DOCUMENT REVIEW PLAN
Using the Draft Northwestern Division Programmatic Review Plan Model

DWORSHAK FISH HATCHERY
Rehabilitation Study

Walla Walla District
December 2012

MSC Approval Date: 2 January 20123
Last Revision Date:

US Army Corps of Engineers
Walla Walla District

Document Review Plan
Using the Draft Northwestern Division Programmatic Review Plan Model

Dworshak Fish Hatchery
Rehabilitation Study

Table of Contents

1. Purpose and Requirements

a. Purpose

This Review Plan defines the scope and level of review required for the Dworshak Hatchery Rehabilitation Study, Ahsahka, Idaho, owned by the US Army Corps of Engineers (Corps). The review plan is consistent with current Corps regulations and policies, and was developed using the National Planning Center of Expertise (PCX) review plan template, dated 15 June 2011.

b. References

(1) Engineering Circular (EC) 1165-2-209, *Civil Works Review Policy*, dated 31 January 2010.
(2) EC 1105-2-412, *Assuring Quality of Planning Models*, 31 March 2011.
(3) Engineering Regulation (ER) 1110-1-12, *Quality Management*, 30 September 2006.
(4) ER 1105-2-100, *Planning Guidance Notebook*, 20 November 2007.
(5) ER 1110-2-1150, *Engineering and Design for Civil Works Projects*, 31 August 1999.
(6) *Program Management Plan for Mitigation Hatchery Strategic Investment and Asset Management*, Northwestern Division, 9 November 2010.
(7) Review Plan Template, US Army Corps of Engineers, 15 June 2011.
(8) 08502-CENWD-RBT, EC 1165-2-209, *Civil Works Review Policy Guidance*, 29 September 2011.
(9) NWWOM 5-1-10, *Walla Walla District Quality Management Plan*, 22 May 2009.
(10) CENWD-RBT, *NWD Implementation Guidance for Engineering Circular (EC) 1165-2-209 Civil Works Review Policy,* 24 May 2011.
(11) CENWD-RBT, *Approval of Northwestern Division (NWD) Quality Management System (QMS) 08502-CENWD-RBT, EC 1165-2-209 Civil Works Review Policy Guidance*, 29 September 2011.
(12) ER 11-1-321, *Army Programs – Value Engineering*, dated 28 February 2005, Change 1.

c. Requirements. This review plan was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for civil works products by providing a seamless process for review of projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). Four general levels of review are defined in EC 1165-2-209: 1) District Quality Control/ Quality Assurance (DQC); 2) Agency Technical Review (ATR); 3) Independent External Peer Review (IEPR); and 4) Policy and Legal Compliance Review. In

addition, a decision document is also subject to Cost Engineering review and certification (EC 1165-2-209), planning model certification (EC 1105-2-412), and the Value Management Plan requirements in the Project Management Business Process (PMBP) Reference 8023G and ER 11-1-321, Change 1. Once approved, this review plan will be posted on the Walla Walla District website.

2. Review Management Organization (RMO) Coordination

The RMO is responsible for managing the overall effort described in this Review Plan. For a decision document, the RMO is typically 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 review effort described in this Review Plan is the Hydropower Planning PCX, located in the Northwestern Division (NWD). Because Type II IEPR is anticipated for this project, the RMC will serve as RMO for the implementation process. The Hydropower PCX will coordinate closely with the RMC to ensure review teams with the appropriate expertise are assembled.

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

3. Study Information

a. Authority. The Dworshak Hatchery Rehabilitation Report is authorized by the Fish and Wildlife Coordination Act (Public Law 85-624), revised 12 August 1958. This Act authorizes the Corps to provide for the conservation of anadromous and resident fish whose natural habitat has been altered or destroyed by construction projects.

b. Decision Document. In 1993, a Major Rehabilitation Report was prepared for Dworshak National Fish Hatchery, recommending electrical, mechanical, and structural work. However, due to the difficulty of showing cost benefits (because benefits are primarily to fish and human safety), the entire rehab project could not be justified and only portions of the recommended actions were taken. Through a revised economic analysis, this report will provide a clear cost benefit realized for each portion of the recommended actions.

c. Study/Project Description. Dworshak National Fish Hatchery was constructed by the Corps in 1969 to mitigate for the loss of natural habitat for resident and anadromous fish caused by the construction of Dworshak Dam. It is located near Ahsahka, Idaho, at the confluence of the North Fork and mainstem Clearwater River. It is part of the Dworshak Fisheries Complex, which includes Kooskia National Fish Hatchery, Idaho Fish Health Center, and

Idaho Fisheries Resource Office. The hatchery is owned by the Corps, but is co-managed by US Fish and Wildlife Service and the Nez Perce Tribe. It is completely funded by the Corps and Bonneville Power Administration. The hatchery is one of the largest combination producers of anadromous fish (steelhead, Coho salmon, and Chinook salmon), and is the largest producer of steelhead trout in the world.

The Clearwater River was one of the most productive steelhead streams in the Pacific Northwest until, in 1927, Washington Water Power Company constructed a small dam on the Clearwater River (near Lewiston, Idaho) that blocked the runs. Steelhead could still pass the dam, but the steelhead run was reduced in numbers. The completion of Dworshak Dam in 1972 completely blocked the North Fork Clearwater steelhead runs. Dworshak National Fish Hatchery began releasing steelhead in 1972.

Many worker safety risks were recently identified as violations by the Office of Safety and Health Administration (OSHA), but the majority of these violations can be corrected quickly and will likely be corrected prior to the release of this report. However, during initial site visits by the project delivery team (PDT) to determine the condition of current facilities, several potential infrastructure failures were noted. Because no model or framework for hatchery rehabilitation currently exists, the Corps' Operational Condition Assessment (OCA) for Inland Navigation was modified slightly to identify operation and maintenance (O&M) needs for hatcheries. While not specifically geared towards fish hatcheries, OCA methods highlight changes required to maintain a minimum acceptable level of service or performance. Virtually every system in the hatchery was found to have at least one component determined to be in imminent danger of failure, and most components have worker life/safety concerns.

Photo 1. Aerial View of DNFH

This rehabilitation study will examine ways to improve the safety, efficiency, and reliability of Dworshak Hatchery. The study will be completed in two phases: 1) asset evaluation [Fiscal Year (FY) 11]; and 2) rehabilitation study (FY12/13). The PDT assessed the current conditions of hatchery facilities and systems, and forecasted the consequences of a malfunction or failure of those systems. The information gleaned during the asset evaluation was used to establish baseline conditions with which all alternatives will be compared. The PDT will focus on developing alternatives that increase the safety, reliability, and efficiency of long-term management of Dworshak National Fish Hatchery.

d. Factors Affecting the Scope and Level of Review.

Many deficiencies were documented by the PDT during the asset evaluation. The deficiencies range from simple fixes to major component failures. Several deficiencies cited possible worker 'loss of life' as the consequence of remaining uncorrected.

Although many serious deficiencies were noted, it is unlikely that unusual challenges will be encountered. Tried and proven engineering solutions can be applied to these deficiencies, leaving little room for error.

There is national interest in the Dworshak Hatchery, as it is the largest combination producer of steelhead, Chinook salmon, and coho salmon in the world; and one of the world's largest producers of steelhead.

As part of the Snake River Basin Adjudication of 2007, the Nez Perce Tribe was appointed as co-operator of the Dworshak Hatchery complex.

Although worker life-safety issues are mentioned in the OSHA deficiencies, these violations will likely be corrected prior to the release of this Study.

The Governor of Idaho has not asked for a peer review by independent experts.

The project is unlikely to result in significant public controversy, as there is much local, regional, and national support for the hatchery.

The project/study is unlikely to involve significant public dispute because of the economic or environmental cost or benefit of the project. There will be tremendous economic and environmental impacts if deficiencies at the hatchery are not corrected, and fish losses occur.

Funding thru FY12 has been $1,032,919. Another $558,549 is anticipated in FY13 when, depending on regional stakeholder input, the draft report will be completed. The total report cost is estimated to be $1,591,468. Total project funding is yet to be determined, but could be well in excess of $30 million.

4. District Quality Control (DQC)

All decision documents, including supporting data, analyses, environmental compliance documents, etc., must undergo DQC. A DQC review is an internal review of basic science and engineering work products, and focuses on fulfilling the quality assurance/quality control requirements set forth in the Project Management Plan (PMP). The DQC review will be managed by the Walla Walla District, in accordance with Walla Walla District Office Memorandum (NWWOM) 5-1-10, *Quality Management Plan*, Appendix D (22 May 2009); and must be documented. Documentation of DQC comments will be compiled as a Microsoft Word table or a Microsoft Excel spreadsheet. Table 1 is the expertise required for DQC review, and Table 2 is a sample DQC Comment Table. The draft Rehab Report, along with all appendices containing technical analyses, will be presented for DQC review. Once DQC review is complete, the DQC lead will sign a DQC certification memo, and the entire package (including DQC comments and responses) will be provided to the ATR team.

Table 1. DQC Team Composition

DQC Disciplines	Required Expertise
DQC Lead	The DQC lead should be a senior professional with extensive experience preparing Civil Works decision documents and conducting DQC. The lead may serve another function on the DQC team, as well (e.g., environmental resources specialist).
Planning/ Economics[1]	The Planning/Economics reviewer may be two separate reviewers but, with a Major Rehabilitation Report, cost to benefit ratio is of extreme importance. If the senior economist has a planning background, the same individual could fill both roles. An individual with some background in fish hatcheries would be of great value.
Environmental Resources/ Fisheries Biologist	The Environmental Resources/Fisheries Biologist reviewer may be two separate individuals, but should be a senior individual with experience in the design of fish hatcheries, and knowledge of the fish species involved at Dworshak Hatchery listed under the Endangered Species Act (ESA). The reviewer should have a good background in compliance with the National Environmental Policy Act (NEPA) and other environmental laws. This individual will be responsible for reviewing the draft Environmental Assessment and any other biological documents, alternative formulation and evaluation, and benefit calculation.
Electrical Engineering	The reviewer should be a senior electrical engineer with experience in all electrical aspects of fish hatchery facilities.
Mechanical Engineering	The reviewer should be a senior mechanical engineer with experience in all mechanical aspects of fish hatcheries.
Civil/Structural Engineering	The reviewer should be a senior civil or structural engineer with experience in the construction of new and/or modification of existing fish hatchery facilities.
Cost Engineering	The Cost PCX Staff or Cost PCX Pre-Certified Professional should have experience with preparing cost estimates for the construction of new, or modification of existing, fish hatcheries.

Table 2. Sample DQC Comment Table

Project Title			Reviewer Name: NWW-Discipline	
Item Number	**Statement of Concern**	**Basis for Concern**	**Significance of Concern**	**Recommended Action**
1.				
2.				
3.				

5. Agency Technical Review (ATR)

All decision documents (including supporting data, analyses, environmental compliance documents, and technical appendices) must undergo a mandatory ATR in order to ensure consistency with established criteria, guidance, procedures, and policies. The document will be assessed to ensure the analyses presented are technically correct and comply with published Corps guidance. The ATR will verify analyses and results are documented in a manner understandable to decision makers. An ATR is managed within the Corps by the designated RMO, and is conducted by a qualified team from outside the home district. Personnel conducting the ATR will not be involved in the day-to-day production of the project. The ATR teams will be comprised of senior Corps personnel, and may be supplemented by outside experts if necessary. The ATR team lead will work outside NWD, the home major subordinate command (MSC). The draft Rehab Report, all appendices containing technical analyses, and DQC comments/ responses will be presented to the ATR team lead for review.

a. Required ATR Team Expertise

The ATR team will be comprised of personnel not involved in the development of the decision document, and will be chosen based on their expertise, experience, and/or skills. Review team members will roughly mirror the PDT team members (same general skill sets) and, as much as possible, work outside of NWD. It is assumed that engineer team members will have experience performing and presenting risk analyses in accordance with ER 1105-2- 101. Table 3 is the expected composition of the ATR team. However, the final make-up of the ATR team is identified by the Hydropower PCX, acting as the RMO. The Hydropower PCX was chosen because of their familiarity with rehabilitation reports and analysis, and this decision is supported by the NWD Planning Staff. The ATR team lead will also be chosen by HAC, in coordination with the Project Manager (PM), vertical team, and any other appropriate centers of expertise. As the team is identified, members will be identified in Attachment 1, *Team Rosters*, along with a brief description of their credentials.

Table 3. ATR Team Composition

ATR Disciplines	Required Expertise
ATR Lead	The ATR lead should be a senior-level individual experienced in the preparation of Major Rehabilitation Reports and conducting an ATR. The lead should also have necessary skills and experience to lead the virtual ATR team through the review process. The ATR lead typically also serves as a reviewer for a specific discipline (e.g., the ATR lead may also be the economist). The ATR lead MUST come from outside NWD.
Planning/Economics[1]	The Planning/Economics reviewer may be two separate reviewers but, with a Major Rehabilitation Report, cost to benefit ratio is of extreme importance. If the senior economist has a planning background, the same individual could fill both roles. An individual with some background in fish hatcheries would be of great value.
Environmental Resources/ Fisheries Biologist	The Environmental Resources/Fisheries Biologist reviewer may be two separate individuals, but should be a senior individual with experience in the design of fish hatcheries, and knowledge of the fish species involved at Dworshak Hatchery listed under the Endangered Species Act (ESA). The reviewer should have a good background in compliance with the National Environmental Policy Act (NEPA) and other environmental laws. This individual will be responsible for review of the draft Environmental Assessment and any other biological documents, alternative formulation and evaluation, and benefit calculation.
Electrical Engineering	The reviewer should be a senior electrical engineer with experience in the electrical aspects of fish hatchery facilities.
Mechanical Engineering	The reviewer should be a senior mechanical engineer with experience in the mechanical aspects of fish hatcheries.
Civil/Structural Engineering	The reviewer should be a senior civil or structural engineer with experience in the construction of new and/or modification of existing fish hatchery facilities.
Cost Engineering	The Cost PCX Staff or Cost PCX Pre-Certified Professional should have experience with preparing cost estimates for the construction of new, or modification of existing, fish hatcheries.
Risk Analysis	The reviewer will be experienced with performing and presenting risk analyses in accordance with ER 1105-2-101 and other related guidance, including familiarity with how information from various disciplines involved in the analysis interact and affect the results.

b. Documentation of the ATR

The software used to document ATR comments, responses, and associated resolutions will be DrChecks[sm]. Comments will be limited to those required to ensure the adequacy of the report, although they may also seek clarification in order to assess whether further concern exists. The four key parts of a quality review comment will typically include the following:

1) The review concern. Identify the product's information deficiency or incorrect application of policy, guidance, or procedures.

2) The basis for the concern. Cite the appropriate law, policy, guidance, or procedure that has not been followed properly.
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/output), implementation responsibilities, safety, Federal interest, or public acceptability.
4) The specific action that will likely resolve the concern. Identify the action(s) that must be taken to resolve the concern.

The ATR documentation in DrChecks[sm] will include a description of the ATR concern, the response from the PDT, a summary of pertinent points in any discussion, including any vertical team (District, RMO, MSC, and Corps HQ) coordination, and the agreed-upon resolution to the concern. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for resolution in accordance with the policy issue resolution process described in both ER 1110-2-12 or ER 1105-2-100, Appendix H. Unresolved concerns can be closed in DrChecks[sm] with a notation that the issue has been elevated to the vertical team for resolution.

When the ATR is completed, a Review Report will be completed by the ATR team summarizing the review. Review Reports are an integral part of the ATR documentation, and must provide the following:

- Identify document(s) reviewed and the purpose of the review.
- Disclose each reviewer's name and organizational affiliations, and provide a short paragraph on their credentials and relevant experiences.
- Include the charge to the reviewers.
- Describe the nature of the review and the findings and conclusions.
- Identify and summarize each unresolved issue (if any).
- Include a copy of each reviewer's verbatim comments, or summarize the views of the entire group, including any disparate or dissenting views.

The ATR is considered certified when all concerns are either resolved or referred to the vertical team, and all ATR documentation is completed. The ATR Lead will prepare a Statement of Technical Review (see Attachment 2) certifying that all issues raised during the review have either been resolved or elevated to the vertical team. The Statement of Technical Review will be completed prior to the signing of the report by the District Commander.

6. Independent External Peer Review (IEPR)

Under certain conditions, an IEPR may be required for decision documents. An IEPR is the most independent review level possible, and is applied is cases where the project's risk and magnitude are such that a critical examination by experts outside of the Corps

is warranted. A risk-informed decision, as described in EC 1165-2-209, determines whether an IEPR is necessary. An IEPR panel consists of independent and recognized experts from outside of the Corps. The panel must contain expertise in the disciplines utilized for the project, and represent a balance of expertise suitable for the review. There are two types of IEPR: Type I and Type II.

a. Type I IEPR

Type I IEPR panels assess the adequacy and acceptability of 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 the biological opinions of the project study. A Type I IEPR covers the entire decision document or action, and will address all underlying engineering, economics, and environmental work. If a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance should also be addressed during the Type I IEPR, per EC 1165-2-209.

b. Type II IEPR

A Type II IEPR, or Safety Assurance Review, is conducted on design and construction activities for 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 the 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.

c. Decision on IEPR

It is Corps policy to undergo Type I IEPR unless *all* of the following criteria are met:

- The federal action is not justified by life safety, or failure of the project would not pose a significant threat to human life;
- Life safety consequences and the risk of non-performance of a project are not greater than under existing conditions;
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project does not require an environmental impact statement (EIS);
- The project/study is not likely to involve significant public dispute as to the size, nature, or effects of the project;

- The information in the decision document or anticipated project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices;
- The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule; and
- There are no other circumstances where the Chief of Engineers or Director of Civil Works determines Type I IEPR is warranted.

A decision on whether the above criteria are met and a Type I IEPR exclusion is appropriate is the responsibility of the MSC Commander. Additional factors that may need to be considered when determining the appropriateness of Type I IEPR exclusion include, but are not limited to: hydrograph/period of flooding, warning time, depth of flooding, nature of area protected, and population protected. By the very magnitude of the Dworshak National Fish Hatchery Rehabilitation Evaluation, an IEPR is likely warranted.

e. Products to Undergo Type I IEPR. The Dworshak National Fish Hatchery Draft Rehabilitation Evaluation Report, ATR Comment Package, and DQC Comment Package will be made available to the IEPR panel. However, only the Draft Rehabilitation Evaluation Report will be the subject of the IEPR.

f. Required Type I Panel Expertise. A plan formulator/economist, an engineer familiar with the design and operation of fish hatcheries, and a fishery/hatchery biologist, should be sufficient to review the Draft Rehabilitation Evaluation Report. This panel will be selected and managed by an Outside Eligible Organization (OEO), per EC 1165-2-209, Appendix D.

g. Documentation of Type I IEPR. Comments will be compiled by the OEO, and should address the adequacy and acceptability of economic, engineering, and environmental methods, models and analyses employed by the study team. The IEPR comments should follow the same format as that described for the ATR (paragraph 5). The OEO will prepare a final review report to accompany publication of the final decision document. The review report will 1) disclose the names of the reviewers, organizational affiliations, including a short paragraph on both credentials and relevant experiences of each reviewer; 2) the charge to the reviewers; 3) the nature of the review, along with findings and conclusions; and 4) a verbatim copy of each reviewer's comments (with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

The final review report will be submitted by the OEO no later than 60 days following close of the public comment period for the draft decision document. The Corps will consider all recommendations contained in the review report, and prepare a written response for all recommendations, whether they are adopted or not. The final decision document will summarize both the review report and responses by the Corps. Both of these documents will be made available to the public, to include posting on the internet.

h. Justification for Not Conducting Type II IEPR (SAR). It has been determined that a Type II (SAR) is unnecessary, per EC 1165-2-209. While life-safety issues occur throughout the hatchery at the present time, they do not pose a threat to public safety. The problems are related to worker safety, which falls within the realm of OSHA. With this rehabilitation of the hatchery, the Corps will correct all life-safety deficiencies throughout the hatchery.

7. Policy and Legal Compliance Review

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

8. Cost Engineering DX Review and Certification

All decision documents will be coordinated with the Cost Engineering DX, located in the Walla Walla District. Because this document will be originated in the Walla Walla District, however, DX pre-certified regional cost personnel will conduct the cost engineering ATR. The DX will provide the Cost Engineering DX certification. The Cost Engineering DX will also assist in determining expertise required on the ATR and Type I IEPR teams. The Ecosystem PCX is responsible for coordination with the Cost Engineering DCX.

9. Model Certification and Approval

The use of certified or approved models for all planning activities is mandated by EC 1105-2-412 to ensure the models are technically and theoretically sound, compliant with Corps policies, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined as any models and analytical tools planners use to define water resource management problems and opportunities, formulate potential alternatives to address the problems and take advantages of the opportunities, evaluate potential effects of alternatives, and support the making of sound

decisions. The use of a certified/approved planning model does not constitute technical review of the planning product, however. The selection and application of the model and input/output data is still the responsibility of the users; and is subject to review.

Engineering models used in planning projects are not covered by EC 1105-2-412. The responsible use of well-known and proven engineering software (both Corps-developed and commercial) will continue, and the professional practice of documenting the application of the software and modeling results will be followed. As part of the Corps' 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 input/output data is still the responsibility of the users; and is subject to review. Further information on quality assurance for engineering models is contained in ER 1110-2-1150, *Engineering and Design for Civil Works Projects*.

The PDT plans to use only the certified models noted in Tables 3 and 4 for this study.

Table 3. Planning Models

Model Name and Version	Brief description of the Model and its Application in the Study	Certification/ Approval Status
IWR-Plan, Version 1.0.11.1 or Version 2.0.6.0 (with annualizer)	This is an economic planning model that assists in the formulation and comparison of alternative plans. It combines solutions to planning problems, and calculates the additive effects of each combination. It will compare the cost effectiveness and incremental cost of each alternative plan, identifying those plans that are best financial investments and displaying the effects of each on a range of decision variables.	Certified

Table 4. Engineering Models

Model Name and Version	Brief description of the Model and its Application in the Study	Certification/ Approval Status
Fault Tree+, V11.2.1 (Isograph)	The fault tree analysis method uses a combination of gates arranged in a tree format. The probability of failure for each component is calculated in the fault tree, and the software provides overall probability of system failure. Input data is used to determine probability of failure include characteristic life of component, actual age, condition, environment, inspection/operation intervals, stress, and temperature.	Used by the Corps' Risk and Reliability Group (RMC) for dam safety risk assessment work

10. Review Schedules and Costs

a. The ATR/IEPR Schedule and Cost.

(1) Schedule

July 2012	Identification of Problems and Opportunities Refine Reliability Analysis for Base Condition Begin NEPA Work on EA
July 2012	Develop Measures/Alternatives Develop Screening Criteria
January 2013	Screen Alternatives
February 2013	Select Preferred Alternatives Finalize Draft Plan
March/ April	DQC
May 2013	Alternative Formulation Board (AFB) Incorporate Comments from AFB
June 2013	Initiate ATR Address and Close ATR Comments
July/August 2013	Initiate IEPR and SAR
August/September 2013	Address and Close IEPR/SAR Comments
September 2013	Final Report Submitted to NWD for Approval
October 2013	NWD Approval

(2) Cost

DQC $40,000
ATR $67,500
- ATR Lead $10,000
- Plan Formulator/Economist $10,000
- Env Res/Fish Bio $10,000
- Cultural Resources Specialist $2,500
- Cost Engineer $10,000

Other Engineering Disciplines
Mechanical Engineering $10,000
Hydrology and Hydraulics.....$10,000
Structures and Geotech.....$5,000
Type I IEPR.....$200,000
Total Review Process Cost.....$382,500

b. Model Certification/Approval Cost. There is no cost associated with models for the Dworshak Hatchery Rehabilitation, because all models being used are certified. Although changes were made to the Fault Tree+ model to support a hatchery study, these modifications are extremely minor and do not change model operation.

11. Public Participation

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

This report will be extensively coordinated with staff from USFWS and the Nez Perce Tribe, both of whom share responsibility for the operation of Dworshak National Fish Hatchery. The public may have interest in the alternative selected and, therefore, the draft decision document, Environmental Assessment, and Finding of No Significant Impact (FONSI) will be made available for public review and comment prior to finalization. All public participation will be conducted pursuant to NEPA requirements.

During the peer review process, significant public comments will be provided to reviewers at all levels prior to conducting their reviews. The final decision document, associated review reports, and Corps responses to IEPR comments (if applicable), will be made available to the public on the Walla Walla District website.

12. Review Plan Approval and Updates

Review plan approval is the responsibility of the NWD Commander, but reflects vertical team input on the appropriate scope and level of review for the decision document. The review plan is a living document, and is likely to change as the study progresses. Updates to the review plan are the responsibility of the Walla Walla District. Minor changes to the review plan since the last NWD Commander approval will be documented in Attachment 3, *Review Plan Revisions*. Significant changes to the review plan (i.e., scope or level of review changes) should be re-approved by the NWD Commander in keeping with the process used to initially approve the plan. The latest version of the review plan, which includes the signed approval memorandum, will be posted to the Walla Walla District website.

13. Review Plan Points of Contact

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

Cindy Boen	Project Manager, Walla Walla District	509-527-7246
Karen Kelly	Plan Formulator, Walla Walla District	509-527-7248

Attachment 1: Team Rosters

Project Delivery Team

Name	Discipline	Phone	Email
USACE Personnel			
Cindy Boen	Project Manager	509-527-7246	cindy.a.boen@usace.army.mil
Anneli Aston	NEPA Compliance	509-527-7245	anneli.k.aston@usace.army.mil
Curtis Been	Geotech Engineer	509-527-7241	curtis.b.been@usace.army.mil
Robert Eskildsen	Attorney	509-527-7708	robert.d.eskildsen@usace.army.mil
Kenneth Fone	Fish Biologist (Ops)	509-527-7140	kenneth.r.fone@usace.army.mil
Jason Achziger	Fish Biologist (NEPA)	509-527-7262	jason.k.achziger@usace.army.mil
Jared Frank	Mechanical Engineer	509-527-7629	jared.m.frank@usace.army.mil
Nick Ivy	Electrical Engineer	509-527-7525	nicholas.j.ivy@usace.army.mil
Nick Emigh	Cost Engineer	509-527-7587	nick.a.emigh@usace.army.mil
Mary Keith	Archaeologist	509-527-7256	mary.e.keith@usace.army.mil
Karen Kelly[1]	Plan Formulator	509-527-7248	karen.l.kelly@usace.army.mil
Logan Negherbon	Hydraulics & Hydrology	509-527-7268	logan.l.negherbon@usace.army.mil
Craig Newcomb	Economist	509-527-7296	craig.a.newcomb@usace.army.mil
Doug Newton	Structural Engineer	509-527-7568	doug.p.newton@usace.army.mil
Chuck Palmer	Mechanical Engineer	509-527-7571	chuck.r.palmer@usace.army.mil
Irene Johnson	Economist	503-808-5294	Irene.m.johnson@usace.army.mil
Lynn Reese	Hydraulic Engineer	509-527-7531	lynn.a.reese@usace.army.mil
David Salgado	Mechanical Engineer	509-527-7526	david.j.salgado@usace.army.mil
Dworshak National Fish Hatchery Personnel (USFWS)			
Larry Peltz	Retired Complex Mgr		
Adam Izbicki	Maintenance Supervisor	208-676-2233	adam.izbicki@fws.gov
Jack Christiansen	Aquatic Engineer	208-676-2233	jack.christiansen@fws.gov
Mark Drobish	Hatchery Manager	208-676-2233	mark.drobish@fws.gov

[1]Primary contact for review plan.

Agency Technical Review Team

Name	Discipline	Phone	Email
TBD	ATR Lead[1]		
TBD	Plan Formulation		
TBD	Environ Resources/Fish Bio		
TBD	Geotech Engineer		
TBD	Hydraulics/Hydrology Engineer		
TBD	Electrical Engineer		
TBD	Mechanical Engineer		
TBD	Civil/Structural Engineer		
TBD	Cost Engineer[2]		

[1]The ATR Manager will also have expertise in one of the other listed disciplines, and will act both as the ATR lead and a technical team member.
[2]The cost engineering team member will be coordinated with the Walla Walla Cost PCX, as required. The Cost PCX will determine if the cost estimated requires review by Cost PCX staff.

Vertical Team

Name	Discipline	Phone	Email
Jim Fredericks	NWD Economist, Sr Planner	503-808-3856	jim.k.fredericks@usace.army.mil

IEPR Review Team

Name	Discipline	Phone	Email
TBD	IEPR Lead		
TBD	Plan Formulation/Economist		
TBD	Electrical Engineer		
TBD	Mechanical Engineer		
TBD	Cost Engineer		

Attachment 2: Sample Statement of Technical Review for Decision Documents

Completion of Agency Technical Review

The Agency Technical Review (ATR) has been completed for the Dworshak National Fish Hatchery Rehabilitation Study, Ahsahka, Idaho. The ATR was conducted, as defined in the project's Review Plan, to comply with the requirements of EC 1165-2-09. 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 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 Lead
Office Symbol/Company

*Signature*_____ _____
Cindy A. Boen Date
Project Manager
CENWD-PM-PD-PF

*Signature*_____ _____
Name Date
Architect Engineer Project Manager1
Company, Location

*Signature*_____ _____
Name Date
Review Management Office Representative
Office Symbol/Company

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 this project have been fully resolved.

*Signature*_____ _____
Name Date
Chief, Engineering Division
CENWD-ED

*Signature*_____ _____
Name Date
Chief, Planning Division
CENWD-PM-PD

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

Attachment 3: Review Plan Revisions

Revision Data	Description of Change	Page/Paragraph Number

Attachment 4: Acronyms and Abbreviations

ATR	Agency Technical Review
BPA	Bonneville Power Administration
Corps	US Army Corps of Engineers
DQC	District Quality Control
DX	Directory of Expertise
EA	Environmental Assessment
EC	Engineer Circular
EIS	Environmental Impact Statement
ER	Engineer Regulation
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
FY	Fiscal Year
IEPR	Independent External Peer Review
MSC	Major Subordinate Command
MVD	Mississippi Valley Division (Corps)
NEPA	National Environmental Policy Act
NWD	Northwestern Division (Corps)
NWWOM	Walla Walla District Office Memorandum (Corps)
O&M	Operation and Maintenance
OCA	Operational Condition Assessment
OMRR&R	Operation, Maintenance, Repair, Replacement, and Rehabilitation
OSHA	Office of Safety and Health Administration
PCX	Planning Center of Expertise
PDT	Project Delivery Team
PMP	Project Management Plan
RMC	Risk Management Center
RMO	Review Management Organization
USFWS	US Fish and Wildlife Service