.

11.8. Planning Centers of Expertise.

11.8.1. The appropriate PCX (or the RMC for dam and levee modification studies) is responsible for the accomplishment and quality of Type I IEPR for documents covered by this Circular. In

Signed - Official Publication Pending

cases of Type I IEPR that include a SAR and are managed by a PCX, the PCX will coordinate with the RMC in developing the Charge. An OEO must be used to manage the selection of panels, the conduct of the review, and the organization and disposition of comments.

11.8.2. Review will be assigned to the appropriate PCX based on business programs. Districts will develop RPs in coordination with the appropriate PCX based on the primary purpose of the decision document to be reviewed.

11.8.3. For decision documents with multiple purposes (or project purposes not clearly aligned with the PCXs), the home MSC will designate a lead PCX to conduct the review after coordinating with each relevant PCX. The assigned RMO will coordinate with other PCXs, RMC, and offices to ensure that a review team with appropriate expertise is assembled.

11.8.4. Each PCX must coordinate with the Cost Engineering MCX at the Walla Walla District. In cases where the Cost Engineering MCX identifies the need for Type I IEPR, it will inform the assigned PCX and will assist with establishing the Charge.

11.9. Reporting Requirements.

11.9.1. Type I IEPR Decision and Congressional Notification. Section 2034 of WRDA 2007, as amended, applies to project studies initiated prior to 8 November 2019.

11.9.1.1. Decision to Conduct Type I IEPR. Upon MSC approval of any RP that includes performing Type 1 IEPR, the MSC commander will immediately transmit the approved RP and the MSC Commander's Approval Memorandum to the responsible RIT. The responsible RIT will prepare and transmit a letter, signed by the HQ Chief Planning and Policy, to the Committee on Environment and Public Works of the Senate (EPW) and the Committee on Transportation and Infrastructure of the House of Representatives (T&I) with a copy to the ASA(CW). The letter will notify Congress of the intent to conduct Type I IEPR and will be transmitted within seven days of RP approval. The decision to conduct Type I IEPR will be made available to the public by the district posting the RP on the USACE public website within seven days of MSC approval of the RP. The RP shall include documentation of the Type I IEPR decision.

11.9.1.2. Decision to Exclude from Type 1 IEPR. Upon the Chief of Engineers' approval of an exclusion from conducting Type I IEPR for a study, the responsible RIT will prepare and transmit a letter, signed by the HQ Chief of Planning and Policy, to the Senate EPW and House T&I Committees with a copy to the ASA(CW). The letter will notify Congress of the Chief of Engineers' or their delegate's decision not to conduct Type I IEPR and will be transmitted within seven days of approval of the Type I IEPR exclusion. The decision not to conduct Type I IEPR will be made available to the public by the district posting the RP on the USACE public website within seven days of approval of the Type I IEPR exclusion. The RP shall include documentation of the Type I IEPR exclusion decision.

Signed - Official Publication Pending

11.9.1.3. Changes in Decision to Conduct Type I IEPR. Information developed as part of the study process may cause the Chief of Engineers to revisit the decision whether or not Type I IEPR will be conducted. Any change in the decision to conduct or not conduct Type I IEPR on a study will require re-notification of Congress and the public following the procedures described above.

11.9.2. Public Availability of Type I IEPR Information. Information regarding the conduct of Type I IEPR will be posted on the USACE public website. Following award of a task order to conduct Type I IEPR, the responsible Review Management Organization (RMO) will provide the responsible RIT with the scheduled dates for the beginning and end of review and the name of the Outside Eligible Organization (OEO) that has the task order for the review. The beginning of review is the date the panel of experts initiates the review and the end of the review is the date the OEO submits the Type I IEPR Final Report to USACE. The information will be made available to the public by the responsible RIT posting the information on the USACE public website not later than seven days after the task order is awarded. When the OEO completes subcontracts with the panel of experts, the responsible RMO will provide the names and qualifications of the panel of experts to the responsible RIT. The information will be made available to the public by the responsible RIT posting the names and qualifications of the panel of experts on the USACE public website not later than seven days after the subcontracts with the panel are completed.

11.9.3. Type I IEPR Report and Agency Response Public Availability and Submission to Congress. A copy of the Final Type I IEPR report documenting the comments and recommendations of the Type I IEPR panel and a copy of the responses to the panel comments and recommendations by the Chief of Engineers will be promptly submitted to Congress and will be made available to the public on the USACE public website.

11.9.3.1. Upon acceptance of the Final Type I IEPR Report from the OEO by the RMO, the responsible RMO will transmit the report to the responsible RIT. The responsible RIT will prepare and transmit a letter, signed by the DCW, to the Senate EPW and House T&I Committees with a copy to the ASA(CW) and USACE Commanding General (CG) within seven days of receipt from the RMO. The letter will submit the Final Type I IEPR Report to the Congressional committees. In order to make the tight timeline, the letter shall be transmitted electronically and shall include a pdf of the Final Type I IEPR Report. The responsible RIT will post the Final Type I IEPR Report on the USACE public website within seven days of receipt from the RMO.

11.9.3.2. Upon completion of the Agency Response, the responsible RIT will prepare and transmit a letter for signature by the DCW to the Senate EPW and House T&I Committees with a copy to the ASA(CW) and CG within three days of completion of the Agency Response. The letter will submit the Agency Response to the Congressional committees. In order to make the tight timeline, the letter shall be transmitted electronically and shall include a pdf of the Agency

Signed - Official Publication Pending

Response. The Agency Response will be posted to the USACE public website within three days of completion of the Agency Response.

11.9.4. Type I IEPR Information in the Final Decision Document. For project studies that undergo Type I IEPR, the Final Type I IEPR Report and Agency Response shall be included in an appendix to the final decision document. For project studies that are excluded from Type I IEPR, the exclusion decision and rationale shall be included in the decision document for the project study.

11.9.5. Annual Report. By 1 November each year, each MSC will provide HQUSACE, through their respective RIT, a summary of the Type I IEPRs undertaken by the MSC during the previous fiscal year. HQUSACE Planning (CECW-P) will consolidate the summaries received by the RITs and will provide the Administrator of the Office of Information and Regulatory Affairs in OMB with a consolidated summary of USACE Type I IEPRs by 15 December of each year. Annual summaries of Type I IEPRs will include:

11.9.5.1. The number of Type I IEPRs conducted subject to this Circular and the authorities under which each Type I IEPR was conducted.

11.9.5.2. The number of times alternative procedures were invoked.

11.9.5.3. The number of times exclusions or deferrals were invoked (and in the case of deferrals, the length of time elapsed between the deferral and the Type I IEPR).

11.9.5.4. Any decision to appoint a reviewer pursuant to any exception to the applicable independence or conflict of interest standards of the OMB Peer Review Bulletin, including determinations by the Secretary of Defense pursuant to Section III (3)(c) of the OMB Peer Review Bulletin.

11.9.5.5. The number of Type I IEPR panels that were conducted in public and the number that allowed public comment.

11.9.5.6. The number of public comments provided on each Civil Works RP.

11.9.5.7. The number of peer reviewers that were recommended by professional societies.

12. Type II IEPR Safety Assurance Review (SAR).

12.1. A Type II IEPR (SAR) will be conducted on design and construction activities for any project where potential hazards pose a significant threat to human life (public safety). This applies to new projects and to the major repair, rehabilitation, replacement, or modification of existing facilities.

Signed - Official Publication Pending

12.2. The requirement for Type II IEPR is based upon Section 2035 of WRDA 2007, Section 3028 of WRRDA 2014, the OMB Peer Review Bulletin, and other USACE policy considerations.

12.3. External panels will conduct reviews of the design and construction activities prior to the initiation of physical construction and periodically thereafter until construction activities are completed. The reviews must consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health, safety, and welfare.

12.4. The RMO for a SAR is the RMC. Panel members will be selected using the NAS policy for selecting reviewers. See Paragraph 12.12 for further discussion of panels.

12.5. Type II IEPRs are exempted by Section 3028 of WRRDA 2014 from the Federal Advisory Committee Act.

12.6. A Type II IEPR (SAR) will be conducted on design and construction activities for any project where potential hazards pose a significant threat to human life. The District Chief of Engineering, as the Engineer-In-Responsible-Charge, will assess whether the threat is significant and document that in the RP. A recommendation to not conduct a SAR will also be documented in the RP and will (like any RP recommendation) have the endorsement of the RMO prior to approval of the RP. This applies to new projects and to the major repair, rehabilitation, replacement, or modification of existing facilities. External panels will review the design and construction activities prior to initiation of physical construction and periodically thereafter until construction activities are completed. Because design is initiated in the decision document phase, the SAR is incorporated into the Type I IEPR (see Paragraph 11.4.1.1). This section provides guidance for reviews conducted on design and construction activities performed after the approval of a decision document. The reviews must be 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 that good science, sound engineering, and public health, safety, and welfare are the most important factors that determine a project's outcome.

12.7. When a Type II IEPR is included in the project's approved RP, the District Chief of Engineering, as the Engineer-In-Responsible-Charge, is responsible for ensuring the Type II IEPR is conducted in accordance with this Circular, and will fully coordinate with the Chief of Construction, the Chief of Operations, and the project manager through the PED and construction phases. The project manager will coordinate with the RMO to develop the review requirements and include them in the RP. The default RMO for flood risk management projects and SAR is the USACE Risk Management Center (RMC). The Type II IEPR (SAR) will be coordinated through the RMC, whether it is performed through contract acquisition or by another government agency. If the RMC and MSC agree that a SAR does not need to be conducted, the MSC may assume RMO responsibilities for the implementation phase. Any such a transfer of

Signed - Official Publication Pending

responsibility should be mutually agreed upon and mindful of all the remaining phases of the project.

12.8. Risk-Informed Decision. For any design and construction activities that are justified by life safety or for which the failure of the project would pose a significant threat to human life a Type II IEPR (SAR) is required. A recommendation for an exclusion from this requirement must be documented in the RP with a thorough discussion of why there are no potential failure modes for the project that would pose a significant threat to human life. A project is determined to have a "significant threat to human life" if at any time during the construction or operation, failure could result in a substantial life safety concern. The consequences of failure and the population at risk are paramount for the SAR determination. Existing risk information, including risk assessments, should be used to facilitate and inform this determination.

12.8.1. The following are examples where a SAR should be seriously considered if a significant life safety risk is identified:

12.8.1.1. Major rehabilitation of a deficiency for a hurricane and storm damage risk reduction or flood risk management project for a densely populated area.

12.8.1.2. Modifications to the line of flood risk reduction.

12.8.1.3. Modifications that could introduce new failure modes or lead to progression of existing failure modes that could result in the potential for loss of life.

12.8.2. In the case of a coastal storm risk management project, the expected impact of project-feature failures on loss of life must be assessed to make the SAR determination. This criteria is not all-inclusive; reasonable conclusions need to be drawn and each project requires an assessment by the District Chief of Engineering.

12.8.3. Decisions concerning what is "significant" loss of life cannot be reduced to a simple number; it is a combination of the consequences and the likelihood of failure. Not all projects or modifications to projects rise to the level of concern that the Chief of Engineers would determine the project would benefit from a SAR. Appropriate USACE risk assessments for the project previously performed should be utilized in this determination. For comparison, the following situations that might pose significant threat to human life provide contrasting examples—one that typically would and one that typically would not be determined to pose such risk. Note that these are only examples and an individual assessment of whether a SAR is needed must be made for each item of work.

12.8.3.1 A new dam above a community would require a SAR. However, if the offices within an existing dam are being renovated and the work will not affect the dam operation, that project would not require a SAR.

Signed - Official Publication Pending

12.8.3.2. A levee section being replaced next to an adjacent residential area would require a SAR. However, an agricultural levee being raised a few inches to account for settlement would not require a SAR.

12.8.3.3. A new set of spillway gates for a high hazard potential dam would require a SAR. However, if a single gate out of six gates for an intake structure is being replaced in-kind and results of its failure would be contained within the downstream safe channel capacity, the project would not require a SAR.

12.8.3.4. A new hydro-electric generator unit replacing an existing unit for a high-lift navigation dam would require a SAR. However, if a new miter gate is being replaced on a low-lift navigation lock where failure of the gate would not cause flooding to exceed the flood stage, the project would not require a SAR.

12.8.3.5. A new Water Control Manual (WCM) that was put in place due to a water reallocation reducing flood control storage would require a SAR because it introduces new failure modes. However, a minor modification to the WCM not involving concern for life safety would not require a SAR.

12.8.3.6. A new coastal protection system including berms for a community would require a SAR. However, a beach re-nourishment project that does not affect life safety does not require a SAR.

12.8.3.7. Repairs for a slide on a dam crest (for a dam with a potential for life loss) being that are performed with emergency funding when there is time to wait until the low-flow season to make the correction will require a SAR. However, where time is of the essence to save the dam, a SAR is not required, allowing for maximum expediency.

12.8.3.8. A temporary cofferdam that will serve part of the levee alignment for a levee with potential for life loss would require a SAR. However, a temporary cofferdam for which breach would not pose a life safety risk (albeit the workers inside are vulnerable) does not rise to the level that SAR is required.

12.8.3.9. For a new U-framed flood relief channel that is built in a congested city that has steep flow gradients and is designed with super-critical flows to lessen impact on available real estate, would require a SAR since failure of the wall could cause blockage and flood the city. However, a new concrete lined flood relief channel that is built below grade with a gentle flow gradient would not require a SAR.

12.8.3.10. For a 33 USC 408 (Section 408) request to place new utilities across the toe of a dam and across the spillway, such that these modifications introduce new failure modes, a SAR will be required. However, if the Section 408 requester is building a hydropower project on a low-head navigation project, it would not require a SAR.

Signed – Official Publication Pending

12.9. Other factors to consider for deciding whether to conduct a Type II review of a project or project components are:

12.9.1. The project involves the use of innovative materials or techniques and 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.

12.9.2. The project design requires redundancy, resiliency, and robustness.

12.9.2.1. Redundancy is the duplication of critical components of a system with the intention of increasing reliability of the system, usually in the case of a backup or fail-safe.

12.9.2.2. Resiliency. Resiliency is the ability to avoid, minimize, withstand, and recover from the effects of adversity, whether natural or manmade, under all circumstances of use.

12.9.2.3. Robustness. Robustness is the ability of a system to continue to operate correctly across a wide range of operational conditions (the wider the range of conditions, the more robust the system), with minimal damage, alteration, or loss of functionality; and to fail gracefully outside of that range.

12.9.3. The project has unique construction sequencing or a reduced or overlapping design construction schedule; for example, significant project features accomplished using the Design-Build or Early Contractor Involvement delivery systems.

12.10. RPs. As detailed in Chapter 7, the RP will include the reason for a SAR or an explanation as to why a SAR is not required. The MSC Commander's approval of the RP is required to assure that the plan is in compliance with the principles of this guidance and the MSC's Quality Management Plan and that all elements of the command have agreed to the review approach. The RP must define the appropriate level of review.

12.11. Timing of Reviews. At a minimum, the SAR team will perform reviews and site visits in accordance with milestones identified in the RP. Milestones to consider for a SAR are at the midpoint and final design in the Design Documentation Report; at the completion of the plans, specifications, and cost estimate; at the midpoint of construction for a particular contract, prior to final inspection, or at any critical design or construction decision milestones. The SAR panel may recommend to the RMO additional or alternate milestones. The MSC should approve these recommendations when they are warranted and reasonable. The SAR is an extension (not a replacement) of the ATR requirements outlined in ER 1110-1-12, Quality Management (or successor document); however, the intent of the SAR is to complement the ATR and to avoid impacts to program schedules and cost. The SAR is a strategic level review and reasonable effort should be made to avoid having the SAR duplicate the ATR.

Signed - Official Publication Pending

12.12. Guidelines for Developing the Scope of Work or "Charge".

12.12.1. The SAR review will cover the design and construction phase of the project as outlined below. Reference Paragraph 11.7.5 for guidelines for developing the "Charge".

12.12.2. The RP should establish a milestone schedule aligned with critical features of the project design and construction. The SAR should complement the ATR and focus on unique features and changes from the assumptions made and conditions that formed the basis for the design during the decision document phase.

12.12.3. SAR panels should be able to evaluate whether the interpretations of analysis and conclusions based on analysis are reasonable. In terms of both usefulness of results and credibility, review panels should be given the flexibility to bring important issues to the attention of decision makers. However, review panels should be instructed to not make a recommendation on whether a particular alternative should be implemented, as the Chief of Engineers is ultimately responsible for the final decision. External panels may, however, offer their opinions as to whether there are sufficient analyses upon which to base a recommendation. All SARs should have these basic Charge questions:

12.12.3.1 Are there any critical design considerations missing?

12.12.3.2 Is the overall direction of the project appropriate?

12.12.3.3 Is there anything the panel would like USACE to consider?

12.12.4. Decision Phase. For the decision document phase, the review requirements are defined in Chapter 11 in the Type I IEPR.

12.12.5. Design or PED Phase. For the design or PED phase, at a minimum the SAR will address the following questions:

12.12.5.1 Do the assumptions made in the decision document phase for hazards remain valid through the completion of design as more knowledge is gained and the state-of-the-art evolves?

12.12.5.2 Do the project features and/or components effectively work as a system?

12.12.5.3 Is the QC/QA effort appropriate?

12.12.5.4 For those unique projects authorized and appropriated or approved without a decision document and in the PED or design phase, the SAR will address the review requirements defined in Chapter 11 in the Type I IEPR.

Signed - Official Publication Pending

12.12.6. For the construction phase, at a minimum the SAR will address the following questions:

12.12.6.1 Do the assumptions made during design remain valid through construction as additional knowledge is gained and the state of the art evolves?

12.12.6.2 For O&M manuals, will requirements listed in the manual adequately maintain the conditions assumed during design and validated during construction; and will the project monitoring adequately reveal any deviations from assumptions made for performance?

12.13. Requirements for Establishing Type II IEPR Panels.

12.13.1. RMO Responsibilities.

12.13.1.1. The RMO is responsible for establishing panels in accordance with this Circular.

12.13.1.2. The RMO will define the required competencies for each of the panel members, insuring a balance of perspectives, and may specify a particular expertise as the team lead. The RMO can recommend candidates for consideration.

12.13.2. Review teams can be led by and composed of other government employees (non-USACE).

12.13.3. Review teams can be led by and composed of contractors.

12.13.3.1. A contractor can be used to carry out these panels, including selecting members for the Type II IEPR panel. Unlike Type I IEPRs, competition for Type II IEPR contractors may not be limited to OEOs. The solicitation for such a contract should include the minimum professional requirements for panel members, but should not be so narrowly written that only specific persons may be selected.

12.13.3.2. Due to potential organizational conflicts of interest and the potential for contractors to have access to other contractors' information, contracting officers must be particularly aware of potential conflicts of interest and avoid or mitigate them in accordance with Federal Acquisition Regulations Part 9 when procuring Type II IEPR panel services. Solicitations must include nondisclosure agreements and language analogous to that found in the Army Source Selection Supplement (AS3) for contractors who assist in evaluations of proposals to ensure that contractor information is protected from disclosure by reviewing contractors. If an existing contract is considered for use, the Contracting Officer must determine that this work would be in scope of the contract scope and determine, if non-disclosure agreements and organizational conflict of interest language is not included in the contract, whether they could be added to the contract as an in-scope modification before the existing contract may be used for a Type II IEPR panel.

12.13.4. Guidance for the contractor (or USACE) for establishing review teams.

Signed Official Publication Pending

12.13.4.1. If the panel meetings will be closed to the public, then the contractor should establish a process for members of the public to apply for membership on the panel. The contractor, however, is not under any obligation to select any of these public applicants.

12.13.4.2. The RMO and other USACE officials may approve the panel members selected by the contractor, but should not participate in the vetting or selection of members. Moreover, USACE officials should not veto or disapprove of a selected panel member unless the selected panel member does not meet the objective criteria for panel members provided to the contractor.

12.13.4.3. The contractor will be required in the solicitation and instructions to apply the National Academy of Sciences policy for selecting reviewers to ensure the panel members have no conflict of interest with the project being reviewed. The following website provides academy guidance for assessing composition and the appropriate forms for prospective panel members in General Scientific and Technical Studies: http://www.nationalacademies.org/coi/index.html. The contractor will also develop criteria for determining if review panels are properly balanced, as defined by criteria in the contract, both in terms of professional expertise as well as in points of view on the study or project at hand. If necessary, the contractor will remove and replace panel members during a review if a conflict arises.

12.13.4.4. In developing a solicitation package for Type II IEPR services, the District should consider the following from Review Procedures for Water Resources Project Planning (NRC et al. 2002). All potential reviewers carry professional and personal biases, and it is important that these biases be disclosed when reviewers are considered and selected. The contractor leading the review will determine which biases, if any, will disqualify prospective reviewers. It should also develop criteria for determining if review panels are properly balanced, both in terms of professional expertise as well as in points of view on the study or project at hand. There is also a challenge of selecting review panels that are viewed as credible and balanced, but that also have adequate knowledge of USACE's often highly complex guidance and analytical methods. The most important considerations in selecting reviewers are the credentials of the reviewers (which include affiliations as well as expertise) and the absence of conflict of interest. Note that WRDA 2007 requires the panel members to be "distinguished experts in engineering, hydrology, or other appropriate disciplines."

12.13.4.5. The contractor will be responsible for adjusting the panel membership to maintain the skill set necessary as the project progresses and the need for different expertise arises.

12.13.4.6. USACE officials may attend panel meetings, but may not participate in the management or control of the group; USACE cannot be a voting member of the group, may not direct activities at the meetings, and may not develop the agenda for the meetings.

12.13.4.7. USACE officials must refrain from participating in the development of any reports or final work product of the group.

Signed - Official Publication Pending

12.13.4.8. The peer review panel can take the form of a panel of consultants, but the members are limited to reviewing and commenting on the work being done by others. The peer review work can be concurrent with ongoing work, be interactive as needed, and provide real-time over-the-shoulder input. Timely input on the appropriateness of hazard analyses, models and methods of analysis used, and the assumptions made is critical to maintaining project schedules.

12.13.4.9. At a minimum, one member is required, but the number of panel members will be appropriate for the risk, size, and complexity of the project. Composition of the panel can change depending on the need of the particular phase of review.

12.13.4.10. Reviewers' Compensation. Type II IEPR Reviewers will be paid labor and any necessary travel and per diem expenses in accordance with their contract with the RMO, NAS, or OEO.

12.14. Panel Responsibilities. The panel of experts established for a review for a project will do all the following.

12.14.1. Conduct the review for the subject project in a timely manner, in accordance with the schedule.

12.14.2. Follow the "Charge," but when deemed appropriate by the team lead, request other products relevant to the project and the purpose of the review.

12.14.3. Receive from USACE and consider any public written and oral comments provided on the project.

12.14.4. Provide timely written and oral comments throughout the development of the project, as requested.

12.14.5. Assure the review avoids replicating an ATR and focuses on the questions in the "Charge," but the SAR panel can recommend to the RMO additional or alternate questions for consideration.

12.14.6. Offer any lessons learned to improve the planning or design, or the review process.

12.14.7. Submit reports in accordance with the RP milestones.

12.14.8. The team panel lead will be responsible for ensuring that all review panel comments entered into the report as team comments represent the group, are non-attributable to individuals and, when there is lack of consensus, note the nature of non- concurrence and reasons for it.

12.15. Record of Review. The review team will prepare a review report. A suggested report outline is: an introduction; the composition of the review team; a summary of the review during

Signed - Official Publication Pending

design; a summary of the review during construction; any lessons learned in both the process and/or design and construction; and appendices for conflict of disclosure forms, comments to include any appendices for supporting analyses, and assessments of the adequacy and acceptability of the methods, models, and analyses used. All comments in the report will be finalized by the panel prior to their release to USACE for each RP milestone.

12.16. District Responsibilities to Complete the SAR Report.

12.16.1. The home district Chief of Engineering is responsible for coordinating with the RMO, attending review meetings with the SAR review panel, communicating with the agency or contractor selecting the panel members, and coordinating the approval of the final report with the MSC Chief of Business Technical Division.

12.16.2. After receiving a report on a project from the peer review panel, the district Chief of Engineering, with full coordination with the district Chiefs of Construction and Operations, will consider all comments contained in the report and prepare a written response for all comments and note concurrence and subsequent action or non-concurrence with an explanation. The district Chief of Engineering will submit the panel's report and the district's responses to the RMO and MSC Chief of Business Technical Division for final review and concurrence. The final report is then presented to the MSC Commander for approval. After MSC Commander approval, the final report and responses will be made available to the public on the district's website within 60 days of the district receiving the report.

13. Special Cases.

13.1. Non-Federal Activities. Special cases exist where non-Federal interests undertake the study, design or construction of a USACE authorized project or a modification to an existing USACE project. Authorities for such actions include, but are not limited to, 33 USC 408, Sections 203 and 204 of WRDA 1986, Section 206 of WRDA 1992, and Section 211 of WRDA 1996. All non-Federal activities must meet current USACE design and construction standards.

13.1.1. The district will review these activities to define the review requirements as outlined in this Circular in order to obtain USACE approval for the non-Federal activity.

13.1.1.1. For alterations to existing USACE projects pursuant to 33 USC 408, see EC 1165-2-216 (or latest guidance) for review requirements.

13.1.1.2. For other non-Federal activities that do not have specific guidance for review requirements, the home district should evaluate the activity, the authority for which the activity is authorized, and any USACE decision requirements to determine the appropriate review requirements. The resulting RP will be developed by the home district and approved by the home MSC Commander. When a non-Federal interest undertakes a study, design, or implementation of a Federal project, or requests permission to alter a Federal project, the non-

Signed - Official Publication Pending

Federal interest is required to undertake, at its own expense, any IEPR that the Government determines would have been required if the Government were doing the work. The district Chief of Engineering must determine whether the safety threat is significant and document the determination in the RP. Note that the designer of record cannot select reviewers.

13.2. Continuing Authorities Program (CAP). CAP is a group of legislative authorities under which USACE can plan, design, and implement certain types of water resources projects without additional project-specific congressional authorization. The individual authorities known collectively as the CAP are: Section 14, Flood Control Act of 1946 (PL 79-526), as amended, for emergency streambank and shoreline erosion protection for public facilities and services; Section 103, River and Harbor Act of 1962 (PL 87-874), as amended, amends PL 727, an Act approved August 13, 1946 which authorized Federal participation in the cost of protecting the shores of publicly owned property from hurricane and storm damage; Section 107, River and Harbor Act of 1960 (PL 86-645), as amended, for navigation; Section 111, River and Harbor Act of 1968 (PL 90-483), as amended, for mitigation of shoreline erosion damage caused by Federal navigation projects; Section 204, Water Resources Development Act of 1992 (PL 102-580), as amended, for beneficial uses of dredged material; Section 205, Flood Control Act of 1948 (PL 80-858), as amended, for flood control; Section 206, Water Resources Development Act of 1996 (PL 104-303), as amended, for aquatic ecosystem restoration; Section 208, Flood Control Act of 1954 (PL 83-780), as amended, originally Section 2, Flood Control Act of August 28, 1937 (PL 75-406) for snagging and clearing for flood control; and Section 1135, Water Resources Development Act of 1986 (PL 99-662), as amended, project modifications for improvement of the environment.

13.2.1. RPs are required for all CAP projects. As an exception to Paragraph 7.2, Programmatic RPs for CAP may be developed and approved by the MSC Commander.

13.2.2. All CAP projects are excluded from Type I IEPR except those conducted under Section 205 and Section 103, or those projects that include an EIS or meet the mandatory triggers for Type I IEPR as stated in Chapter 11.

13.2.3. Exclusions from Type I IEPR for Section 205 and Section 103 projects will be approved on a case-by-case basis by the MSC Commander, based upon a risk-informed decision process as outlined in Chapter 11; this approval may not be delegated.

13.2.4. Type II IEPR is still required for those CAP projects where life safety risk is significant as documented in the approved RP.

13.2.5. The RMO for CAP projects is the home MSC in lieu of a PCX, except for CAP projects involving modification of dams or levee systems. The RMC will serve as the RMO for Section 103, Section 205 or Section 206 projects involving the modification of dams or levee systems. The PCXs or RMC will serve in their roles of providing advice and may serve as the RMO under

Signed - Official Publication Pending

appropriate agreements with the MSC. The ATR Team Lead is to be outside the home MSC unless the RP justifies an exception and is explicitly approved by the MSC Commander.

13.2.6. For CAP projects, ATR of the cost estimate can be conducted by the MCX or by pre-certified district cost personnel within the region as designated by the Walla Walla Cost MCX. The district planner will coordinate with the Cost MCX for a qualified cost reviewer and MCX execution of the cost certification.

13.3 Work for Other Entities. When USACE performs planning, design or construction work for others, such as work for local, state, other agencies, or foreign Governments, the peer review requirements in this EC should be followed. The need for IEPR should be determined on an individual basis in consultation with the requesting entity. The RP will be developed by the home district and the appropriate RMO and then approved by the home MSC Commander.

14. Policy and Legal Compliance Reviews. All decision documents will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews of decision documents 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. The technical review efforts addressed in this Circular, i.e., DQC and ATR, are to 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.

15. Risk-Informed Reviews. Risk-informed reviews are predicated on an assessment of risks and expected consequences to establish the appropriate level of review. A risk register is a tool that can be used during the life of a project for making decisions on risk-informed reviews.

15.1. Appropriate Reviews. All work products must undergo DQC. Beyond DQC, however, there is some level of judgment involved in determining whether ATR and/or IEPR levels of review are appropriate for any work product. Therefore, the RP for all work products must include documentation of risk-informed decisions on those levels of review. Additional details on the various levels of review are provided below.

15.2. ATR. All decision and implementation documents are required to undergo ATR, regardless of the originating organization (Planning, Engineering, Construction, or Operations). In deciding whether to undertake ATR for other work products, answering a series of questions will aid the PDT to help identify work products as decision or implementation documents, even if they are not identified as such. This process provides a basis for making a recommendation whether undertaking ATR is appropriate for products that are not either a decision or implementation document. A “yes” answer does not necessarily indicate ATR is required; rather, it indicates an area where reasoned thought and judgment should be applied and

Signed - Official Publication Pending

documented in the recommendation. The following questions, and any appropriate additional questions, will be explicitly considered:

15.2.1. Does it include any design (structural, mechanical, hydraulic, etc.)?

15.2.2. Does it evaluate alternatives?

15.2.3. Does it include a recommendation?

15.2.4. Does it have a formal cost estimate?

15.2.5. Does it have or will it require a NEPA document?

15.2.6. Does it impact a structure or feature of a structure whose performance involves potential life safety risks?

15.2.7. What are the consequences of non-performance?

15.2.8. Does it support a significant investment of public monies?

15.2.9. Does it support a budget request?

15.2.10. Does it change the operation of the project?

15.2.11. Does it involve excavation, subsurface investigations (drilling or sampling or both), or placement of soil?

15.2.12. Does it affect any special features, such as cultural resources, historic properties, survey markers, etc., that should be protected or avoided?

15.2.13. Does it involve activities that trigger regulatory permitting; for example: activities covered by Section 404 of the Clean Water Act or stormwater-related actions requiring a National Pollution Discharge Elimination System (NPDES) permit?

15.2.14. Does it involve activities that could potentially generate hazardous wastes and/or disposal of materials such as lead based paints or asbestos?

15.2.15. Does it reference use of or reliance on manufacturers' engineers and specifications for items such as prefabricated buildings, playground equipment, etc.?

15.2.16. Does it reference reliance on local authorities for inspection/certification of utility systems like wastewater, storm water, electrical, etc.?

Signed - Official Publication Pending

15.2.17. Is there or is there expected to be any controversy surrounding the Federal action associated with the work product?

15.3. IEPR. Any work product that undergoes ATR may also be required to undergo Type I and/or Type II IEPR. Meeting the specific conditions identified for possible exclusions is not, in and of itself, sufficient grounds for recommending exclusion. A deliberate, risk-informed recommendation whether to undertake IEPR will be made and documented by the PDT, in coordination with the RMO, as discussed below. The recommendation will be submitted to the MSC along with the endorsement of the RMO. The MSC Commander has approval authority to undertake IEPR. However, if the MSC concurs with a recommendation to exclude the project from Type I IEPR, the MSC will forward the recommendation with its endorsement to the appropriate RIT for coordination in HQ and appropriate action. Once the DCW's or the Chief's decision is rendered, the recommendation and decision will be documented in the RP.

15.4. Type I IEPR is mandatory under the circumstances described in Chapter 11. When a decision document does not trigger a mandatory Type I IEPR (as discussed in Paragraph 11.4.1), a risk-informed recommendation will be developed. This process will explicitly consider the consequences of non-performance on project economics, the environment, and social well-being (public safety and social justice), as well as indicate whether the product is likely to contain influential scientific information or be a highly influential scientific assessment; or involve any other issues that provide a rationale for determining the appropriate level of review. Furthermore, the recommendation must make a case that the study is so limited in scope or impact that it would not significantly benefit from a Type I IEPR.

15.5. Type II IEPR. A Type II IEPR is required to insure public health, safety, and welfare. The circumstances requiring a Type II IEPR are described in Chapter 12. Each of those circumstances must be explicitly considered in developing a risk-informed rationale for determining the appropriate level of review, including the need for a safety assurance review.

16. Administration.

16.1. Judicial Review. This Circular is intended to improve the internal management of the USACE Civil Works Program, and is not intended to, and does not create any right or benefit, substantive or procedural, enforceable at law or in equity, against the United States, its agencies or other entities, its officers or employees, or any other person.

16.2. This Circular also does not apply to information that is:

16.2.1. Related to certain national security, foreign affairs, or negotiations involving international trade or treaties where compliance with this Circular would interfere with the need for secrecy or promptness.

Signed - Official Publication Pending

16.2.2. Disseminated in the course of an individual agency adjudication or permit proceeding (including a registration, approval, licensing, site-specific determination), unless USACE determines that review is practical and appropriate and that the influential dissemination is scientifically or technically novel or likely to have precedent setting influence on future adjudications and/or permit proceedings.

16.2.3. A health or safety dissemination where USACE determines that the dissemination is time-sensitive.

16.2.4. A USACE regulatory impact analysis or regulatory flexibility analysis subject to interagency review under Executive Order 12866, except for underlying data and analytical models used.

16.2.5. Routine statistical information released by Federal statistical agencies (e.g., periodic demographic and economic statistics) and analyses of these data to compute standard indicators and trends (e.g., unemployment and poverty rates).

16.2.6. Accounting, budget, actuarial, and financial information, including that which is generated or used by agencies that focus on interest rates, banking, currency, securities, commodities, futures, or taxes.

16.2.7. Information disseminated in connection with routine rules that materially alter entitlements, grants, user fees, or loan programs, or the rights and obligations of recipients thereof.

16.2.8. Responses to letters of inquiry, responses to Freedom of Information Act (FOIA) requests, and internal disseminations.

17. Implementation.

17.1. Decision Documents. This guidance is effective immediately and must be applied to all studies and reports regardless of the date the FCSA was signed. The costs associated with DQC and ATR will be shared in accordance with the project purpose(s) and the phase of work. The costs associated with Type I IEPR, excluding the costs of contracts for panels, are cost shared in the same manner as other costs. The costs of contracts for Type I IEPR panels will be a Federal expense. For studies conducted by non-Federal interests Type I IEPR costs will initially be borne by the non-Federal sponsor and, if the project is implemented at some later date, these costs may be eligible for credit.

17.2. Implementation Documents. This guidance applies to any projects subject to Type II IEPR in PED or under construction as of 8 November 2007. All costs associated with Type II IEPR, will be shared in accordance with the project purpose(s) and the phase of work. In planning for a Type II review, estimates will need to include the cost for the RMO to administer and manage

Signed - Official Publication Pending

the Type II review and the cost of the independent panel. The cost of a Type II review through completion of construction should be reasonable, scalable and a function of the complexity and duration of the project.

17.3. Guidance for Additional Funding. Normal budgetary procedures will be used to seek funds where IEPR funds have not been appropriated. The costs for any anticipated IEPR will be requested by study (or project) as part of the normal budget development process.

FOR THE COMMANDER:

//Signed//

JAMES C. DALTON, P.E.
Director of Civil Works

4 Appendices
(See Table of Contents)

Signed - Official Publication Pending

Appendix A References

Treasury and General Government Appropriations Act of 2001, Section 515, P. L. 106-554 (often called The Information Quality Act)

Water Resources Development Act of 2007, Sections 2034 & 2035, P. L. 110-114.
Privacy Act, 5 U.S.C. § 522a as amended

Water Resources Reform and Development Act of 2014, Sections 1044 & 3028, P.L. 113-121.

Executive Order 12866, Regulatory Planning and Review

AR 15-1, Boards, Commissions, and Committees – Department of the Army Federal Advisory Committee Management Program

Army. Army Source Selection Supplement (AS3) to the Department of Defense Source Selection Procedures.
http://www.spd.usace.army.mil/Portals/13/docs/Small_Business/Army%20Source%20Selection%20Supplement%20(Dec%202012).pdf

ER 5-1-11, Management – U.S. Army Corps of Engineers Business Process

ER 415-1-11, Biddability, Constructability, Operability, Environmental and Sustainability Review (BCOES)

ER 1110-1-12, Quality Management

ER 1110-1-1807, Drilling in Earth Embankment Dams and Levees

ER 1110-1-8152, Professional Registration and Signature on Design Documents

ER 1110-1-8159, Engineering and Design, DRCHECKS

ER 1105-2-100, Planning Guidance Notebook

ER 1110-2-1150, Engineering and Design for Civil Works Projects

ER 1110-2-1156, Safety of Dams – Policy and Procedures

ER 1110-2-1302, Civil Works Cost Engineering

ER 1165-2-208, In-Kind Contribution Credit Provisions of Section 221 of the Flood Control Act of 1970, as Amended

Signed – Official Publication Pending

ER 1165-2-502, Delegation of Review and Approval Authority for Post-Authorization Decision Documents

EC 1165-2-216, Policy and Procedural Guidance for Processing Requests to Alter US Army Corps of Engineers Civil Works Projects Pursuant to 33 USC 408

USACE, 2006, Performance Evaluation of the New Orleans and Southeast Louisiana Hurricane Protection System, Final Report of the Interagency Performance Evaluation Taskforce, U.S. Army Corps of Engineers http://permanent.access.gpo.gov/lps71007/

USACE, 2008, Decision-Making Chronology for the Lake Pontchartrain and Vicinity Hurricane Protection Project, by Douglas Woolley and Leonard Shabman, for the Institute of Water Resources, U.S. Army Corps of Engineers http://library.water-resources.us/docs/hpdc/Final_HPDC_Apr3_2008.pdf

OMB, Final Information Quality Bulletin for Peer Review, December 16, 2004 (http://www.whitehouse.gov/sites/default/files/omb/memoranda/fy2005/m05-03.pdf)

NRC (National Research Council) and others, 2002, Review Procedures for Water Resources Project Planning. National Academy of Sciences. https://www.nap.edu/catalog/10468/review-procedures-for-water-resources-project-planning

NAS (National Academy of Sciences), Policy on Committee Composition and Balance and Conflicts of Interest for Committees Used in the Development of Reports, May 2003, http://nationalacademies.org/site_assets/groups/nasite/documents/webpage/na_069688.pdf

CNORHPP (Committee on New Orleans Regional Hurricane Protection Projects). 2009. The New Orleans Hurricane Protection System: Assessing Pre-Katrina Vulnerability and Improving Mitigation and Preparedness. National Academy of Sciences, National Academies Press. http://www.nap.edu/catalog.php?record_id=12647

Signed - Official Publication Pending

Appendix B Acronyms

A-E	architecture and engineering
ASA(CW)	Assistant Secretary of the Army for Civil Works
ATR	Agency Technical Review
BCOES	Biddability, Constructability, Operability, Environmental, and Sustainability
CAP	Continuing Authorities Program
CERCAP	Corps of Engineers Reviewer Certification and Access Program
CoP	Community of Practice
CSRM	Coastal Storm Risk Management
CX	center of expertise
DCG-CEO	Deputy Commanding General of Civil and Environmental Operations
DCW	Director of Civil Works
DDR	Design Documentation Report
DQC	District Quality Control
E&C	Engineering and Construction
EC	Engineering Circular
EDR	Engineering Documentation Report
EIS	Environmental Impact Statement
ER	Engineering Regulation
FCSA	Feasibility Cost Sharing Agreement
FOIA	Freedom of Information Act
FRM	Flood Risk Management
HQUSACE	Headquarters, U. S. Army Corps of Engineers
IEPR	Independent External Peer Review
IPR	In-Progress Review
LERRD	Lands, Easements, Rights of Way, Relocations, and Disposal Areas
MCX	Mandatory Center of Expertise
MSC	Major Subordinate Command
NAS	National Academy of Sciences
NED	National Economic Development
NEPA	National Environmental Protection Act
NER	National Ecosystem Restoration
NRC	National Research Council
OEO	Outside Eligible Organization
O&M	Operations and Maintenance
OMB	Office of Management and Budget
OMRRR	Operations, Maintenance, Repair, Replacement and Rehabilitation
PCoP	Planning Community of Practice
PCX	Planning Center of Expertise
PED	pre-construction engineering and design
PDT	Project Delivery Team
PgMP	Program Management Plan

Signed - Official Publication Pending

P.L.	Public Law
PM	project manager
PMP	Project Management Plan
QA	Quality Assurance
QC	Quality Control
QCP	quality control plan
RIT	Regional Integration Team (HQUSACE)
RMC	Risk Management Center
RMO	Review Management Organization
RP	Review Plan
SAR	Safety Assurance Review
SME	Subject Matter Expert
TL	Technical Lead
USACE	U. S. Army Corps of Engineers
WRDA	Water Resources Development Act
WRRDA	Water Resources Reform and Development Act

Signed - Official Publication Pending

Appendix C Roles and Responsibilities

DISTRICT:

- Prepare RP, as part of PMP, to include scope of review, necessary data and models, etc.
- Post/publish RP on website with RMO endorsement and MSC approval memo.
- Obtain ATR Team agreement on key data such as hydraulic and geotechnical parameters early in design process.
- Assign DQC Review Lead.
- Conduct and document DQC seamlessly.
- PDT is responsible for a complete reading of the report prior to District Commander approval.
- Complete all peer reviews prior to signature from District Commander.
- Seek issue resolution support from MSC.
- Update RP to include review strategy for PED and Construction phases.
- Draft proposed response to IEPR review report and coordinate with RMO.
- When USACE response to IEPR is issued, the district will disseminate final Review Report, USACE response, and other materials to post on website and include in Decision Document.
- Support RMO in providing necessary effort to manage and coordinate review effort, including preparing draft documents.
- Assist RMO to prepare the Charge questions for the ATR and IEPR.

MSC:

- Establish Quality Management Plan (to include discussion of how DQC will be conducted and documented in districts) and execute procedures.
- Approve all RPs (and updates), assuring RMO has provided an endorsement letter, and vertical team concurrence.
- Support the district for ATR issue resolution.
- Coordinate and provide input to Type I IEPR annual report.
- Approve final Agency Response to Type II IEPR review reports.
- Provide QA process to include the adequacy and capability of the DQC teams and supplementing the team members from outside the district when necessary.
- Execute QA role and responsibility.

RMO (applicability varies by product under review):

- Coordinate all RPs, including reaching agreement on scope and details of effort.
- Endorse RPs and Updates.
- Assign ATR Team and ensure that ATR Team Lead is outside home MSC.
- Obtain services of the Cost Engineering MCX for review and certification of cost estimates.
- Work with ATR Team Lead to manage the ATR: for Type I IEPR, contract with Outside Eligible Organization (OEO); for Type II IEPR, contract with an A/E contractor or arrange with another government agency to manage Type II IEPRs.

Signed - Official Publication Pending

- Assist district with preparing written responses to the IEPR review report for Type I IEPR; participate in Agency Decision Milestone.
- Participate in all planning milestone meetings and in IPR meetings relevant to product development and review work.
- Prepare Charge questions for reviewers.
- Coordinate model review and prepare recommendations for model certification or approval.
- Develop and maintain Standard Operating Procedures for the conduct of ATR and IEPR and model reviews.

HQUSACE:
- Complete policy reviews.
- Participate in issue resolution.
-
- For feasibility studies, release draft Chief's Report and decision documents for State and Agency Review as required by the 1944 Flood Control Act, as amended.
- Approve or deny requests for exclusions from Type I IEPR.
- Review requests to use NAS for Type I IEPR.
- Consider the district's proposed response to the Type I IEPR review report.
- Determine appropriate command level for issuing formal USACE response to Type I IEPR review report.
- Complete Congressional notification requirements.
- Web-postings with links to RPs on District's websites.

ALL:
- Conduct Quality Assurance.
- Uphold professional standards.
- Communicate well and often.
- Learn from prior reviews.
- Share lessons learned with the Community of Practice.

Signed - Official Publication Pending

Glossary

Agency Technical Review – ATR is a seamless independent review by a qualified person or team not involved in the day-to-day production of a project/product, confirming quality control; confirming the technical competency and risk-informed decision making for proper application of clearly established criteria, models, regulations, laws, codes, principles and professional practices; confirming that appropriate solutions and implementation risks are considered; and ensuring the quality and credibility of the government's scientific and budgetary information. ATR is verified through a certification process at the completion of the product.

Conflict of Interest – The National Academy of Sciences defines "conflict of interest" as any financial or other interest that conflicts with the service of an individual on the review panel because it could impair the individual's objectivity or could create an unfair competitive advantage for a person or organization.

Decision Document – As used in this Circular, a "decision document" is any Planning product that provides analysis and recommendations for an Agency decision to obtain project authorization to commit Federal funds for project implementation or project modification. A decision document is the basis for approval to send/receive funds as a result of entering into agreements with other agencies or organizations including those to obtain Congressional authorization.

District Quality Control – DQC is an integrated review approach that includes a Quality Management Plan providing for seamless review, Quality Checks (supervisory reviews, PDT reviews), a detailed peer review/checking of the documents, computations, and graphics, etc. DQC is the trigger to identify both the key risk-informed decisions and timing of reviews for high risk items/features that warrant additional evaluation by the ATR Team. DQC is verified through a certification process at the completion of the product.

Engineering Technical Lead – The Technical Lead (TL), formerly called Lead Engineer/Architect or Engineer-in-Charge, serves as the proponent for the project's technical quality on the PDT. While the TL serves as the proponent for technical quality on all Engineering and Construction (E&C) deliverables, each member of the PDT retains their responsibility for technical quality.

Implementation Document – As used in this Circular, an "implementation document" is defined as a document, generally prepared subsequent to the decision document, which supports project implementation or project modification in accordance with the decision document and its authorization. A Plans and Specifications package is one example of an implementation document.

Independence – In its narrowest sense, independence in a reviewer means that the reviewer was not involved in producing the draft or final document to be reviewed. Peer reviewers must not

Signed - Official Publication Pending

have participated in development of the work product. However, for IEPR, a broader view of independence is necessary to assure credibility of the process, and IEPR reviewers are generally not employed by the agency or office producing the document. The National Academy of Sciences has stated, "external experts often can be more open, frank, and challenging to the status quo than internal reviewers, who may feel constrained by organizational concerns."

Information Quality Act – Congress directed OMB to issue guidelines to "provide policy and procedural guidance to Federal agencies for ensuring and maximizing the quality, objectivity, utility and integrity of information" disseminated by Federal agencies. P. L. No. 106-554, § 515(a).

Lead Planner – The Lead Planner serves as the proponent for planning studies in project development on the PDT. This role includes facilitating and guiding formulation, ensuring utilization and application of risk-informed decision making and ensuring policy and statutory compliance.

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 – One of the important procedures used to ensure that the quality of published information meets the standards of the scientific and technical community. It is a form of deliberation involving an exchange of judgments about the appropriateness of methods and the strength of the author's inferences. Peer review involves the review of a draft product for quality by specialists in the field who were not involved in producing the draft.

Quality Assurance – That part of quality management focused on providing confidence that quality requirements of a project, product, service, or process will be fulfilled. QA includes those processes employed to ensure that QC activities are being accomplished in accordance with planned activities and that those QC activities are effective in producing a product that meets the desired end quality.

Quality Control – That part of quality management focused on fulfilling quality requirements of a project, product, service, or process. It includes those processes used to ensure performance meets agreed upon customer requirements that are consistent with law, regulations, policies, sound technical criteria, schedules, and budget.

Risk Register – The Risk Register (RR), an important risk management tool, is a log (spreadsheet) in which you record the relevant details of the risks that could result from actions

Signed - Official Publication Pending

taken or not taken during each stage of a project's life cycle. The PDT and all levels of the vertical team have input and joint ownership of the RR. The risk register should be used as a guide for decision-making in a timely manner, making and accepting decisions based on information available to the PDT at that time.

Scientific Information – Factual inputs, data, models, analyses, technical information, or scientific assessments based on the behavioral and social sciences, public health and medical sciences, life and earth sciences, engineering, or physical sciences. This includes any communication or representation of knowledge such as facts or data, in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual forms.

Uncertainty – Uncertainty is inherent in science, and many individual studies do not produce conclusive evidence. Thus, when an agency generates a scientific assessment, it is presenting its scientific judgment about the accumulated evidence rather than scientific fact. Specialists attempt to reach a consensus by weighing the accumulated evidence. Peer reviewers can make an important contribution by distinguishing scientific facts from professional judgments. Furthermore, where appropriate, reviewers should be asked to provide advice on the reasonableness of their judgments made from the scientific evidence.

Vertical Team – Includes members from district, MSC, RMO, and HQUSACE.

Signed - Official Publication Pending