DEPARTMENT OF THE ARMY
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
P.O. BOX 80
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

CEMVD-PD-L

7 APR '15

MEMORANDUM FOR Commander, New Orleans District

SUBJECT: Review Plan for the Inner Harbor Navigation Canal - Lock Replacement, Orleans Parish, Louisiana, General Reevaluation Report

1. References:

a. Memorandum, CEMVN-PD-P, 23 Mar 2015, subject as above (encl).

b. EC 1165-2-214, Civil Works Review, 15 Dec 2012.

2. I hereby approve subject Review Plan (RP) and concur in the conclusion that a Type II Independent External Peer Review (IEPR) to supplement the Type I IEPR is probable. The RP, in accordance with EC 1165-2-214, complies with all applicable policy and provides an adequate independent technical review of the plan formulation, engineering and environmental analyses, and other aspects of the plan development. As the RP is a living document, it should be monitored and amended, as appropriate. Non-substantive changes to this RP do not require further approval.

3. The District should post the RP to its web site and provide a link to the PCX-IN for their use.

4. The MVD point of contact is Mr. Mincer Minor, CEMVD-PD-L, at (601) 634-5841.

Encl

MICHAEL C. WEHR
Major General, USA
Commanding

CF:
PCX-IN (Cade)
CEMVN-PM-W (Smith)
CECW-MVD (Douglas)

DEPARTMENT OF THE ARMY
HUNTINGTON DISTRICT, CORPS OF ENGINEERS
502 EIGHT STREET HUNTINGTON, WEST
VIRGINIA 25701-2035

REPLY TO
ATTENTION OF

CELRH-PCXIN-RED

21 January 2015

MEMORANDUM FOR Commander, New Orleans District

SUBJECT: Review Plan (RP) for the Inner Harbor Navigation Canal (IHNC) – Lock Replacement, Orleans Parish, Louisiana, General Reevaluation Report (GRR).

1. The enclosed Review Plan (RP) has been presented to the Planning Center of Expertise for Inland Navigation Risk-Informed Economics Division (PCXIN-RED) for its review and endorsement in accordance with EC1165-2-214 "Civil Works Review" dated 15 December 2012.

2. The IHNC GRR will result in a reevaluation of the feasibility efforts completed in 1997 under the Mississippi River-Gulf Outlet New Lock and Connecting Channels Evaluation Report. The decision document will evaluate draft lock replacement alternatives and make a recommendation for a Tentatively Selected Plan. A Supplemental Environmental Impact Statement is anticipated.

3. PCXIN-RED staff has reviewed the plan for technical sufficiency and policy compliance. The cost of the project is expected to exceed the $45 million threshold and there is a potential for the project to be controversial, therefore, a Type I Independent External Peer Review will be undertaken with incorporation of Type II Safety Assurance Review considerations.

4. I concur with the findings of the PCXIN-RED technical staff and endorse the enclosed RP for the IHNC GRR. Following approval by Mississippi Valley Division, the District is requested to post the RP to its web site and provide the link to the PCXIN-RED for their use. Prior to posting, the names of the individuals in the RP should be removed.

5. If you have any questions or need additional information, please contact Karen Miller at 304.399.5859.

Encl

Beth Adkins Cade
Assistant Chief, PCXIN-RED

REVIEW PLAN

Inner Harbor Navigation Canal – Lock Replacement
Orleans Parish, Louisiana

General Reevaluation Report

Mississippi Valley Division – New Orleans District

MSC Approval Date: Inland Navigation PCX Approval Date: 21 January 2015
Last Revision Date: 18 March 2015

US Army Corps of Engineers ®

REVIEW PLAN

Inner Harbor Navigation Canal Lock Replacement – Orleans Parish, Louisiana
General Reevaluation Report

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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the Inner Harbor Navigation Canal (IHNC) Lock Replacement General Reevaluation Report (GRR). The lock is located on the eastbank of the Mississippi River within the New Orleans city limits. This Review Plan applies to the GRR effort that will reassess economic, planning, environmental, and engineering elements that were completed as part of feasibility study efforts completed in 1997 under the *Mississippi River – Gulf Outlet New Lock and Connecting Channels Evaluation Report*.

b. References

- Engineering Circular (EC) 1165-2-214, Civil Works Review, 15 December 2012 (expired)
- EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011 (expired)
- Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- IHNC GRR Project Management Plan, Sept 2014
- Mississippi Valley Division MSC Review of Planning Products (QMS 03501)
- ER 1110-2-1150, Engineering and Design of Civil Works Projects
- Division Regulation (DIVR) 1110-1-13, Cofferdams for Construction Affecting Levees
- Engineering and Construction Bulletin (ECB) 2014-9, Inland Navigation Design Center Mandatory Center of Expertise (INCD-MCX)

c. Requirements. This review plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review/Safety Assurance Review (IEPR/SAR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-214) and planning model certification/approval (per EC 1105-2-412).

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this Review Plan. The RMO for implementation documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is the National Planning Center of Expertise for Inland Navigation (PCXIN) with support on project levee features that require SAR from the RMC.

The RMO will coordinate with the Cost Engineering and Agency Technical Review Mandatory Center of Expertise (MCX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies. The GRR phase will involve creating designs for modifying the Hurricane and Storm Damage Risk Reduction System (HSDRRS) levees along the IHNC for eventual construction of the lock structure. Therefore, the RMC will need to perform a SAR even though the PCXIN is the RMO for the planning phase of this project.

3. STUDY INFORMATION

a. Decision Document. The decision document GRR will evaluate Shallow Draft Lock Replacement alternatives within the Inner Harbor in New Orleans, Louisiana. The inner harbor corridor is a combined deep and shallow draft canal extending northward from the Mississippi River to Lake Pontchartrain. The existing IHNC passes barge traffic between the Mississippi River and the Gulf Intracoastal Waterway (GIWW) at New Orleans, and is a vital link in the GIWW system. The existing lock is antiquated and well beyond its design life. The closure of the Mississippi River Gulf Outlet (MRGO) heightens the need for a modern and more reliable lock. A lock outage would clog the entire GIWW system with the only viable alternate route taking 17 days.

b. Project Description. The plan identified in the 1997 Evaluation Report included construction of a concrete lock; replacement of the St. Claude Avenue bridge with a new, low-level double bascule bridge; construction of a temporary bridge at St. Claude Avenue that would provide continuous use of that canal crossing during construction of the new bridge; replacement of the center lift-span and raising of the towers on the Claiborne Avenue bridge by using innovative construction methods that will reduce the closure at that bridge, for both marine and ground traffic, for very short durations (1-4 weeks); provision of by-pass channels around the new lock construction site and the existing lock during its demolition, both of which would provide continuous usage of the existing lock and canal during construction; extension of the Mississippi River flood protection along the canal to the site of the new lock; and implementation of a community impact mitigation plan to offset and/or compensate for impacts the project will have on the surrounding communities, even though we are not relocating any residences. The GRR will reevaluate this plan as well as other alternatives identified in the 1997 Evaluation Report. New alternatives and/or lock locations will also be considered under the GRR.

c. Factors Affecting the Scope and Level of Review: The proposed construction components of the project are typical of hydrologic, geotechnical, mechanical, electrical, civil, operational, and real estate components of a navigation lock. The construction methods are not expected to pose any significant challenges or risks.

The project location is in close proximity to commercial businesses, private residences, roads (St. Claude Avenue, Claiborne Avenue, Florida Avenue) and their associated bridges, and industrial areas. Reviewers will need to carefully evaluate the constructability of the design with regard to the existing bridges across the IHNC and with the goal of minimizing vessel traffic disruptions.

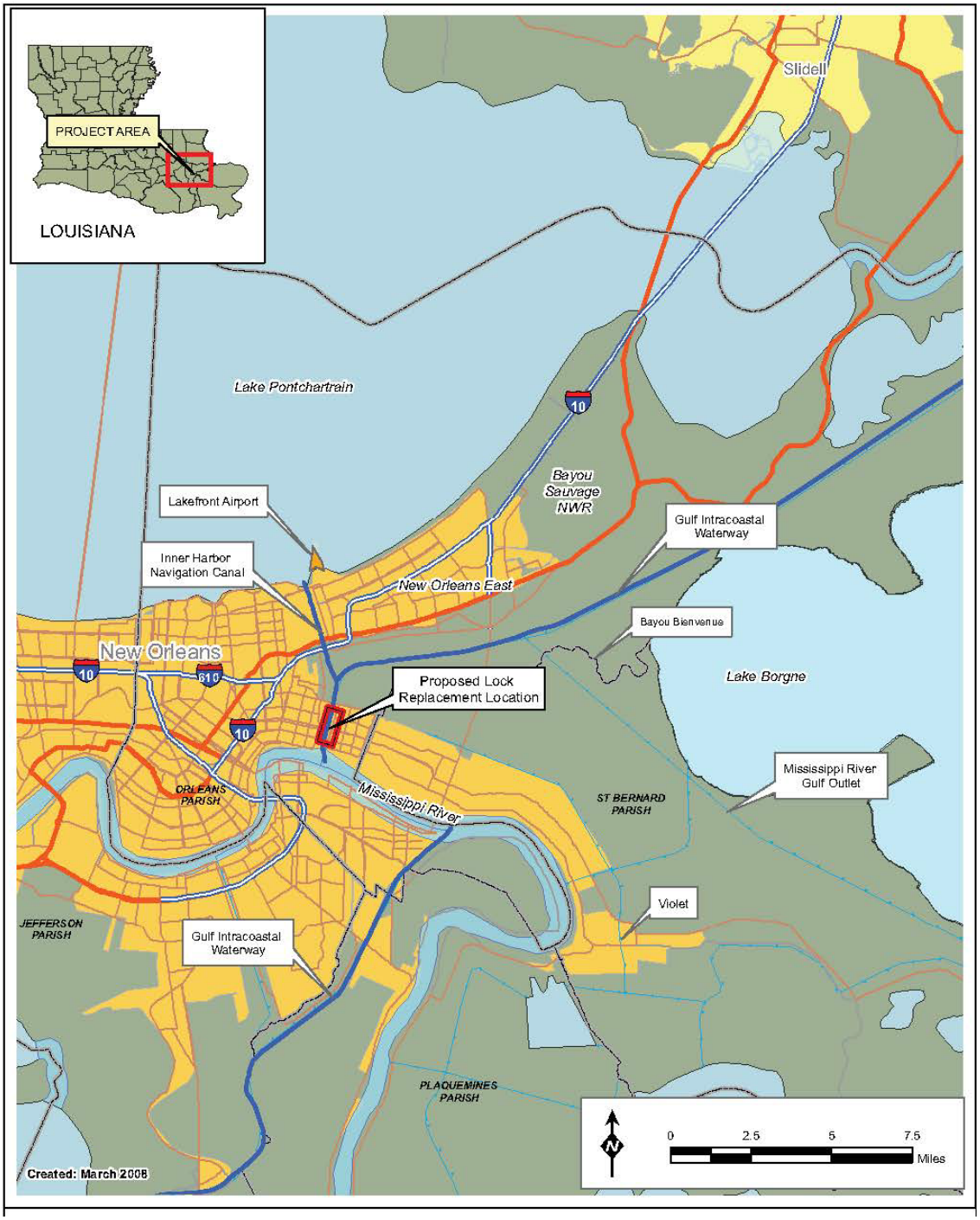
Other than access and coordination concerns and physical risks typical of construction sites, other project risks include the potential for schedule delays if a weather system (fronts, tropical systems, etc.) impacts the area. Reviewers will also need to carefully evaluate the constructability of the design with regard to keeping the existing lock open during the construction phase.

There is a long history of local opposition associated with this study which has been a major factor in prolonging the study process. The selection of the North of Claiborne IHNC Site for the new lock construction has been strongly opposed by residents in adjacent communities and local elected officials representing these communities. However, other locations for a new lock that had been evaluated previously, such as the Violet Site, also generated a tremendous amount of local controversy, and had significant conflicts with National wetlands policy. The recommended plan will be the culmination of the Corps of Engineers' extensive efforts to develop a plan that is acceptable

to all affected interests including local citizens, local governments, cost-sharing partners, environmental organizations, and the navigation industry.

The IHNC is bounded on all sides by the HSDRRS system. This levee, floodwall, and surge barrier system has been entirely redesigned and rebuilt after Hurricane Katrina flooded much of New Orleans. The IHNC Lock Replacement will need to tie-in to this existing system and ensure that the levels of risk reduction from flooding are absolutely maintained during the entire construction period. Replacing the lock will require significant coordination from the RMC since there is a high level of public safety at risk from construction of the replacement lock.

Finally, plans and sequencing for construction of the lock, project features, and HSDRRS elements will need to be developed once a new TSP is identified and as part of the feasibility-level design phase of the study. Construction features outlined in the 1997 report discussed such concepts as cofferdams, bypass channel construction, bridge replacements, flood walls, flood gates, etc. While construction of any of these features is not necessarily difficult from an engineering perspective, the entire project must be designed, planned, and constructed in such a way as to maximize public safety and ensure that the public health is not jeopardized. Many of the concepts and improvements realized as part of the HSDRRS design and implementation will be made part of the IHNC construction process.



Graphic of the IHNC Vicinity

d. In-Kind Contributions. As a GRR of a lock replacement on an inland waterway, the study is funded with 100 percent Federal funds [Section 102, WRDA 1986 (P.L. 99-662)], and there is no non-Federal sponsor requirement.

4. DISTRICT QUALITY CONTROL (DQC)

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

a. Documentation of DQC. In accordance with District QMP's, internal reviews or design checks will constitute quality control for each deliverable product. It is the responsibility of each product development team member, their supervisors, and the project manager to ensure that every product receives an internal quality control review. It is the responsibility of the supervisor or section chief for each team member to ensure that a qualified DQC reviewer that has not been involved with the preparation of the technical product under review is selected and conducts a review of their product prior to delivery to the project manager, or prior to completion. In accordance with District QMP procedures, the management of the review process will be coordinated by a designated Quality Control Review Leader (QCRL). The QCRL will compile all technical, grammatical, and editorial comments and will ensure DQC standards are met prior to submission of the GRR and associated appendices to the Vertical Team. Dr. Checks will be used to document all DQC comments, responses, and associated resolution accomplished throughout the review process. Once the DQC process is complete (prior to ATR during concurrent review), a Certificate of Quality Control Review will be provided to the ATR team lead.

b. Products to Undergo DQC. District Quality Reviews will evaluate the sufficiency of designs presented and the quality of the plan formulation used to select alternatives and identify the Tentatively Selected Plan (TSP). Technical products that will be reviewed include:

(1) Engineering (surveys; climatology report; hydrologic records report; HEC-RAS model input and output for base conditions, future without and alternative plans; input to HEC-FDA model; lock filling and emptying times using the Sector-Gated Lock Filling and Emptying Program; alternative lock plans; drainage capacity of existing lock and new drainage structure; riprap design; design stages and design differential heads; WQ report and 404(b)(1) report input; H&H input to the draft and final GRR; quantity take-off for channels; preliminary geotech design; soil foundation analysis; geology section; boring and testing results; general mechanical and electrical designs of alternative plans; general mechanical and electric designs of the tentatively selected plan; mechanical and electrical input to the draft and final GRR; structures design of alternative plans; structures design of tentatively selected plan; relocations report and relocations cost estimate of the alternatives and the tentatively selected plan; construction cost estimates of the alternative plans, tentatively selected plan, and recommended plan; risk analysis of the tentatively selected plan and the recommended plan; contaminated sediment confined disposal facilities for the recommended plan; and value engineering study).

(2) Economics (commercial traffic data; lock capacity calculations; transportation rate study; traffic forecast; elasticity of demand for water transportation; externality study; reliability analysis; GULFNIM model run for baseline condition; GULFNIM model run for with project alternatives; benefits sensitivity analysis; flood damage products).

(3) Environmental (scoping report; environmental setting and significant resources; description of alternatives; most probable future condition; WVA models; alternative plans impacts; mitigation plan; 404(b)(1) evaluation and public notice; Water Quality Certification applications; coastal zone consistency determination documents; air quality determination documents; preliminary draft Supplemental Environmental Impact Statement (SEIS); preliminary draft GRR; draft SEIS, draft GRR document; public review transmittal letters; initial cultural resources evaluations; cultural resources scope of work; cultural resources input to the GRR; recreational input to the GRR; evaluation of aesthetics report; HTRW initial assessment and investigations documents; final SEIS; final GRR document; and draft Record of Decision).

(4) Real estate (real estate appraisal; gross appraisal report; Real Estate Plan for the draft GRR, and final GRR).

(5) Attorney's Preliminary Opinion of Compensability.

Where practicable, the technical products that support subsequent analyses should be reviewed prior to being used in the study. Additionally, the PDT will be responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before the approval by the District Commander.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC. The INPCX will coordinate the ATR with the INDC-MCX as necessary (the INDC-MCX will provide technical advice and oversight).

a. Products to Undergo ATR. Specific products to undergo ATR include the following:

(1) Geotechnical Design Report;

(2) H&H HEC-RAS and lock filling and emptying system modeling;

(3) Construction Cost Estimates;

(4) Operation & Maintenance Cost Estimates;

(5) Economic Analysis;

(6) Draft GRR/SEIS with supporting appendices;

(7) Final GRR/SEIS with supporting appendices.

b. Required ATR Team Expertise. The expertise represented on the ATR team reflects the significant disciplines involved in the work effort and mirrors the expertise on the PDT. The PCXIN, in cooperation with the PDT and Vertical Team will determine the final make-up of the ATR team. The RMC will also be involved in the ATR. Based on the disciplines indicated below, the study will require a minimum of 11 reviewers.

ATR Team Members/Disciplines	Expertise Required
ATR Lead/Plan Formulation	The ATR Lead/Planning reviewer should have 10 – 15 years experience as a plan formulator who has worked with project teams to identify and evaluate navigation (lock replacement) measures and alternatives using appropriate planning methodologies to address navigation studies in accordance with ER 1105-2-100, the Planning Guidance Notebook. Must have extensive plan formulation experience reviewing the analysis with which the measures and alternatives were evaluated and determining that they are sufficiently comprehensive and complete to result in approval of a recommended alternative. Review the documentation of the selection of a recommended plan and ensure the team used an approved plan selection methodology.
Hydrology/Hydraulic Engineering	The H&H Engineering reviewer should be a PE with 10 years H&H experience or equivalent education. Should have extensive H&H experience on a design on construction team that worked on navigation (lock replacement) and flood risk management projects. Must be experience in computer modeling techniques such as HEC-HMS, HEC-RAS, lock filling and emptying system, etc.
Economics	The Economics reviewer should have 5-10 years USACE economics experience or equivalent education. Should have extensive experience in analyzing navigation and flood risk management projects in accordance with ER 1105-2-100, the Planning Guidance Notebook. Should have economics experience working with the USACE risk informed approach to decision making, risk models and disaster scenarios with regard to economic impact. Should also have at least two years direct experience in the areas of forecasting, externalities, capacity, navigation performance, system reliability, transportation rates, and the HEC-FDA modeling software.
Environmental Resources	The Environmental Resources reviewer should have 5-10 years environmental resources experience or equivalent education. Should have extensive experience working with the assessment of construction impacts in marsh and rural areas and related ecosystem species and habitat. Should have environmental resources experience working on design or construction teams that worked on navigation projects including lock replacements in or around a coastal inland waterway system. Should have detailed

	knowledge of the National Environmental Protection Act, Endangered Species Act with regional knowledge of south Louisiana specific regulatory requirements, and Federal services regulations.
Geotechnical Engineering	The Geotechnical Engineering reviewer should have a PE and at least 10 years geotechnical engineering experience and graduate study in engineering or a related field. Should have several years of direct geotechnical experience on design or construction teams that worked on navigation (lock replacement) projects in a coastal inland waterway system.
Civil Engineering	The Civil Engineering reviewer should have a PE and at least 10 years civil engineering experience or equivalent education. Should have extensive civil engineering experience on design or construction teams related to navigation (lock replacement) projects elements such channels.
Structural Engineering	The Structural Engineering reviewer should have at least 10 years structural engineering experience or equivalent education. Should have extensive structural engineering experience on design or construction teams that worked on navigation (lock replacement) projects elements such as lock gates and gate bays, lock chambers, lock guidewalls, and levees. Should have design experience evaluating reinforced concrete structures and steel gates.
Cost Engineering	The Cost Engineering reviewer should have 5-10 years experience working with estimating complex and phased costing of multi-year civil construction projects. Should have direct experience working with navigation (lock replacement) projects in a design or construction management capacity.
Construction/Operations	The reviewer should have 10 years construction experience or equivalent education assessing navigation (lock replacement) projects. Should have extensive construction management experience on design or construction teams that worked on navigation (lock replacement) projects in the coastal inland waterway system.
Real Estate	Team member must be experienced in civil work real estate laws, policies and guidance and experience working with real estate issues and property rights, especially on controversial projects.

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

- The review concern – identify the product's information deficiency or incorrect application of policy, guidance, or procedures;
- The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not be properly followed;

- 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
- The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist.

The ATR documentation in DrChecks will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the district, RMO, MSC, and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

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

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issue (if any); and,
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed, based on work reviewed to date. A sample Statement of Technical Review is included in Attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-214, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- Type I IEPR. Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-214.

- Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare. **For the GRR study, Type II IEPR/SAR will be handled as a component of the Type I IEPR which will commence during the concurrent review stage [after the TSP Milestone].**

a. Decision on IEPR. In accordance with EC 1165-2-214, Paragraph 11, a Type I IEPR will be mandatory for the IHNC Lock Replacement GRR as the cost of the project will exceed the $45 million threshold. Additionally, the potential alignment of the new lock could be controversial as alternatives encroach on commercial and residential areas within New Orleans city limits. An SEIS will be prepared as part of the GRR.

b. Products to Undergo Type I IEPR. Products to undergo the Type I IEPR include:
- Draft GRR and SEIS with supporting documentation.

c. Required Type I IEPR Panel Expertise. Additional team members for expertise in other disciplines may be added by the RMO as the review progresses.

IEPR Panel Members/Disciplines	Expertise Required
Planning	The Planning panel member should be from academia, a public agency, a non-governmental entity, or an Architect-Engineer or Consulting Firm with at least a Bachelors degree and have 15 years demonstrated experience as a senior water resources planner who has worked with project teams to identify and evaluate measures and alternatives using appropriate planning methodologies to address navigation (lock replacement) projects in a coastal inland waterway system. Must have extensive experience reviewing the analysis with which the measures and alternatives were evaluated and determining that they are sufficiently comprehensive and complete to result in approval of a recommended alternative. Review the documentation of the

IEPR Panel Members/Disciplines	Expertise Required
	selection of a recommended plan and ensure the team used an approved plan selection methodology. Five years experience directly dealing with USACE planning process as outlined in ER 1105-2-100, Planning Guidance Notebook, is highly recommended.
Economics	The Economics panel member should 15 years demonstrated experience or combined equivalent of education and experience. Should have MS degree or higher in economics and be a recognized expert in applied economics related to transportation economics including experience with financing transportation infrastructure and national and international logistics and transportation requirements. Should have experience working with risk informed approaches to decision making, risk models and disaster scenarios with regard to economic impact.
Environmental	The Environmental panel member should be a scientist from academia, a public agency, a non-government entity, or an Architect-Engineer or Consulting Firm with a minimum 15 demonstrated experience working with the NEPA impact assessment of public works projects. The panel member should have a minimum MS degree or higher in an appropriate field of study. Experience should encompass determining the scope and appropriate methodologies for environmental impact analyses for projects and programs with high public and interagency interests and having project impacts to nearby sensitive habitats along the GIWW or similar systems. Should have detailed knowledge of the National Environmental Protection Act, Endangered Species Act with regional knowledge of south Louisiana specific regulatory requirements, and Federal services regulations. Active participation in related professional societies is encouraged.
Hydrology and Hydraulic (H&H) Engineering	The H&H Engineering panel member should have a PE with 15 years demonstrated experience or combined equivalent of education and experience assessing navigation (lock replacement) projects in an inland waterway system. Member should be a Registered Professional Engineer from academia, a public agency, or an Architect-Engineer or Consulting Firm with at least a Bachelors degree. Should have direct H&H design or construction management experience centered around lock and dam design and construction along the coastal inland waterway system. Should also have 5-10 years experience working with numerical modeling applications for flood risk reduction projects. Should be familiar with USACE applications of risk and uncertainty analysis in navigation transportation projects. Active participation in related professional societies is encouraged.
Geotechnical Engineering	The Geotechnical Engineering panel member should have a PE with a minimum 20 years demonstrated experience and graduate study in soils engineering or related field. Member should be a

IEPR Panel Members/Disciplines	Expertise Required
	Registered Professional Engineer from academia, a public agency, or an Architect-Engineer or Consulting Firm with at least a MS degree. Must have lock and dam design and construction experience. Should have several years of direct experience with regard to locks and dams as either a designer or construction project engineer. Must be skillful with the USACE risk informed approach to navigation transportation and flood risk reduction projects. Active participation in related professional societies is encouraged.
Structural Engineering	The Structural Engineering panel member should have a PE with a minimum 15 years demonstrated civil engineering experience or combined equivalent of education and experience assessing navigation (lock replacement) projects. Member should be a Registered Professional Engineer from academia, a public agency, or an Architect-Engineer or Consulting Firm with at least a Bachelors degree. Should have direct civil engineering design or construction management experience with regard to lock gates and gate bays, lock chambers, lock guidewalls, levees, reinforced concrete structures, and steel gates. Active participation in related professional societies is encouraged.

d. Documentation of Type I IEPR. The IEPR panel will be selected and managed by an Outside Eligible Organization (OEO) per EC 1165-2-214, Appendix D. Panel comments will be compiled by the OEO and should address the adequacy and acceptability of the economic, engineering and environmental methods, models, and analyses used. IEPR comments should generally include the same four key parts as described for ATR comments in Section 4.d above. The OEO will prepare a final Review Report that will accompany the publication of the final decision document and shall:

- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions; and,
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

e. The final Review Report will be submitted by the OEO no later than 60 days following the close of the public comment period for the draft decision document. USACE shall consider all recommendations contained in the Review Report and prepare a written response for all recommendations adopted or not adopted. The final decision document will summarize the Review Report and USACE response. The Review Report and USACE response will be made available to the public, including through electronic means on the internet.

f. Decision on Type II IEPR/SAR. EC 1165-2-214, Paragraph 12 and Appendix E also outline the requirements for a Type II IEPR to include a SAR. A Type II IEPR/SAR will need to be performed during the GRR concurrent review phase (after the TSP Milestone) and will be required during the

design [(Preconstruction Engineering and Design (PED)] and construction phases. PCXIN will coordinate this effort with the RMC at the appropriate time in the GRR and PED process. SAR will be a component of the Type I IEPR.

g. Products to Undergo Type II IEPR/SAR. The SAR activities will be undertaken during development of the draft GRR and will focus on the findings in the decision document.

h. Documentation of Type II IEPR/SAR. The SAR activities will be coordinated with the Louisiana Water Resources Council (LWRC) in accordance with Section 7009 of the Water Resources Development Act of 2007. Areas of expertise required to properly review implementation document deliverables and construction products will mimic those outlined for the ATR teams. However, the LWRC is an independent council whose policies and procedures are not fully developed. As the RMO, PCXIN will lead the effort to coordinate with the RMC and the LWRC to ensure the SAR is satisfactorily completed. Currently, the LWRC is comprised of five members with backgrounds in civil works planning, economics, hydrology/hydraulics, civil engineering/construction, and environmental/ecology.

Documentation of findings will focus on any potential changes from the assumptions that formed the basis for conceptual design during the feasibility study. The RMC/LWRC will provide a report on the project relevant in scale to the corresponding phase of design or construction. The report will be provided to the MVN Chief of Engineering who shall consider all comments contained in the report and prepare a written response for all comments. The Chief will also note all concurrence and subsequent action or non-concurrence with an explanation. The Chief shall submit the Council's report and responses to the MSC commander for approval. The final reports and all responses will be made available on the District website.

7. POLICY AND LEGAL COMPLIANCE REVIEW

All decision documents will be reviewed throughout the GRR process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.

8. COST ENGINEERING AGENCY TECHNICAL REVIEW AND MANDATORY CENTER OF EXPERTISE (MCX) REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost Engineering ATR and MCX, located in the Walla Walla District. The MCX will assist in determining the expertise needed on the ATR team and in the development of the review charge(s). The MCX will also provide the Cost Engineering MCX certification. The RMO is responsible for coordination with the Cost Engineering MCX.

9. MODEL CERTIFICATION AND APPROVAL

EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making. The use of a certified/approved planning model does not constitute technical review of the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

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

a. Planning Models. No planning models will be used for the implementation documents.

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
Gulf Navigation Investment Model	Gulf Navigation Investment Model (GULFNIM) – Developed by the Center for Transportation Analysis (CTA) in cooperation with the Great Lakes and Ohio River Division of the Corps of Engineers (LRD), GULFNIM is a three component model; the Waterway Supply and Demand Module (WSDM), the Lock Risk Module (LRM), and the Optimization Module. The three components of the GULFNIM model determine shipper equilibrium, use a Monte Carlo simulation to determine closure probabilities, and optimize investments, respectively.	Certified
Wetland Value Assessment (WVA)	The WVA methodology is a quantitative habitat-based assessment tool developed for use in determining wetland benefits of proposed projects submitted for funding under the Coastal Wetlands Planning, Protection, and Restoration Act; however, the methodology is widely used to evaluate the impacts of coastal projects on wetland values. The results of the WVA, measured in average annual habitat units, provide an estimate of the positive or negative environmental effects of a potential project. Typically, for a CEMVN civil works project, the WVA analysis is applied to the habitats that will be impacted by the project, and if net negative impacts are determined, the WVA is applied to potential mitigation plans to develop appropriate compensatory mitigation.	Certified
Waterways Analysis Model (WAM)	The WAM is a system simulation model developed to determine the impact of tow movements on the inland waterway system.	Certified

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

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
HEC-RAS 4.0 (River Analysis System)	The Hydrologic Engineering Center's River Analysis System (HEC-RAS) program provides the capability to perform one-dimensional steady and unsteady flow river hydraulics calculations. The program will be used for steady flow analysis to evaluate the future without- and with-project conditions along the GIWW in the vicinity of the IHNC lock.	HH&C CoP preferred model

10. REVIEW SCHEDULES AND COSTS

a. Review Schedule and Cost. A full accounting of review costs is based on SMART Planning principles but is also dependent upon the frequency of reviews and the amount of time required per review. Coordination with the RMO is necessary to accurately capture how often and for how long the ATR team will be engaged with the decision document process. Initial estimates to carry out Review Plan tasks during the GRR effort include:

- MVN DQC: $70,000
- ATR: $70,000
- IEPR: $150,000

Event/Milestone	Scheduled Date
Office of Water Policy Review Compliance Memo	October 2014
Initiate GRR	January 2015
Alternatives Milestone	March 2015
TSP Milestone	March 2016
Concurrent Review Period (ATR, IEPR, Policy Reviews)	June-July 2016
Agency Decision Milestone	October 2016
Civil Works Review Board	October 2017
State & Agency Review	October-November 2017
Chief's Report	December 2017
Report to Congress	May 2018

A draft schedule has been developed and is contained in the PMP. All technical, policy, and external peer reviews will take place during the concurrent review period which occurs between the TSP milestone and the Agency Decision Milestone.

b. Model Certification/Approval Schedule and Cost. The HEC-RAS model is widely accepted by the engineering community and does not need any special allowances or certification for its use.

11. PUBLIC PARTICIPATION

The public will have several opportunities to comment on the GRR documents through a public involvement plan implemented through a notice of study initiation, public meetings, and public workshops. This will allow the USACE the opportunity to exchange information with the public and ensure that individuals with an interest in the study are identified and contacted allowing them to voice their views and concerns relative to the study process.

Public meetings and workshops will be conducted to gather and provide feedback from the public, formulate a consensus, and generally keep interested parties informed. A public meeting will be scheduled subsequent to the public release of the draft GRR and SEIS to present the study conclusions. Throughout the study other public meetings and workshops will be held as necessary.

12. REVIEW PLAN APPROVAL AND UPDATES

The Mississippi Valley Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the PMP, the Review Plan is a living document and may change as the study progresses. The home district is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last MSC Commander approval are documented in Attachment 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, should be posted on the Home District's webpage. The latest Review Plan should also be provided to the RMO and home MSC.

13. REVIEW PLAN POINTS OF CONTACT

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

- Louise Williams – MVN Planner; (504) 862-2913 or louise.c.williams@usace.army.mil
- Jasmine Smith – MVN Project Manager; (504) 862-2917 or jasmine.m.smith@usace.army.mil
- Beth Cade – PCXIN (304) 399-5850

ATTACHMENT 1: TEAM ROSTERS

District PDT				
Title	**First Name**	**Last Name**	**Phone**	**Email**
Senior Project Manager	Bobby	Duplantier	504 862-1037	bobby.duplantier@usace.army.mil
Project Manager	Jasmine	Smith	504 862-2917	jasmine.m.smith@usace.army.mil
Senior Project Planner	Andrew	MacInnes	504 862-1062	andrew.d.macinnes@usace.army.mil
Project Planner	Louise	Williams	504 862-2913	louise.c.williams@usace.army.mil
Project Engineer FTL	Randy	Perrin	504 862-2436	randy.m.perrin@usace.army.mil
Hydraulic Engineer	Danielle	Washington	504 862-2974	Danielle.m.washington@usace.army.mil
Structural Engineer	Leslie	Campbell	504 862-1334	leslie.e.campbell@usace.army.mil
Geotechnical Engineer	Chad	Rachel	504 862-2120	chad.m.rachel@usace.army.mil
Cost Engineering	Miguel	Ramos	504 862-2617	miguel.a.ramos@usace.army.mil
Environmental Manager FTL	Richard	Boe	504 862-1505	richard.e.boe@usace.army.mil
Cultural Resources				
Aesthetics				
HTRW				
Recreation				
Economics	Mark	Haab	504 862-2497	mark.e.haab@usace.army.mil
Real Estate FTL	Hope	Jackson	504 862-2891	hope.a.jackson@usace.army.mil
Contracting				
Operations-FTL	Vic	Landry	504 862-2407	victor.a.landry@usace.army.mil
Safety				
Construction				
US Geological Survey				
US Fish and Wildlife Service				
DQC Team (to be determined)				

ATR Team (to be determined)				
RMO Contacts (to be determined)				
RMO Lead	Karen	Miller	304 399-5859	karen.v.miller@usace.army.mil

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECSION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the *<type of product>* for *<project name and location>*. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-214. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecks[sm].

SIGNATURE _____ _____

Name Date
ATR Team Leader
Office Symbol/Company

SIGNATURE _____ _____

Name Date
Project Manager
Office Symbol

SIGNATURE _____ _____

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

SIGNATURE _____ _____

Name Date
Review Management Office Representative
Office Symbol

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: *Describe the major technical concerns and their resolution.*

As noted above, all concerns resulting from the ATR of the project have been fully resolved.

SIGNATURE _____ _____

Name Date
Chief, Engineering Division
Office Symbol

SIGNATURE _____ _____

Name Date
Chief, Planning Division
Office Symbol

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

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

Term	Definition	Term	Definition
ASA(CW)	Assistant Secretary of the Army for Civil Works	O&M	Operation and maintenance
ATR	Agency Technical Review	OMB	Office and Management and Budget
DPR	Detailed Project Report	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DQC	District Quality Control/Quality Assurance	OEO	Outside Eligible Organization
DX	Directory of Expertise	OSE	Other Social Effects
EA	Environmental Assessment	PCX	Planning Center of Expertise
EC	Engineer Circular	PDT	Project Delivery Team
EIS	Environmental Impact Statement	PMP	Project Management Plan
EO	Executive Order	PL	Public Law
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
GRR	General Reevaluation Report	QA	Quality Assurance
Home District/MSC	The District or MSC responsible for the preparation of the decision document	QC	Quality Control
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RED	Regional Economic Development
IEPR	Independent External Peer Review	RMC	Risk Management Center
INDC	Inland Navigation Design Center	RMO	Review Management Organization
ITR	Independent Technical Review	SAR	Safety Assurance Review
LRR	Limited Reevaluation Report	SEIS	Supplemental Environmental Impact Statement
MSC	Major Subordinate Command	USACE	U.S. Army Corps of Engineers
MVD	Mississippi Valley Division	WRDA	Water Resources Development Act
NED	National Economic Development		
NEPA	National Environmental Policy Act		

Review Plan Checklist
For Decision Documents

Date: 13 February 2015
Originating District: MVN
Project/Study Title: IHNC Lock Replacement
PWI #:
District POC: Louise Williams (504) 862-2913
PCX Reviewer: Karen Miller

Please fill out this checklist and submit with the draft Review Plan when coordinating with the appropriate PCX. Any evaluation boxes checked 'No' indicate the RP may not comply with ER 1105-2-410 (22 Aug 2008) and should be explained. Additional coordination and issue resolution may be required prior to MSC approval of the Review Plan.

REQUIREMENT	REFERENCE	EVALUATION
1. Is the Review Plan (RP) a stand alone document?	EC 1105-2-410, Para 8a	Yes ☒ No ☐
a. Does it include a cover page identifying it as a RP and listing the project/study title, originating district or office, and date of the plan? b. Does it include a table of contents? c. Is the purpose of the RP clearly stated and EC 1105-2-410 referenced? d. Does it reference the Project Management Plan (PMP) of which the RP is a component? e. Does it succinctly describe the three levels of peer review: District Quality Control (DQC), Agency Technical Review (ATR), and Independent External Peer Review (IEPR)? f. Does it include a paragraph stating the title, subject, and purpose of the decision document to be reviewed? g. Does it list the names and disciplines of the Project Delivery Team (PDT)?* **Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.*	EC 1105-2-410, Appendix B, Para 4a	a. Yes ☒ No ☐ b. Yes ☒ No ☐ c. Yes ☐ No ☒ d. Yes ☒ No ☐ e. Yes ☒ No ☐ f. Yes ☒ No ☐ g. Yes ☒ No ☐ **Comments:**

2. Is the RP detailed enough to assess the necessary level and focus of peer review?	EC 1105-2-410, Appendix B, Para 3a	Yes ☒ No ☐
a. Does it indicate which parts of the study will likely be challenging?	EC 1105-2-410, Appendix B, Para 3a	a. Yes ☒ No ☐ b. Yes ☒ No ☐
b. Does it provide a preliminary assessment of where the project risks are likely to occur and what the magnitude of those risks might be?	EC 1105-2-410, Appendix B, Para 3a	c. Yes ☒ No ☐ d. Yes ☒ No ☐ e. Yes ☒ No ☐
c. Does it indicate if the project/study will require preparation of an environmental impact statement (EIS)? *Will an EIS be prepared? Yes ☒ No ☐* *If yes, IEPR is required.*	EC 1105-2-410 Para 7c & 8f	**Comments:** EIS will be supplemental.
d. Does it address if the project report is likely to contain influential scientific information or be a highly influential scientific assessment? *Is it likely? Yes ☐ No ☒* *If yes, IEPR is required.*	EC 1105-2-410, Appendix B, Para 4b	
e. Does it address if the project is likely to have significant economic, environmental, and social affects to the nation, such as (but not limited to):	EC 1105-2-410, Para 6c	
• more than negligible adverse impacts on scarce or unique cultural, historic, or tribal resources?	EC 1105-2-410 Para 8f	
• substantial adverse impacts on fish and wildlife species or their habitat, prior to implementation of mitigation?	EC 1105-2-410 Para 8f	
• more than negligible adverse impact on species listed as endangered or threatened, or to the designated critical habitat of such species, under the Endangered Species Act, prior to implementation of mitigation? *Is it likely? Yes ☒ No ☐* *If yes, IEPR is required.*	EC 1105-2-410 Para 8f	

f. Does it address if the project/study is likely to have significant interagency interest? *Is it likely? Yes ☒ No ☐* *If yes, IEPR is required.* g. Does it address if the project/study likely involves significant threat to human life (safety assurance)? *Is it likely? Yes ☒ No ☐* *If yes, IEPR is required.* h. Does it provide an estimated total project cost? *What is the estimated cost: $1B* *(best current estimate; may be a range)* *Is it > $45 million? Yes ☒ No ☐* *If yes, IEPR is required.* i. Does it address if the project/study will likely be highly controversial, such as if there will be a significant public dispute as to the size, nature, or effects of the project or to the economic or environmental costs or benefits of the project? *Is it likely? Yes ☒ No ☐* *If yes, IEPR is required.* j. Does it address if the information in the decision document will likely be based on novel methods, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices? *Is it likely? Yes ☐ No ☒* *If yes, IEPR is required.*	EC 1105-2-410, Para 6c EC 1105-2-410, Appendix D, Para 1b EC 1105-2-410, Appendix D, Para 1b EC 1105-2-410, Appendix D, Para 1b EC 1105-2-410, Appendix D, Para 1b	f. Yes ☒ No ☐ g. Yes ☒ No ☐ h. Yes ☒ No ☐ i. Yes ☒ No ☐ j. Yes ☒ No ☐ **Comments:**
3. Does the RP define the appropriate level of peer review for the project/study?	EC 1105-2-410, Para 8a	Yes ☒ No ☐
a. Does it state that DQC will be managed by the home district in accordance with the Major Subordinate Command (MSC) and district Quality Management Plans?	EC 1105-2-410, Para 7a	a. Yes ☒ No ☐

b. Does it state that ATR will be conducted or managed by the lead PCX? c. Does it state whether IEPR will be performed? *Will IEPR be performed? Yes ☒ No ☐* d. Does it provide a defensible rationale for the decision on IEPR? e. Does it state that IEPR will be managed by an Outside Eligible Organization, external to the Corps of Engineers?	EC 1105-2-410, Appendix D, Para 3a EC 1105-2-410, Appendix B, Para 4b EC 1105-2-410, Para 7c	b. Yes ☒ No ☐ c. Yes ☒ No ☐ d. Yes ☒ No ☐ e. Yes ☒ No ☐ n/a ☐ **Comments:**
4. Does the RP explain how ATR will be accomplished?	EC 1105-2-410, Appendix B, Para 4l	Yes ☒ No ☐
a. Does it identify the anticipated number of reviewers? b. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)? c. Does it indicate that ATR team members will be from outside the home district? d. Does it indicate that the ATR team leader will be from outside the home MSC? e. Does the RP state that the lead PCX is responsible for identifying the ATR team members and indicate if candidates will be nominated by the home district/MSC? f. If the reviewers are listed by name, does the RP describe the qualifications and years of relevant experience of the ATR team members?* **Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.*	EC 1105-2-410, Appendix B, Para 4f EC 1105-2-410, Appendix B, Para 4g EC 1105-2-410, Para 7b EC 1105-2-410, Para 7b EC 1105-2-410, Appendix B, Para 4k(1) EC 1105-2-410, Appendix B, Para 4k(1)	a. Yes ☒ No ☐ b. Yes ☒ No ☐ c. Yes ☒ No ☐ d. Yes ☒ No ☐ e. Yes ☒ No ☐ f. Yes ☐ No ☐ n/a ☒ **Comments:**

5. Does the RP explain how IEPR will be accomplished?	EC 1105-2-410, Appendix B, Para 4k & Appendix D	**Yes** ☒ **No** ☐ **n/a** ☐
a. Does it identify the anticipated number of reviewers? b. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)? c. Does it indicate that the IEPR reviewers will be selected by an Outside Eligible Organization and if candidates will be nominated by the Corps of Engineers? d. Does it indicate the IEPR will address all the underlying planning, safety assurance, engineering, economic, and environmental analyses, not just one aspect of the project?	EC 1105-2-410, Appendix B, Para 4f EC 1105-2-410, Appendix B, Para 4g EC 1105-2-410, Appendix B, Para 4k(1) & Appendix D, Para 2a EC 1105-2-410, Para 7c	a. Yes ☒ No ☐ b. Yes ☒ No ☐ c. Yes ☒ No ☐ d. Yes ☒ No ☐ **Comments:**
6. Does the RP address peer review of sponsor in-kind contributions?		Yes ☒ No ☐
a. Does the RP list the expected in-kind contributions to be provided by the sponsor? b. Does it explain how peer review will be accomplished for those in-kind contributions?	EC 1105-2-410, Appendix B, Para 4j	a. Yes ☒ No ☐ b. Yes ☐ No ☐ n/a ☒ **Comments:**
7. Does the RP address how the peer review will be documented?		Yes ☒ No ☐
a. Does the RP address the requirement to document ATR and IEPR comments using DrChecks? b. Does the RP explain how the IEPR will be documented in a Review Report? c. Does the RP document how written responses to the IEPR Review Report will be prepared?	EC 1105-2-410, Para 8g(1) EC1105-2-410, Appendix B, Para 4k(13)(b) EC 1105-2-410, Appendix B, Para 4l	a. Yes ☒ No ☐ b. Yes ☒ No ☐ n/a ☐ c. Yes ☒ No ☐ n/a ☐

d. Does the RP detail how the district/PCX will disseminate the final IEPR Review Report, USACE response, and all other materials related to the IEPR on the internet and include them in the applicable decision document?	EC 1105-2-410, Para 8g(2) & Appendix B, Para 4l	d. Yes ☒ No ☐ n/a ☐ **Comments:**
8. Does the RP address Policy Compliance and Legal Review?	EC 1105-2-410, Para 7d	Yes ☒ No ☐ **Comments:**
9. Does the RP present the tasks, timing and sequence (including deferrals), and costs of reviews?	EC 1105-2-410, Appendix B, Para 4c & Appendix C, Para 3d	Yes ☒ No ☐
a. Does it provide a schedule for ATR including review of the Feasibility Scoping Meeting (FSM) materials, Alternative Formulation Briefing (AFB) materials, draft report, and final report? b. Does it include interim ATR reviews for key technical products? c. Does it present the timing and sequencing for IEPR? d. Does it include cost estimates for the peer reviews?	EC 1105-2-410, Appendix C, Para 3g EC 1105-2-410, Appendix C, Para 3g	a. Yes ☐ No ☒ b. Yes ☐ No ☒ c. Yes ☒ No ☐ n/a ☐ d. Yes ☒ No ☐ **Comments:**
10. Does the RP indicate the study will address Safety Assurance factors? Factors to be considered include: • Where failure leads to significant threat to human life • Novel methods\complexity\ precedent-setting models\policy changing conclusions • Innovative materials or techniques • Design lacks redundancy, resiliency of robustness • Unique construction sequence or acquisition plans • Reduced\overlapping design construction schedule	EC 1105-2-410, Para 2 & Appendix D, Para 1c	**Yes ☒ No ☐ n/a ☐** **Comments:**

11. Does the RP address model certification requirements?	EC 1105-2-407	Yes ☒ No ☐
a. Does it list the models and data anticipated to be used in developing recommendations (including mitigation models)? b. Does it indicate the certification/approval status of those models and if certification or approval of any model(s) will be needed? c. If needed, does the RP propose the appropriate level of certification/approval for the model(s) and how it will be accomplished?	EC 1105-2-410, Appendix B, Para 4i	a. Yes ☒ No ☐ b. Yes ☒ No ☐ c. Yes ☐ No ☐ n/a ☒ **Comments:**
12. Does the RP address opportunities for public participation?		Yes ☒ No ☐
a. Does it indicate how and when there will be opportunities for public comment on the decision document? b. Does it indicate when significant and relevant public comments will be provided to reviewers before they conduct their review? c. Does it address whether the public, including scientific or professional societies, will be asked to nominate potential external peer reviewers? d. Does the RP list points of contact at the home district and the lead PCX for inquiries about the RP?	EC 1105-2-410, Appendix B, Para 4d EC 1105-2-410, Appendix B, Para 4e EC 1105-2-410, Appendix B, Para 4h EC 1105-2-410, Appendix B, Para 4a	a. Yes ☒ No ☐ b. Yes ☒ No ☐ c. Yes ☐ No ☒ d. Yes ☒ No ☐ **Comments:**
13. Does the RP address coordination with the appropriate Planning Centers of Expertise?	EC 1105-2-410, Para 8a	Yes ☒ No ☐
a. Does it state if the project is single or multi-purpose? Single ☒ Multi ☐ List purposes: Navigation: Lock Replacement b. Does it identify the lead PCX for peer review? Lead PCX: **IN** c. If multi-purpose, has the lead PCX coordinated the review of the RP with the other PCXs as appropriate?	EC 1105-2-410, Appendix D, Para 3c	a. Yes ☒ No ☐ b. Yes ☒ No ☐ c. Yes ☐ No ☐ n/a ☒ **Comments:**

14. Does the RP address coordination with the Cost Engineering Directory of Expertise (DX) in Walla Walla District for ATR of cost estimates, construction schedules and contingencies for all documents requiring Congressional authorization?	EC 1105-2-410, Appendix D, Para 3	Yes ☒ No ☐
a. Does it state if the decision document will require Congressional authorization? b. If Congressional authorization is required, does the state that coordination will occur with the Cost Engineering DX?		a. Yes ☒ No ☐ b. Yes ☒ No ☐ n/a ☐ **Comments:**
15. Other Considerations: This checklist highlights the minimum requirements for an RP based on EC 1105-2-410. Additional factors to consider in preparation of the RP include, but may not be limited to: a. Is a request from a State Governor or the head of a Federal or state agency to conduct IEPR likely? b. Is the home district expecting to submit a waiver to exclude the project study from IEPR? c. Are there additional Peer Review requirements specific to the home MSC or district (as described in the Quality Management Plan for the MSC or district)? d. Are there additional Peer Review needs unique to the project study?	EC 1105-2-410, Appendix D, Para 1b EC 1105-2-410, Appendix D, Para 1d	**Comments:**
Detailed Comments and Backcheck:		