

**Resource Enhancement Alternatives Document
for the Lewis River Relicensing
Process and Template
Final Version**

1.0 Introduction

PacifiCorp and Public Utility District No. 1 of Cowlitz County (Cowlitz PUD) are engaged in an alternative licensing process (ALP) to relicense the Merwin, Yale, Swift No. 1 and Swift No. 2 hydroelectric projects on the North Fork Lewis River in southwest Washington (Table 1.1). The license application for Yale was submitted to the Federal Energy Regulatory Commission (FERC) in 1999 and applications for Merwin, Swift No. 1 and Swift No. 2 are due in 2004.

Table 1.1. Hydroelectric Projects on the North Fork Lewis River

Project	Project Owner	FERC License Number	License Expiration	Licensed Capacity
Swift No. 1	PacifiCorp	P-2111-WA	May 1, 2006	240 MW
Swift No. 2	Cowlitz PUD	P-2213-WA	May 1, 2006	70 MW
Yale	PacifiCorp	P-2071-WA	May 1, 2001	134 MW
Merwin	PacifiCorp	P-935-WA	May 1, 2006 ¹	136 MW

The Resource Enhancement Alternatives Document (READ) will be developed by the Lewis River Collaborative Team (Applicants, Steering Committee, Resource Groups and Consulting Team); it's purpose is to provide detailed descriptions of actions and the potential interactions between resource areas. When completed, the READ will be a valuable reference tool for settlement discussions that bridges the gap between Scoping Document 2 (SD2) and the Preliminary Draft Environmental Assessment (PDEA). The READ will not include an in-depth analysis of each action. In-depth analysis is the primary function of the PDEA.

Preparing the READ is an iterative process involving the Lewis River Collaborative Team. The process is designed 1) to produce a set of actions (for analysis in the PDEA) that recognizes all significant resource values; and 2) to promote constructive collaborative discussion well in advance of the alternatives analysis stage. Some resource groups may be prepared to enter this process sooner than others and could do so at the group's discretion.

The PDEA, prepared later in the relicensing process, will include a detailed analysis of the actions described in the READ and, to the extent that information is available, will address the protection, mitigation, and enhancement measures (PM&Es) as well as the actions that would be required to implement those measures in the new licenses for the four projects. The actions and proposals included in the PDEA will be intended to meet resource management goals including goals of the participants.

¹ Original license expiration date was 2009.

2.0 Objectives

The objectives of the READ are to:

Refine the alternatives identified in SD2.

The alternatives included in SD2 were identified in general terms before the 2000 technical studies were complete and before the Resource Groups reviewed study results. Therefore, the READ will be an important step between evaluating the results of the 1999 and 2000 technical summary reports and developing actions for future analysis in the PDEA. The actions described in the READ will be more specific than those described in SD2, will be technically based, and will reflect the collective thinking of the resource groups.

Identify potential actions.

Potential actions are the fundamental elements of the alternatives and provide the basis for understanding the differences between the alternatives analyzed in the PDEA. Many actions will be identified by the Resource Groups and the Steering Committee as an outcome of the resource studies and/or through the READ development process. Still others will emerge either during the READ development or during settlement discussions.

Identify the potential interactions between actions.

The potential effects of and interactions between actions will be identified by the Consulting Team and further refined by the Resource Groups.

Provide the basis for Settlement Discussions

The READ process and documentation will provide a basis for Settlement discussions and is designed to meld with the Settlement process as soon as a sufficient level of refinement is reached. This may occur as early as January 2002. The Steering Committee/Negotiating Team will determine when that level is reached. As part of this preparation, the Collaborative Team should work toward agreement on a "Purpose and Need" statement that will guide settlement discussions and provide the foundation for the PDEA.

3.0 Process

The following seven-step process will be used to develop the READ:

Step 1: Conduct meeting with Steering Committee to discuss Legal Framework.

Step 1a: Simultaneously Consultant Leads will prepare a draft summary of Resource Area conflicts and overlaps (draft READ Actions matrix).

Step 2a: Resource Groups review the 1999 and 2000 technical studies report and the fish passage study information which may be in the form of an early draft Fish Passage Study Report (distributed in July 2001)

Step 2b: Resource Groups along with Consultant Leads revisit the significant resource issues in light of study results, identify actions to address those issues, and begin to think about resource interactions.. The Resource Groups should also evaluate whether they have enough information to move forward and, if not, suggest ways to remedy the information gaps. This process should help pinpoint the issues that are truly related to the presence and operation of the Lewis River projects.

Expected Outcome: A list of “actions” or solutions to address significant resource issues.

Step 3: Workshop No. 1. Collaborative Team (including the Steering Committee, all Resource Groups, and Consultant Leads) attends a two-day workshop where Consultant Leads from each Resource Group present issues, potential actions, and potential interactions. This sharing of information and priorities will be a valuable opportunity for the Collaborative Team to 1) brainstorm resource interactions; and, 2) identify and take steps toward resolving conflicting actions; The Steering Committee will assign each resource group to work on the READ Actions matrix and refine the potential actions and meet with other resource groups that have overlapping or conflicting actions.

Expected Outcome: An initial list of resource issues, related actions, and resource interactions. There will be an opportunity to have some cross-resource discussions during this first workshop.

Step 4: Workshop No. 2. Collaborative Team (including the Steering Committee, all Resource Groups, and Consultant Leads) attends a workshop, if necessary to continue refining the READ Actions matrix. This will be a continuation of the previous two Workshops. Follow-up side meetings of the Resource Groups should continue in support of this effort.

Step 5: Workshop No. 3 Collaborative Team (including the Steering Committee, all Resource Groups, and Consultant Leads) attends a workshop where representatives from each Resource Group presents refined resource group issues, potential actions, and interactions and develop recommendations for the Steering Committee/Negotiating Team. This will be a culmination of previous three workshops. As part of this step, the Consulting Team will also prepare information on ways to identify and assess how potential actions interact with each other. Potential solutions to such resource conflicts may necessitate modification of the initial set of actions. This step would also be a checkpoint for the Collaborative Team to evaluate whether they have adequate information to examine and compare the actions.

Expected Outcome: A set of actions designed to present a complete approach to addressing resource issues. Documentation would include:

- A. Description of the process, problems and conflicts (including reasons why actions were not carried forward) that guided the development of the actions so that the rationale is clear to the Collaborative Team and Negotiating Team (Sections 1.0 and 2.0).
- B. List of actions and issues (Table 3.1).
- C. Matrix listing the potential environmental effects of the actions (Table 4.1).
- D. Series of matrices listing potential interactions between resources (Tables 5.1 – 5.10).

Step 6: Steering Committee/Negotiating Team attends a follow-up workshop to review and potentially modify the Collaborative Team’s group of actions and kick-off Settlement Discussions.

Expected Outcome: A refined package of actions for settlement discussions (Table 6.1).

In discussions on the READ process at the February 7th Steering Committee meeting, the issue of on-going studies was identified. In recognition of the potential for new or incomplete studies, this process will allow for revisions to the matrices produced to account for new information that may become available even during the settlement discussions. This will result in a feedback loop from Resource Groups to the READ process to prevent any oversight.

4.0 Schedule

Preparation of the READ would follow the release of the 2000 Technical Reports in the first quarter of 2001. A rough schedule for the steps outlined above follows:

April 2001	Step 1	Steering Committee to discuss Legal Framework
May/June 2001	Step 2.	Resource Groups review the 1999 and 2000 Technical Studies Report and Fish Passage Study Information
June/July 2001	Step 2a	Consultant Leads will prepare a summary of Resource Area conflicts and overlaps.
May/June 2001	Step 2b.	Resource Group meetings - Identify issues for the READ Actions Matrix discussion to bring forward to the Collaborative Team Workshop No. 1
July 2001	Step 3.	Collaborative Team Workshop No. 1
September 2001	Step 4.	Collaborative Team Workshop No. 2
October 2001	Step 5.	Collaborative Team Workshop No. 3 - review outcomes of previous workshops and develop recommendations for Steering Committee
October to December 2001	Step 6.	Steering Committee meetings - review recommendations from Collaborative Team workshops and begin Settlement talks

5.0 READ Template and Outline

1.0 Introduction

2.0 Process Description

3.0 Initial List of Proposed Actions Grouped by Resource Area

3.1 Example Summary Matrix (Note: there may be more than the 4 actions shown)

Actions				
Issue	Current Project Operations and resource Management	Action A	Action B	Action C (and so on)
Aquatics				
1	Action	Action	Action	Action
2	Action	Action	Action	Action
3, etc.	Action	Action	Action	Action

3.2 Description of the Actions

4.0 Potential Environmental Effects of the Actions

4.1 Example Summary Matrix (Note: there may be more than the 4 actions shown)

Potential Environmental Effects				
Issue	Current Project Operations and resource Management	Action A (group of actions)	Action B (group of actions)	Action C (and so on) (group of actions)
Aquatics				
action	effect	effect	effect	effect
action	effect	effect	effect	effect
action	effect	effect	effect	effect

4.2 Description of the Potential Effects of the Proposed Actions

5.0 Potential Resource Interactions

5.1.1 Example Watershed Processes Matrix (Note: there may be more than the 4 actions shown)

Resource Interactions				
	Terrestrial	Cultural	Recreation	Flood, etc.
Action 1	interaction	interaction	interaction	interaction
Action 2	interaction	interaction	interaction	interaction
Etc.				

- 5.1.2 Example Water Quality Matrix
- 5.1.3 Example Aquatics Matrix
- 5.1.4 Example Terrestrial Matrix
- 5.1.5 Example Cultural Resources Matrix
- 5.1.5 Example Recreation Matrix
- 5.1.6 Example Land Use Matrix
- 5.1.7 Example Visual and Aesthetic Resources Matrix
- 5.1.8 Example Socioeconomics Matrix
- 5.1.9 Example Flood Management Matrix
- 5.1.10 Example Current Project Operations and Resource Management Matrix

5.2 Description of Potential Resource Interactions

5.2.1 Example Summary Matrix of Actions (Note: there may be more than the 4 actions shown.)

Resource	Current Project Operations and Resource Management	Action A	Action B	Action C (and so on)
Watershed Processes	action	action	action	action
Water Quality	action	action	action	action
Aquatic Resources	action	action	action	action
Terrestrial Resources				
Cultural Resources				
Recreation				
Land Use				
Visual and Aesthetic Resources				
Socioeconomic Resources				
Flood Management				

6.0 Refined Actions with Combined Interactions

- 6.1a Current Project Operations and Resource Management
- 6.1b Flood Management
- 6.1c Watershed Processes
- 6.1d Water Quality, etc, etc.

7.0 Literature Cited

Collective Goals and Objectives for the Lewis River Collaborative Team

**LEWIS RIVER RELICENSING COLLABORATIVE PROCESS
COLLABORATIVE GOALS**

Steering Committee

1. Develop a reliable and scientifically credible information base that can provide the basis for sound and effective relicensing decisions.
2. Ensure that environmental, social, and natural resource impacts associated with the projects are described and quantified where possible.
3. Reach full and timely settlement on relicensing issues.
4. Identify, evaluate, and timely implement protection, mitigation, and enhancement (PM&E) measures.
5. Provide equal consideration among resource areas.
6. Make efficient use of financial resources.
7. Develop and maintain an open process (with productive meetings) where everyone safely voices opinions and works to reach creative solutions; make sure that broad tribal and public interest is represented.
8. Define and agree on an adaptive management approach.
9. Complete relicensing process in a timely manner while providing for operation of the river system in the broad public, tribal, and natural resources interest.

Aquatic Resources Goals

1. Develop a relevant, reliable and scientifically credible information base describing existing information that can provide the basis for sound and effective relicensing decisions relating to aquatic resources.
2. Identify and assess the effects of the projects on aquatic resources.
3. Identify protection, mitigation and enhancement (PM&E) opportunities and alternatives relating to project effects on aquatic resources.
4. Implement (on a timely basis) protection, mitigation, and enhancement (PM&E) measures that benefit aquatic resources proportionate to the impacts of the projects.
5. Protect and restore water quality to, at a minimum, meet state water quality standards to obtain individual 401 permits.
6. Protect riparian and aquatic habitat function.
7. Support abundant, diverse and healthy native fish populations.
8. Comply with ESA.
9. Make efficient/prudent use of time and money.
10. Develop an adaptive management plan.

Terrestrial Resource Goals

Conduct studies that:

Accurately describes existing environment;
Identifies project effects; and
Leads to development and implementation of PM&E measures (as defined by Federal Power Act
or as otherwise agreed)

Use studies to identify opportunities

Be committed to identifying solutions we can live with

Rule of reason – nothing will be decided automatically, the group will address everything collaboratively

Recreation Resources Goals

- Enhance facilities/opportunities to meet recreation demand within a “vision”
- Minimize conflicts/improve integration between different types of recreation
- Minimize recreational impacts on ecosystem/local community (sustainability)
- Maximize economic benefits to community
- Develop a long-term approach to recreation planning
- Identify the appropriate role of Licensees
- Define a vision for meeting future demands
- Net gain for recreation from the current licenses
- Recreation plan consistent with FERC requirements, SCORP and other applicable plans
- Equal consideration among the resources

Cultural Resources Goals

1. Protect the sites and traditional uses/resource areas of indigenous people.
2. Protect sites of historical and archaeological significance including 19th/20th century origin (native or non-native).
3. Use traditional knowledge; traditional knowledge should be considered with as much weight as scientific knowledge.
4. Use a holistic approach.
5. Recognize living resources as cultural resources. The Cultural Group should have a say in management and the weighting of management practices.

Socioeconomic Goals

- Protect the community and natural resource qualities of the Lewis River valley in the hydroelectric project relicensing decisions.
- Review mechanisms to ensure that users of recreational facilities and project owners provide appropriate support of emergency services, such as law enforcement, fire protection, and emergency medical services.
- Ensure that local residents receive consideration in regards to the access and use of the Lewis River waters.
- Develop exemptions for local youth activities from recreation fees.
Footnote: Some discussion on details.
- Develop a means to preserve and enhance the local business environment and utilize concessionaire opportunities in ways to enhance local businesses. Develop a means to ensure that vendors or other retail businesses allowed to operate on project lands do not have an unfair advantage over local businesses.
- Study the season of operation of recreation facilities to determine ways to increase economic benefits.
- Maintain relatively economic PUD and PacifiCorp electric rates and license conditions consistent with responsible recognition of impacts on the area and the resources.
- Ensure that the lakes and generating facilities remain in the valley if they are shown to benefit the broad public interest that they provide.
- Ensure Tribal access to project lands and waters to allow for traditional practices.
- Address day use fees in relicensing decisions (for the new license period).
- Understand the positive and negative socioeconomic impacts of the projects. Factor that into socioeconomic discussions.
- Continue to provide access and opportunities for hunting and fishing on PacifiCorp and Cowlitz PUD lands to protect the economic benefits that they provide, as regulated by appropriate agencies.
- Explore a fee structure that distinguishes between basic access without fees and use of developed facilities.
- When there are alternatives weight should be given to options that benefit the social, economic and educational health of the Lewis River Community.

Flood Management Goals

- Protect against future flood damage.
- Update flood mapping.
- Better communication and information regarding weather forecasts and current/projected Merwin flow releases.
- Need of an emergency notification system.
- Take into account conditions of the Columbia River during heavy rains and snowmelt.
- Take into consideration current and future downstream development.
- Balancing flood-control and lost generation of megawatt-hours.
- Creating a structure within this plan to allow future flexibility for change or correction to anything overlooked.
 - Determine all other issues involved instead of relying on just flow releases of Merwin.

Example Matrix Exercise

Example Matrix – Summary of Actions for Flood Management*

Issue	Current Project Operations and resource Management	Actions		
		Action A	Action B	Action C
Flood Management	Maintain 1983 license requirement of 35,000 ac-ft of storage by October 10 th , 70,000 ac-ft of storage from November 1 to April 1, 35,000 ac-ft of storage on April 15, and 0 ac-ft of storage the rest of the year. Follow conditions of the 1983 FEMA contract.	Maintain enough reservoir capacity to contain a flood equivalent to Feb. 1996. Revise FEMA contract to reflect changes in floodplain map and operational changes.	Maintain enough reservoir capacity to contain the flood of record. Revise FEMA contract to reflect changes in floodplain map and operational changes.	Maintain reservoir capacity that is seasonally and temporally adjusted to contain predicted run-off. Use a planning table that allows for Dry, Normal, Wet, and Extremely wet years. Revise FEMA contract to reflect changes in floodplain map and operational changes.
Flood Notification System	Provide data to appropriate Emergency Management Agencies in a timely manner. Provide information flow line to river residents.	Provide funding for an early warning system to residents along the river.	Provide funding for a reverse 911-call system to warn residents.	Provide funding for a repeater tower that allows for reception of radio transmissions from the National Weather Service.

*matrix contents are purely for illustration and do not represent the ultimate actions, interactions or effects.

4.1 Example Matrix – Potential Environmental Effects of Flood Management Actions*

Potential Environmental Effects				
Issue	Current Project Operations and Resource Management	Action A	Action B	Action C
Flood Management	Winter drawdowns and reservoir fluctuation with heavy run-off and spill may cause unstable conditions downstream of projects.	Winter reservoir storage will be greater than Status Quo, down-river flows may be more stable.	Winter reservoir storage will be greater than Action A , down-river flows may be more stable than Action A .	Reservoirs and downstream levels may be less variable and more responsive to environmental conditions.
Flood Notification System	No resource environmental effects but residents along the river may, at times, not have enough reaction time to high flows.	No resource environmental effects but residents along the river may have more reaction time to high flows	No resource environmental effects but residents along the river may have more reaction time to high flows	No resource environmental effects but residents along the river may have more reaction time to high flows

*matrix contents are purely for illustration and do not represent the ultimate actions, interactions, or effects.

5.1 Example Matrix - Flood Management Interactions*

Action	Resource Interactions			
	Aquatics	Terrestrial	Cultural	Recreation
Current Project Operations and resource Management	Resident fish such as kokanee may be washed downstream during a flood event. Lewis River Hatchery operations may be affected by high flows. High flows may damage salmon and steelhead redds in the river downstream of Merwin dam.	Organisms dependent on reservoir edge may be affected by increasing shoreline width as the winter progresses. Downstream organisms may experience wider river stage changes.	Cultural resources in reservoirs will be subject to conditions where, at times, there is exposure along shorelines.	Reservoirs are full or at useable level by start of recreation season. Fishing flows downstream are at times too high to fish.
Action A	Resident fish may not wash downstream but may be affected by smaller reservoir area. Downstream fish may experience more stable river stages.	Greater area of reservoir edge which may impact terrestrial organisms. Downstream may benefit from more stable river stages.	Resources in reservoirs may experience greater shoreline exposure and for longer periods of time.	Reservoirs may not be full in time for recreation season. Fishing flows downstream may be more favorable.
Action B	Same results as A but more extreme	Same results as A but more extreme	Same results as A but more extreme	Same results as A but more extreme
Action C	May provide more aquatic habitat stability up and downstream especially in years with extremely dry conditions	May benefit terrestrial in terms of providing higher reservoir levels in dry years when water availability is low.	May reduce shoreline exposure in drier years.	May provide conditions that are variable but flexible according to the water year conditions.

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6.1a Example Matrix – Flood Management

	Actions			
	No-Action (Status Quo) Maintain 1983 license requirement of 35,000 ac-ft of storage by October 10 th , 70,000 ac-ft of storage from November 1 to April 1, 35,000 ac-ft of storage on April 15, and 0 ac-ft of storage the rest of the year. Follow conditions of the 1983 FEMA contract.	Action A Maintain enough reservoir capacity to contain a flood equivalent to Feb. 1996. Revise FEMA contract to reflect changes in floodplain map and operational changes.	Action B Maintain enough reservoir capacity to contain the flood of record. Revise FEMA contract to reflect changes in floodplain map and operational changes.	Action C Maintain reservoir capacity that is seasonally and temporally adjusted to contain predicted run-off. Use a planning table that allows for Dry, Normal, Wet, and Extremely wet years. Revise FEMA contract to reflect changes in floodplain map and operational changes.
Resource/ Issue Flood Management/ Flood Management				
Watershed processes				
Water Quality				
Aquatic Resources, etc.				

*matrix contents are purely for illustration and do not represent the ultimate actions, interactions or effects.

6.1b Example Matrix – Flood Notification

Actions				
Resource/ Issue Flood Management/ Flood Notification System	No-Action(Status Quo) Provide data to appropriate Emergency Management Agencies in a timely manner. Provide information flow line to river residents.	Action A Provide funding for an early warning system to residents along the river.	Action B Provide funding for a reverse 911-call system to warn residents.	Action C Provide funding for a repeater tower that allows for reception of radio transmissions from the National Weather Service.
Watershed Processes	No effect	No effect	No effect	No effect
Water Quality	No effect	No effect	No effect	No effect
Aquatic Resources	No effect	No effect	No effect	No effect
Etc.				

*matrix contents are purely for illustration and do not represent the ultimate actions, interactions or effects.

6.1c Example Matrix – Fish Passage

Resource/ Issue Aquatic Resources/ Fish Passage	Actions			
	No-Action (Status Quo)	Action A	Action B	Action C
Watershed Processes				
Water Quality				
Aquatic Resources				
Etc.				

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6.1d Example Matrix – Timber Management

Resource/ Issue Terrestrial/ Timber Management	Actions			
	No-Action (Status Quo)	Action A	Action B	Action C
Watershed Processes				
Water Quality				
Aquatic Resources				
Etc.				

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