
Adaptive Management Plan

Henry M. Jackson Hydroelectric Project
(FERC No. 2157)

Public Utility District No. 1 of Snohomish County



February 14, 2012



Table of Contents

1. INTRODUCTION.....	1
1.1. Background	1
1.2. Coordination and Integration	2
1.2.1. District’s Role	2
1.2.2. ARC Involvement	2
1.2.3. Project Resource Management Plan Coordination	2
2. SUMMARY OF LICENSE CONDITIONS RELATED TO WATER USE	2
2.1. License Article 406: Spada Lake Rule Curves.....	2
2.2. License Article 415: Temperature Conditioning in Reach 3.....	3
2.3. License Article 412: Whitewater Boating Plan.....	4
2.4. License Appendix A Condition 5.2: A-LA 5: Downramping Rate Conditions	4
2.5. License Article 416: Process Flow Plan.....	4
2.6. License Appendix A Condition 5.2 and License Appendix B Condition 2: A-LA 9: Minimum Flows.....	4
2.7. Water Supply.....	5
3. SUMMARY OF OPERATIONAL PRIORITIES.....	5
4. ADAPTIVE MANAGEMENT FOR WATER USE CONFLICT	6
4.1. Sources of Water Use Conflict.....	6
4.2. Adaptive Management Process	6
5. EVALUATION OF ADAPTIVE MANAGEMENT PROCESS.....	7
5.1. Monitoring.....	7
5.2. Report on Adaptive Management	7

ACRONYMS AND ABBREVIATIONS

A-LA	Aquatic License Article
AM Plan	Adaptive Management Plan
ARC	Aquatic Resources Committee
cfs	cubic feet per second
District	Public Utility District No. 1 of Snohomish County
FERC	Federal Energy Regulatory Commission
License	FERC-issued license for Project No. 2157 on September 2, 2011
msl	mean sea level
PM&Es	Protection Mitigation and Enhancement Measures
Project	Henry M. Jackson Hydroelectric Project
RAM	Report on Adaptive Management
RM	River Mile

1. INTRODUCTION

1.1. Background

The Public Utility District No. 1 of Snohomish County (District) will be the sole licensee for the Henry M. Jackson Hydroelectric Project (Project) under a new license (License) issued by the Federal Energy Regulatory Commission (FERC). The Project is located on the Sultan River in Snohomish County, Washington, near the City of Sultan. The Project was originally licensed in 1961, and amended in 1981. In 1965, the District completed construction of Stage I of Culmback Dam, to create Spada Lake Reservoir, the major source of drinking water supply for the City of Everett. In 1984, the District completed the Stage II construction of the hydroelectric facilities which included raising Culmback Dam to impound 153,280 acre feet of water. At present, the Project includes Culmback Dam; Spada Lake Reservoir, a Diversion Dam on the Sultan River, a powerhouse and various other facilities; fisheries habitat enhancement, wildlife mitigation lands; and several developed and undeveloped recreation and river access sites.

On October 14, 2009, the District filed with the FERC a comprehensive settlement agreement (Settlement Agreement) on behalf of itself, National Marine Fisheries Service, United States Forest Service, United States Fish and Wildlife Service, United States National Parks Service, Washington Department of Fish and Wildlife, Washington Department of Ecology, the Tulalip Tribes of Washington, the City of Everett, Snohomish County, the City of Sultan and American Whitewater (collectively known as the Settlement Parties). The Settlement Agreement resolved among the signatories all issues associated with issuance of a new License for the Project, including reservoir operation, minimum instream flows, process flows, whitewater boating flows, ramping rates, fish passage, fish habitat improvements, wildlife habitat management, marbled murrelet protection measures, noxious weed management, recreation, historic properties and License term. The Settlement Agreement also contained Proposed License Articles for adoption in the new License.

The Settlement Parties requested that the FERC adopt, without material modification, the Proposed License Articles. On September 2, 2011 the FERC issued a new license (License) which resulted in the adoption of many of the Proposed License Articles with some modifications (License Articles). The License calls for implementing a complex and interrelated suite of protection, mitigation and enhancement measures (PM&Es) that will result in improved resource conditions and ecological processes in the Sultan River over the term of the License.

The Settlement Agreement's Proposed Aquatic License Article (A-LA) 15: Adaptive Management Plan was included as a condition of the License in Ordering Paragraphs D and E (see Appendix 1). This Adaptive Management Plan (AM Plan) describes the process for addressing:

1. When conflict occurs during Spada Lake Reservoir water use for refill, Project operations, and flow releases under Spada Lake Reservoir water surface elevation guidelines.
2. Prioritizing the use of Spada Lake Reservoir water.
3. Evaluating and adaptively managing within the constraints of the License conditions.

Settlement Parties recognized during relicensing that the operational and environmental conditions in the Project area and the Sultan River basin are likely to change through the term of

the License as a result of climate change, variation in hydrological inflows from year to year, and increased demand for water for municipal water supply. Therefore, License conditions were developed which require coordination among the various stakeholders as represented by members of the Aquatic Resources Committee (ARC). ARC members recognize that adaptive management will be important for the resolution of conflicts between the diverse interests in operations management.

Implementing this AM Plan will provide a structured process that the District and the other ARC members can follow to inform all the interested parties on the flexibility and limitations of Project operations over time as the District meets the obligations described in the License. The AM Plan also provides a process for determining and implementing temporary changes to operations as may become appropriate during the course of the License when abnormal conditions occur. If concurrence among the ARC members is not achieved, then a default hierarchy of priorities for operational requirements is established while resolving the issues more formally before the FERC.

When developing the AM Plan, the District consulted with the ARC. In Appendix 2, the District has provided documentation of the consultation, copies of comments and recommendations, and specific descriptions of how comments and recommendations from the ARC are accommodated by the AM Plan.

1.2. Coordination and Integration

1.2.1. District's Role

The District will implement all aspects of the AM Plan, including providing the funding to carry out the measures as described herein and consulting with appropriate stakeholders, the ARC, and the FERC as needed.

1.2.2. ARC Involvement

The District will inform and seek input from the ARC on the implementation of the AM Plan including the development of all reports and recommendations.

1.2.3. Project Resource Management Plan Coordination

The District will coordinate the actions of the AM Plan with actions pursuant to the other Project resource management plans.

2. SUMMARY OF LICENSE CONDITIONS RELATED TO WATER USE

This Section provides summaries of the License conditions relating to Spada Lake Reservoir water use; the underlying License Article or Ordering Paragraph will govern compliance components associated with each. They are summarized here to provide background for the subsequent sections of this Plan.

2.1. License Article 406: Spada Lake Rule Curves

The Spada Lake Reservoir Rule Curves (Rule Curves) specified in License Article 406 (as required by Ecology condition 5.2 (A-LA 14)) are shown in Figure 1. The Rule Curves allow the District to provide a balance of reliable municipal water supply, instream flows, incidental winter flood storage, power production, higher lake levels for early summer recreation, and

prevention or reduction of risk of spill following Chinook salmon spawning in the fall and steelhead trout spawning in the spring. Adapted from the Rule Curves used successfully during the previous license, the License Rule Curves were developed based on the physical storage capacity of Spada Lake Reservoir and the hydrology of the Sultan Basin. The Rule Curves divide Spada Lake Reservoir into five states that shift throughout the water year (July through June). This operational water year is used to minimize the change in storage from year to year.

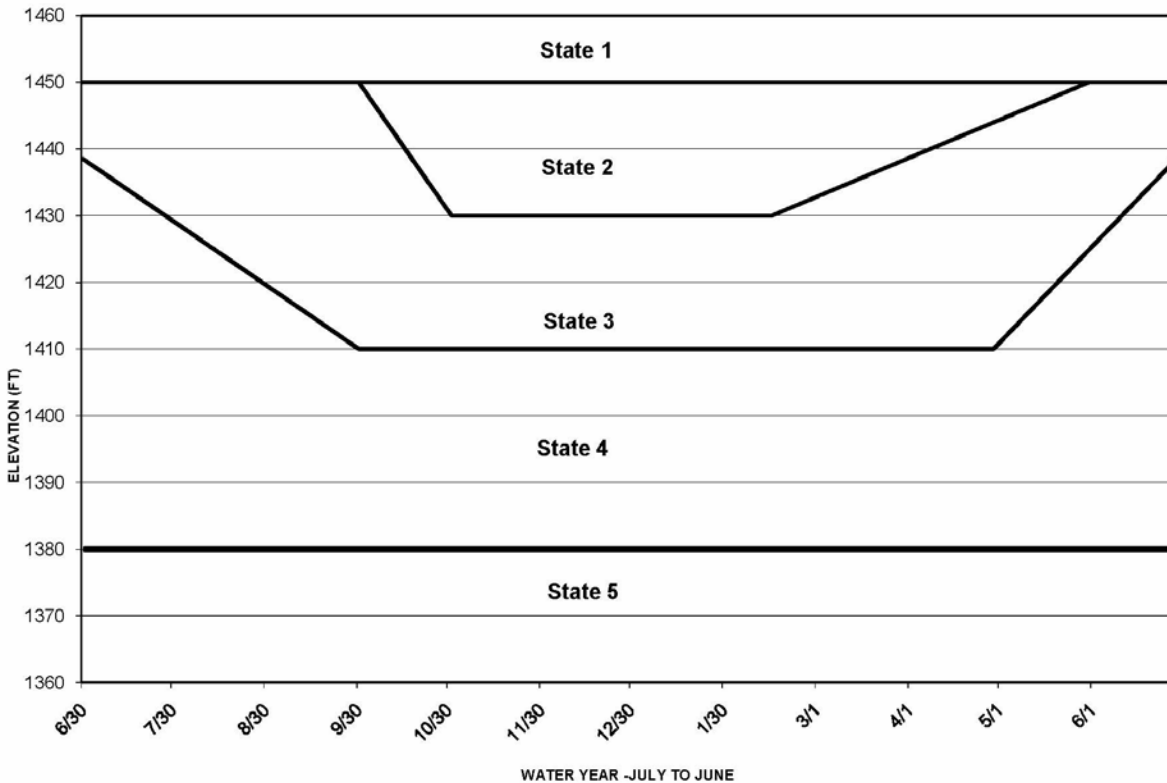


Figure 1. Spada Lake Reservoir Operational Rule Curves

In State 1, the Reservoir will be in a state of spill; therefore, the District will withdraw at least 1,300 cfs through the power tunnel. This requirement is modified when high Sultan River flows pose a risk of Pelton Turbine inundation. Under these conditions, reduced Pelton output is required to avoid damage to the turbines. Further details on the other States are identified in Article 406.

2.2. License Article 415: Temperature Conditioning in Reach 3

License Article 415 requires the District to implement the Water Temperature Conditioning Plan. Initially, water conditioning will be within the constraints of the Project's existing infrastructure. By 2020, or within 2 years after the date that the District completes the Diversion Dam's volitional fish passage modifications as described in the Diversion Dam Volitional Passage Plan, the District will install and operate a new temperature conditioning structure at Culmback Dam. Completion of this structure will allow the District to provide at least 165 cfs (at Spada Lake Reservoir elevation of 1,430 feet msl) of temperature-conditioned water immediately below Culmback Dam. When the reservoir is above 1,380 feet msl, this structure will allow the District

to temperature condition the flows released from Culmback Dam pursuant to the minimum flow regime described in A-LA 9.

Implementation of water temperature conditioning will be governed by the Water Temperature Conditioning Plan, filed by the District on February 23, 2010, and approved by the FERC on September 2, 2011.

2.3. License Article 412: Whitewater Boating Plan

The Whitewater Boating Plan specifies that the District will provide flows for twelve viable whitewater boating events every three years for the duration of the License with sufficient advance notice to whitewater boaters; with the intent to provide an average of four flows per year. The whitewater events will be provided either as scheduled events or viable unscheduled whitewater events. A minimum of two whitewater events each year will be scheduled events, with one event occurring in April or May and one occurring in September. Scheduled whitewater events will be scheduled in conjunction, when possible, with process flow component events pursuant to Article 416.

Implementation of whitewater boating events will be governed by the Whitewater Recreation Plan, filed by the District on June 17, 2010, and approved by the FERC, with modifications, on September 2, 2011.

2.4. License Appendix A Condition 5.2: A-LA 5: Downramping Rate Conditions

The downramping rate conditions as detailed in A-LA 5 specifies that the District will operate the Project within schedules for rates of allowance for stage (elevation) reductions in the Sultan River. Three schedules govern the requirements for below the powerhouse, the Diversion Dam and a Culmback Dam. In addition, a schedule for allowable downramping frequency limits the cumulative impacts. Downramping limitations can dampen the responsiveness of the Project to changing conditions (i.e. it may require several days to downramp from full generation to minimum generation to provide minimum instream flows). Therefore, consideration of downramping limitations plays into decisions involving Project operations and water use.

2.5. License Article 416: Process Flow Plan

The Process Flow Plan specifies that the District will discharge water from the Project to ensure that the magnitude, duration, timing and frequency of the process flow components specified within the Plan are achieved. The process flow components are channel forming flow, channel maintenance flow, flushing flow, upstream migration flow, and outmigration flow. Except as provided within the Article, the District may achieve these components through any combination of controlled (including whitewater boating releases) and uncontrolled flow releases (i.e. spill), and accretion flow downstream of Culmback Dam.

Implementation will be governed by the Process Flow Plan, filed by the District on September 27, 2010, and approved by the FERC on September 2, 2011.

2.6. License Appendix A Condition 5.2 and License Appendix B Condition 2: A-LA 9: Minimum Flows

A-LA 9 specifies that the District will discharge water from the Project in accordance with the minimum flow regime specified within this condition. A-LA 9 includes a minimum flow regime

for Reach 1 (River Mile (“RM”) 0 to RM 4.5), Reach 2 (RM 4.5 to RM 9.7), and Reach 3 (RM 9.7 to RM 16.1).

2.7. Water Supply

Subject to compliance with all other License Articles, the District will operate the Project so that the City of Everett’s water supply and quality requirements will have precedence over power generation to the extent specified within the Supplemental Agreement Between Public Utility District No. 1 of Snohomish County and the City of Everett, Washington October 17, 2007, Part E.1 and Exhibit 1. Although not incorporated by the FERC order issuing the License, the District intends to honor the intent of the Settlement Agreement’s Proposed License Article A-LA 18.

3. SUMMARY OF OPERATIONAL PRIORITIES

The District will meet its License obligations to the best of its abilities. Under existing or forecasted conditions of severely limited water supply, there may be times when water use conflicts arise and the District will have to make decisions on how the water will be managed and used. Based on the content of the License and District’s agreement obligations related to water use, the following is a short list of Level 1, Level 2 and Level 3 water uses in order of priority when water use conflicts arise for Jackson Project operations. Any reduction in flow will meet ramping requirements as specified in License Appendix A Condition 5.2 (A-LA 5).

Priority Level 1 Water Use:

1. Maintain the minimum instream flows below Culmback Dam, the Diversion Dam, and the Powerhouse as required by the September 2011 License Appendix A Condition 5.2 (A-LA 9) and Appendix B Condition 2 (A-LA 9).
2. Provide water supply to the City of Everett’s Lake Chaplain per the requirements of various Agreements between the District and City of Everett consistent with A-LA 18.

Priority Level 2 Water Use:

- Generate power in response to emergency events such as transmission system voltage instability or abnormal power markets per Article 406. Such emergency events are expected to be short term (1 or 2 days) and have only a modest impact on the volume of water in Spada Lake Reservoir per Article 406.

Priority Level 3 Water Use:

- Preserve Spada Lake Reservoir recreational amenities by keeping the water surface above elevation 1,430 feet msl between July 1 and August 15 per Article 406.
- Preserve bypass reach flow temperature conditioning capability by maintaining Spada Lake Reservoir above elevation 1,420 feet msl between August 15 and September 15 per Article 406. (The Spada Lake Reservoir elevation requirement between August 15 and September 15 changes to elevation 1,415 feet msl after

the Phase II temperature conditioning structure is constructed and made operational.)

- Provide process flows as reasonable and required per Article 416.
- Provide whitewater recreation events as reasonable and required per Article 412.

4. ADAPTIVE MANAGEMENT FOR WATER USE CONFLICT

4.1. Sources of Water Use Conflict

A conflict will likely arise when the City of Everett's summer demand increases to the level impacting the District's ability to meet its License obligations. This may precipitate the following results:

1. **Spada Lake Reservoir surface drops below elevation 1,430 feet msl before August 15.** This may occur during those years when the Northwest is experiencing a major drought. Recovery of reservoir elevation in the spring may be impeded because of low inflows. Subsequently, high City of Everett summer water supply demands combined with the needs for maintaining minimum instream flows may then make it impossible for the District to maintain Spada Lake Reservoir above elevation 1,430 feet msl before August 15.
2. **Spada Lake Reservoir drops below elevation 1,380 feet msl.** The combination of high City of Everett summer water demand and summer drought conditions could result in Spada Lake Reservoir dropping to below elevation 1,380 feet msl in mid to late summer. When this occurs, water flow through the Powerhouse will be diminished or stopped to avoid vortexing in the power tunnel. Water flow to meet the requirements of the License will be released through the valve facilities at the base of Culmback Dam into the Sultan River between Culmback Dam and the Diversion Dam (Reach 3). The higher volumes required to meet the instream flow requirements at the Powerhouse and provide City of Everett water supply via the Diversion Dam pipeline and tunnel to Lake Chaplain will likely be colder than the normal releases into the Sultan River Reach 3. This condition of cold water release will continue until Spada Lake Reservoir rises above the 1,380 feet msl power-off elevation. The relatively cold water released from Culmback Dam may impact the aquatic resources of the Sultan River. Minimum flows and ramping rates identified in the Project License will still apply.

4.2. Adaptive Management Process

The District personnel responsible for operations meet weekly to assess projected Project flows, fishery status, reservoir surface elevation and maintenance needs that could impact flow. This group will be the first to become aware of a conflict in the License requirements and priorities. When this happens, District representatives will notify the other members of the ARC within 10 days. The notice will describe the nature of the conflict in water use, the likely consequences and recommendations for action, if any. Recommendations will be consistent with the priorities identified in Section 3 above. Because the District regularly meets with the ARC, the District will present a brief to the ARC for discussion at the next scheduled ARC meeting.

The prioritization levels and sub-levels in Section 3 will be followed unless extraordinary situations occur that may warrant modification. If an ARC member deems that an extraordinary situation is occurring or imminent, the ARC member will request a meeting to discuss the potential temporary modification to the prioritizations.

If the ARC agrees by consensus on either 1) a recommended course of action or 2) temporary modification to the prioritization of Section 3 to minimize the impacts of the conflict, the District will implement those measures, and notify FERC of any changes to the License conditions within 10 days. If the ARC cannot agree on a recommended course of action, then the District will continue to operate the Project to meet the requirements of the License based on the priorities listed in Section 3 Summary of Operational Priorities.

5. EVALUATION OF ADAPTIVE MANAGEMENT PROCESS

5.1. Monitoring

The License will implement a complex and interrelated suite of PM&Es designed to result in improved resource conditions and ecological processes in the Sultan River Basin over the License term. To achieve this objective, the District will implement the following evaluation and adaptive management process. This evaluation and adaptive management process is in addition to the adaptive management provisions described within each License Article implementation plans' requirements.

Several of the License requirements include evaluation and adaptive management provisions; these include detailed monitoring and reporting. As provided for and based upon the results of this monitoring, the District will evaluate the effectiveness of each requirement in achieving its intended results. Based upon this monitoring and evaluation, and within the constraints of such License conditions, the District or any ARC member may propose to modify specific implementation measures. Any proposed modifications will be developed in consultation with the ARC. To the extent that a modification is inconsistent with a License condition and/or management plan, the District will implement the modification only after such modification is approved by the FERC.

5.2. Report on Adaptive Management

In year five of this License (Year 2016), and every five years thereafter for the License term, the District, in consultation with the ARC, will prepare a Report on Adaptive Management (RAM). The RAM will be submitted to the FERC by December 15 of the year due.

The RAM will identify any conflicts in implementing the License over the Water Year (July-June) and address whether those conflicts can be or were resolved within the constraints of the License. If such conflicts can be addressed, the District will also propose adaptive management measures and/or modifications to existing implementation measures to address the conflicts.

The District will develop the RAM in consultation with the ARC. The District will provide a minimum of 30 days for the ARC to submit comments and recommendations before filing the RAM with the FERC. When filing the RAM with the FERC, the District will include documentation of consultation, copies of comments and recommendations and specific descriptions of how comments and recommendations from the ARC are accommodated by the

RAM. If the District does not adopt a recommendation, the filing will include the District's reasons based on Project specific information. Upon approval of the RAM by the FERC, the District will implement adaptive management measures or modifications proposed within the RAM.

Appendix 1

A-LA 15 Adaptive Management Plan per License Appendix A Condition 5.2

A-LA 15: Adaptive Management Plan

Within 180 days of License issuance, the Licensee shall file with the Commission, for approval, an Adaptive Management Plan (AM Plan). This AM Plan shall document how the Licensee shall: (1) address water use issues, specifically from Spada Lake Reservoir, when refill, Project operations, flow releases and Spada Lake Reservoir water surface elevations may conflict; and (2) address the process for evaluating and adaptively managing within the constraints of the specific License Articles.

The Licensee shall develop the AM Plan in consultation with the Aquatic Resource Committee (ARC). The Licensee shall allow a minimum of thirty (30) days for members of the ARC to comment and make recommendations before submitting the AM Plan to the Commission. When filing the AM Plan with the Commission, the Licensee shall include documentation of consultation, copies of comments and recommendations, and specific descriptions of how comments and recommendations from the ARC are accommodated by the Licensee's plan. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons based upon Project-specific information.

Upon Commission approval, the Licensee shall implement the AM Plan.

Appendix 2

Consultation Documentation

Presler, Dawn

From: Presler, Dawn
Sent: Wednesday, December 07, 2011 1:05 PM
To: 'steven.m.fransen@noaa.gov'; 'Tim_Romanski@fws.gov'; 'Loren Everest'; 'Maynard, Chris (ECY)'; 'Applegate, Brock A (DFW)'; 'Leonetti, Frank'; 'Jim Miller'; 'Deborah Knight'; 'okeefe@amwhitewater.org'; 'Abby Hook - Tulalip'
Cc: Moore, Kim; Binkley, Keith
Subject: ARC - DRAFT Adaptive Mgmt Plan for your review
Attachments: 20111207_ARC_DRAFT_Adaptive_Management_Plan.DOC

Dear ARC,
Attached is the draft Adaptive management Plan for your review and comment by January 6, 2011. Please email me any comments/edits on the draft plan (with cc: to Keith). We will discuss any comments at the ARC meeting on Wednesday January 18.

Happy Holidays!

Dawn Presler
Sr. Environmental Coordinator
Generation Resources
(425) 783-1709

PUD No. 1 of Snohomish County
PO Box 1107
Everett, WA 98206-1107

Presler, Dawn

From: Presler, Dawn
Sent: Tuesday, January 24, 2012 4:41 PM
To: 'Okeefe@americanwhitewater.org'; 'Jim Miller - Everett'; 'Deborah Knight - Sultan'; 'Steven.M.Fransen@noaa.gov'; 'Frank Leonetti - SnoCo'; 'Abby Hook'; 'Tim_Romanski@fws.gov'; 'Loren Everest - USFS'; 'cmay461@ecy.wa.gov'; 'Brock.Applegate@dfw.wa.gov'
Cc: Binkley, Keith; Moore, Kim
Subject: ARC - updated DRAFT AM PLAN for your REVIEW
Attachments: 201201_ARC_Updated_DRAFT_Adaptive_Management_Plan.DOC

Dear ARC Members,
Attached is the updated Draft Adaptive Mgmt Plan for your 2-week review. I've updated the Plan based on your previous comments submitted, our discussion at the ARC meeting on 1/18/2012, and my discussion with Chris M. on the phone yesterday. If you have any further comments, please send them to me **by February 7 COB**. Any questions, give me or Keith (425-783-1769) a call.

Thanks!

Dawn Presler
Sr. Environmental Coordinator
Generation Resources
(425) 783-1709

PUD No. 1 of Snohomish County
PO Box 1107
Everett, WA 98206-1107



State of Washington

Department of Fish and Wildlife

Renewable Energy Section

P.O. Box 1100, 111 Sherman St. (physical address), La Conner, Washington 98257-9612

January 6, 2012

Public Utility District No. 1 of Snohomish County
Dawn Presler, Relicensing Specialist
PO Box 1107
Everett, WA 98206-1107

Subject: Henry M. Jackson Hydroelectric Project (FERC No. 2157) — Adaptive Management Plan, Draft December 7, 2011

Dear Ms. Presler:

The Washington Department of Fish and Wildlife (WDFW) has reviewed the Draft Adaptive Management Plan. We offer the following comments below. WDFW has participated in continuous consultation with Public Utility District No. 1 of Snohomish County (PUD) during the negotiation of the settlement agreement and implementation of the license articles. WDFW appreciates the PUD's willingness to work with WDFW on the implementation of their license articles including collaboration on restoration, management, and habitat improvement plans and their commitment to consult with Aquatic Resource Committee (ARC) members.

WDFW has the following recommendations:

4.2 Adaptive Management Process, second paragraph, second sentence.

WDFW would prefer that an emergency adaptive management situation receive consultation from the Aquatic Resource Committee (ARC) through an ARC majority. Although the ARC should make all efforts to gain consensus or approval of as many members of the committee as possible, the licensees should implement the majority will of the ARC before using the priority list. WDFW likes flexibility when gaining the collective will of the ARC.

Please change the second sentence of the second paragraph to say, "If the ARC cannot agree through consensus on a recommended course of action, then the District should implement an action with the approval of the majority of ARC members. The ARC members in opposition to the action should propose changes that would allow them to cast a "yea" vote. If the ARC cannot reach a majority, then the District will continue to

operate the Project to meet the requirements of the License based on the priorities listed in Section 3 Summary of Operational Priorities.”

5.1 Monitoring, first paragraph, last sentence. WDFW would like adaptive management addressed in each license article and their implementation plans. Please have the last sentence read: “This evaluation and adaptive management process is in addition to the adaptive management provisions described within each License Article implementation plans’ requirements.”

5.1 Monitoring, second paragraph, third sentence. WDFW would prefer to have the ability for any ARC member to propose specific measures. Please add “or any ARC member” to the sentence. The third sentence should read, “Based upon this monitoring and evaluation, and within the constraints of such License conditions, the District or any ARC member may propose to modify specific implementation measures.”

Thank you for sending us the plan for our review. WDFW welcomes the opportunity to work further with the PUD on the Jackson Hydroelectric Project. We value our working relationship with the PUD and encourage future dialog. If you have any questions or need more information or clarification on the comments from the WDFW, please feel free to call me at (360) 466-4345 x254.

Sincerely,

A handwritten signature in black ink that reads "Brock A. Applegate". The signature is written in a cursive, flowing style.

Brock Applegate
Fish and Wildlife Biologist

Cc: Jamie Bails, WDFW Mill Creek
Keith Binkley, Public Utility District No.1 of Snohomish County
David Brock, WDFW Mill Creek
Bob Everitt, WDFW Mill Creek
Travis Nelson, WDFW Olympia

Presler, Dawn

From: Maynard, Chris (ECY) [cmay461@ECY.WA.GOV]
Sent: Thursday, January 12, 2012 4:36 PM
To: Presler, Dawn
Cc: Applegate, Brock A (DFW); 'Steven.M.Fransen@noaa.gov'; 'Tim_Romanski@fws.gov'; 'Abby Hook - Tulalip'; Maynard, Chris (ECY); 'Okeefe@americanwhitewater.org'; 'Frank Leonetti - SnoCo'; 'Loren Everest - USFS'; 'Deborah Knight - Sultan'; 'Jim Miller - Everett'; Kannadaguli, Monika (ECY); Pacheco, James (ECY)
Subject: Ecology's Comments on the Jackson Project Adaptive Management Plan

Dawn,

Below are Ecology's comments on the December 17th, 2011 draft of the Henry M. Jackson Hydroelectric Project. Thank you for extending the comment period on the draft plan so we could incorporate review from our various programs within the Department of Ecology. We continue to appreciate the collaborative nature of our work with Snohomish P.U.D. If you have any question about these comments, please contact me at (360 407.6641)

Chris

Adaptive Management Plan Comments:

1. Water issues associated with Spade lake levels and flow releases.

4.1.2 Add at the end of the paragraph, "The ramping rates in A-LA-5 of the Settlement Agreement will still apply in the Sultan River below the dam, the diversion dam, and the powerhouse."

2. Not all the license issues are covered. Article 15 describes that the Adaptive Management will cover Spada Lake levels, flow releases and all other license issues. Since many of the license conditions' adaptive issues are covered in other plans, pull those together by reference, perhaps in a table. This will be helpful to readers and better fulfill the obligation of this license article. For the license articles that are not covered by adaptive planning in other documents, include adaptive plans for them in detail. Below are the license conditions of interest to Ecology but referred to as the Settlement Agreement articles or as 401 Water Quality Certification conditions.

A-LA-2 Marsh Creek Slide

A-LA 6 Large Woody Debris

A LA 7 Side Channels

A-LA 12 Fish habitat Enhancement Plan

A-LA 13 Diversion Dam Volitional Fish Passage

A-LA 17 Fisheries and Habitat Monitoring Plan

A-LA-18 Water Supply

401 Water Quality Certification Conditions:

5.1 Contains general conditions, many giving flexibility to adaptively deal with changing conditions.

5.2 *Instream flows and Habitat* are all covered through addressing settlement agreement articles

5.3 *Temperature* is mostly covered in the Settlement Agreement A-LA 3

6.0 and Appendix E of the 401 *Contaminant Spill* needs adaptive management included

7.0 *Construction Projects and Habitat Modifications* needs adaptive management included and reference to the *Water Quality Protection Plan for Construction Projects* and *In Water Work Protection Plan*

8.0 *Herbicide/Pesticide/Fertilizer* applications needs something about adaptive management and reference to the *In Water Work Protection Plan* adaptive elements

10.0 *Modifications to Monitoring* can be referenced in terms of adaptive planning

11.0 *Water Quality Criteria Violations* can be referenced in terms of adaptive management

Presler, Dawn

From: Tim_Romanski@fws.gov
Sent: Thursday, February 09, 2012 7:38 AM
To: Presler, Dawn
Cc: Binkley, Keith
Subject: Re: FW: ARC - updated DRAFT AM PLAN City of Everett edits
Attachments: ARC_REUpdated_DRAFT_Adaptive_Management_Plan.DOC

I think this looks good. Thanks

Tim Romanski
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Washington Fish and Wildlife Office
Division of Conservation and Hydropower Planning
510 Desmond Drive SE, Lacey, WA 98503
360.753.5823 (phone) 360.753.9518 (fax)

"Presler, Dawn" <DJPresler@SNOPUD.com>

To "Tim_Romanski@fws.gov" <Tim_Romanski@fws.gov>
cc

02/08/2012 02:07 PM

Subject FW: FW: ARC - updated DRAFT AM PLAN City of Everett edits

Hi Tim,

Keith asked me to try to consolidate comments. Please take a look at see if this is what you have in mind for ordering priorities within the levels (for three levels Jim Miller would like to see). Let's discuss on phone if you are not OK, as I would like to resend to ARC after I get your approval. Thanks.

Dawn Presler

Sr. Environmental Coordinator
Generation Resources
(425) 783-1709

PUD No. 1 of Snohomish County
PO Box 1107
Everett, WA 98206-1107

From: Binkley, Keith
Sent: Wednesday, February 08, 2012 12:43 PM
To: Presler, Dawn
Subject: FW: FW: ARC - updated DRAFT AM PLAN City of Everett edits

From: Tim_Romanski@fws.gov [mailto:Tim_Romanski@fws.gov]
Sent: Wednesday, February 08, 2012 12:28 PM
To: Binkley, Keith
Subject: RE: FW: ARC - updated DRAFT AM PLAN City of Everett edits

Then that is my comment. I did not get Jim email with his comments.

If I did not forward this already.....

Tim Romanski
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Washington Fish and Wildlife Office
Division of Conservation and Hydropower Planning
510 Desmond Drive SE, Lacey, WA 98503
360.753.5823 (phone) 360.753.9518 (fax)

"Binkley, Keith" <KMBinkley@SNOPUD.com>

02/08/2012 12:24 PM

To "Tim_Romanski@fws.gov" <Tim_Romanski@fws.gov>
cc
Subject RE: FW: ARC - updated DRAFT AM PLAN City of Everett edits

No, you are not wrong.

Thanks

From: [Tim Romanski@fws.gov](mailto:Tim_Romanski@fws.gov) [mailto:Tim_Romanski@fws.gov]
Sent: Wednesday, February 08, 2012 12:17 PM
To: Binkley, Keith
Subject: Re: FW: ARC - updated DRAFT AM PLAN City of Everett edits

I am OK with the two or more levels. I just think we need to set a priority within levels and it is my position and I think the settlement agreements supports instream flows above other demands. I am I wrong?

Tim Romanski
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Washington Fish and Wildlife Office
Division of Conservation and Hydropower Planning
510 Desmond Drive SE, Lacey, WA 98503
360.753.5823 (phone) 360.753.9518 (fax)

"Binkley, Keith" <KMBinkley@SNOPUD.com>

02/08/2012 12:10 PM

To "Tim_Romanski@fws.gov" <Tim_Romanski@fws.gov>

Are you okay with Jim's approach?

From: Jim Miller [<mailto:JMiller@ci.everett.wa.us>]
Sent: Thursday, February 02, 2012 4:49 PM
To: Presler, Dawn; Okeefe@americanwhitewater.org; Deborah Knight - Sultan; Steven.M.Fransen@noaa.gov; Frank Leonetti - SnoCo; Abby Hook; Tim_Romanski@fws.gov; Loren Everest - USFS; cmay461@ecy.wa.gov; Brock.Applegate@dfw.wa.gov
Cc: Binkley, Keith; Moore, Kim
Subject: ARC - updated DRAFT AM PLAN City of Everett edits
Importance: High

ARC Members:

As we had discussed at the last ARC meeting, we understood that if there were to be priority levels of operational priorities under Section 3 on page 5, the first two bullets should be Priority Level 1. We support this concept.

After the first level, there could be one or two more levels. For example, the next three bullets could be Priority Level 2, and the remaining bullets Priority Level 3. We've edited the Attached Draft Adaptive Management Plan to reflect this.

Til later,
Jim Miller
City of Everett

From: Presler, Dawn [<mailto:DJPresler@SNOPUD.com>]
Sent: Tuesday, January 24, 2012 4:41 PM
To: 'Okeefe@americanwhitewater.org'; Jim Miller; 'Deborah Knight - Sultan'; 'Steven.M.Fransen@noaa.gov'; 'Frank Leonetti - SnoCo'; 'Abby Hook'; 'Tim_Romanski@fws.gov'; 'Loren Everest - USFS'; 'cmay461@ecy.wa.gov'; 'Brock.Applegate@dfw.wa.gov'
Cc: Binkley, Keith; Moore, Kim
Subject: ARC - updated DRAFT AM PLAN for your REVIEW

Dear ARC Members,
Attached is the updated Draft Adaptive Mgmt Plan for your 2-week review. I've updated the Plan based on your previous comments submitted, our discussion at the ARC meeting on 1/18/2012, and my discussion with Chris M. on the phone yesterday. If you have any further comments, please send them to me **by February 7 COB**. Any questions, give me or Keith (425-783-1769) a call.

Thanks!

Dawn Presler
Sr. Environmental Coordinator
Generation Resources
(425) 783-1709

PUD No. 1 of Snohomish County
PO Box 1107
Everett, WA 98206-1107

Presler, Dawn

From: Presler, Dawn
Sent: Thursday, February 09, 2012 12:38 PM
To: 'Okeefe@americanwhitewater.org'; 'Tim_Romanski@fws.gov';
'Steven.M.Fransen@noaa.gov'; 'Leonetti, Frank'; 'Loren Everest - USFS'; 'Abby Hook';
'Deborah Knight - Sultan'; 'Jim Miller'; 'Maynard, Chris (ECY)'; 'Applegate, Brock A (DFW)'
Cc: Binkley, Keith; Moore, Kim
Subject: Draft AM Plan - Prioritization
Attachments: 20120209 ReReUpdated_DRAFT_Adaptive_Management_Plan.DOC
Importance: High

Hi All,
I've updated the draft Adaptive Management Plan based on the latest round of comments from Jim (create 3 levels of prioritization) and from Tim (prioritize within the 3 levels). We also had a quick conference call to discuss (focus on drought, prioritization within the levels, and modification under extraordinary circumstances) and determined that the ARC should weigh in on the prioritizations. So, please review sections 3 and 4.2 and let me know what day/time works for a group ARC conference call to discuss if further modification to the prioritizations is needed. Please let me know **by this Friday noon** which date and time works for you so I can get a conference number and let everyone know. Here's the link to the poll: <http://www.doodle.com/5weanfwmf5vawv65>

I need to file the AM Plan by February 24 with the FERC, so a meeting next week is critical.

Thanks!

Dawn Presler
Sr. Environmental Coordinator
Generation Resources
(425) 783-1709

PUD No. 1 of Snohomish County
PO Box 1107
Everett, WA 98206-1107

Presler, Dawn

From: Leonetti, Frank [frank.leonetti@snoco.org]
Sent: Monday, February 13, 2012 4:52 PM
To: Presler, Dawn
Subject: Tentative: Jackson ARC - draft AM Plan conference call

Dawn, I've reviewed sections 3 and 4.2 and the language and prioritization included is fine with me. – Frank

Frank Leonetti
frank.leonetti@snoco.org
Senior Habitat Specialist
Snohomish County Public Works
Surface Water Management
3000 Rockefeller Ave., MS 607
Everett WA 98201-4046
Voice 425 388-3464 x4249
FAX 425 388-6455

Presler, Dawn

From: Maynard, Chris (ECY) [cmay461@ECY.WA.GOV]
Sent: Tuesday, February 14, 2012 2:03 PM
To: Presler, Dawn; Binkley, Keith; Moore, Kim; 'Tim_Romanski@fws.gov'; 'Steven.M.Fransen@noaa.gov'; 'Loren Everest - USFS'; 'Leonetti, Frank'; Applegate, Brock A (DFW); 'Deborah Knight - Sultan'; 'Jim Miller'; 'Abby Hook'
Subject: RE: Jackson ARC - draft AM Plan conference call

ARC members,

For the meeting, here is my input, one on page four is a change to a piece I found hard to read

Pg 4:

1. When conflict occurs during Spada Lake Reservoir water use when for refill, Project operations, and flow releases under Spada Lake Reservoir water surface elevation guidelines.
2. Prioritizing the use of Spada Lake Reservoir water.
3. Evaluating and adaptively managing within the constraints of the License conditions.

And an addition to level one in section 3--the ramping -- which we might take for granted but should be put in as it would not be a hardship during drought conditions.

Section #3:

1. Maintain the minimum instream flows below Culmback Dam, the Diversion Dam, and the Powerhouse as required by the September 2011 License Appendix A Condition 5.2 (A-LA 9) and Appendix B Condition 2 (A-LA 9) and A-LA 5.

Chris Maynard | Hydropower & Instream Flows | Water Resources | WA Department of Ecology | 360.407.6641 cmay461@ecy.wa.gov

-----Original Message-----

From: Presler, Dawn [<mailto:DJPresler@SNOPUD.com>]
Sent: Monday, February 13, 2012 9:14 AM
To: Binkley, Keith; Moore, Kim; 'Tim_Romanski@fws.gov'; 'Steven.M.Fransen@noaa.gov'; 'Loren Everest - USFS'; 'Leonetti, Frank'; Applegate, Brock A (DFW); Maynard, Chris (ECY); 'Deborah Knight - Sultan'; 'Jim Miller'; 'Abby Hook'
Subject: RE: Jackson ARC - draft AM Plan conference call

Internal Conference Number: 4720
External Conference Phone Number: (425) 783-4720
Toll Free Access Number: (877) 783-4025
Conference Password: 5506

NOTE: When using the toll free number, enter the 4-digit Internal Conference Number followed by the # sign. You will then be prompted to enter the password followed by the # sign.

-----Original Appointment-----

From: Presler, Dawn
Sent: Monday, February 13, 2012 9:04 AM
To: Binkley, Keith; Moore, Kim; 'Tim_Romanski@fws.gov'; 'Steven.M.Fransen@noaa.gov'; 'Loren Everest - USFS'; 'Leonetti, Frank'; 'Applegate, Brock A (DFW)'; 'Maynard, Chris (ECY)'; 'Deborah Knight - Sultan'; 'Jim Miller'; 'Abby Hook'
Subject: Jackson ARC - draft AM Plan conference call
When: Tuesday, February 14, 2012 2:00 PM-3:00 PM (GMT-08:00) Pacific Time (US & Canada).
Where: conference call

Hi All,

I've updated the draft Adaptive Management Plan based on the latest round of comments from Jim (create 3 levels of prioritization) and from Tim (prioritize within the 3 levels). We also had a quick conference call to discuss (focus on drought, prioritization within the levels, and modification under extraordinary circumstances) and determined that the ARC should weigh in on the prioritizations. So, please review sections 3 and 4.2 and let me know what day/time works for a group ARC conference call to discuss if further modification to the prioritizations is needed. Based on the poll, Tuesday 2:00 works best. Will send you the phone number shortly.

<< File: 20120209 ReReUpdated_DRAFT_Adaptive_Management_Plan.doc >>

Presler, Dawn

From: Presler, Dawn
Sent: Tuesday, February 14, 2012 3:07 PM
To: 'Maynard, Chris (ECY)'; 'Tim_Romanski@fws.gov'; 'Steven.M.Fransen@noaa.gov'; 'Loren Everest - USFS'; 'Leonetti, Frank'; Applegate, Brock A (DFW); 'Deborah Knight - Sultan'; 'Jim Miller'; 'Abby Hook'; 'Okeefe@americanwhitewater.org'
Cc: Binkley, Keith; Moore, Kim
Subject: ARC - FINAL draft AM Plan per conference call
Attachments: 20120214 FINAL_Draft_Adaptive_Management_Plan.doc

Please see final draft AM Plan. Based on our conference call (Ecology, USFS, USFWS, WDFW, PUD, Everett) today, I:

1. Added Chris' edit to section 1.1 (minus the second "when" in number 1);
2. Added "Any reduction in flow will meeting ramping requirements..." sentence to section 3;
3. Left priority level 1 as numbered;
4. Changed priority levels 2 and 3 to bullets;
5. Updated consultation section.

I plan to file this updated Plan next week unless I hear back from you by Monday (2/20/12) 5 pm.

Dawn Presler

Sr. Environmental Coordinator
Generation Resources
(425) 783-1709

PUD No. 1 of Snohomish County
PO Box 1107
Everett, WA 98206-1107

Presler, Dawn

From: Tim_Romanski@fws.gov
Sent: Tuesday, February 14, 2012 3:16 PM
To: Presler, Dawn
Subject: Re: ARC - FINAL draft AM Plan per conference call
Attachments: 20120214 FINAL_Draft_Adaptive_Management_Plan.doc

Looks good to me, thanks for working through this.

Tim Romanski
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Washington Fish and Wildlife Office
Division of Conservation and Hydropower Planning
510 Desmond Drive SE, Lacey, WA 98503
360.753.5823 (phone) 360.753.9518 (fax)

"Presler, Dawn" <DJPresler@SNOPUD.com>

02/14/2012 03:07 PM

To "Maynard, Chris (ECY)" <cmay461@ECY.WA.GOV>, "Tim_Romanski@fws.gov" <Tim_Romanski@fws.gov>, "Steven.M.Fransen@noaa.gov" <Steven.M.Fransen@noaa.gov>, "Loren Everest - USFS" <leverest@fs.fed.us>, "Leonetti, Frank" <frank.leonetti@snoco.org>, "Applegate, Brock A (DFW)" <Brock.Applegate@dfw.wa.gov>, "Deborah Knight - Sultan" <deborah.knight@ci.sultan.wa.us>, "Jim Miller" <JMiller@ci.everett.wa.us>, "Abby Hook" <ahook@tulaliptribes-nsn.gov>, "Okeefe@americanwhitewater.org" <Okeefe@americanwhitewater.org>
cc "Binkley, Keith" <KMBinkley@SNOPUD.com>, "Moore, Kim" <KDMoore@SNOPUD.com>

Subject ARC - FINAL draft AM Plan per conference call

Please see final draft AM Plan. Based on our conference call (Ecology, USFS, USFWS, WDFW, PUD, Everett) today, I:

1. Added Chris' edit to section 1.1 (minus the second "when" in number 1);
2. Added "Any reduction in flow will meeting ramping requirements..." sentence to section 3;
3. Left priority level 1 as numbered;
4. Changed priority levels 2 and 3 to bullets;
5. Updated consultation section.

I plan to file this updated Plan next week unless I hear back from you by Monday (2/20/12) 5 pm.

Dawn Presler
Sr. Environmental Coordinator
Generation Resources
(425) 783-1709

PUD No. 1 of Snohomish County
PO Box 1107
Everett, WA 98206-1107

Appendix 3

Response to Comments on Draft Plan

No.	Comment	District Response
Washington Department of Fish and Wildlife Comments (Letter Dated January 6, 2012)		
1.	<p>4.2 Adaptive Management Process, second paragraph, second sentence.</p> <p>WDFW would prefer that an emergency adaptive management situation receive consultation from the Aquatic Resource Committee (ARC) through an ARC majority. Although the ARC should make all efforts to gain consensus or approval of as many members of the committee as possible, the licensees should implement the majority will of the ARC before using the priority list. WDFW likes flexibility when gaining the collective will of the ARC.</p> <p>Please change the second sentence of the second paragraph to say, “If the ARC cannot agree through consensus on a recommended course of action, then the District should implement an action with the approval of the majority of ARC members. The ARC members in opposition to the action should propose changes that would allow them to cast a “yea” vote. If the ARC cannot reach a majority, then the District will continue to operate the Project to meet the requirements of the License based on the priorities listed in Section 3 Summary of Operational</p>	<p>As discussed with the ARC at the January 18, 2012 ARC meeting, the list was not intended to be a hierarchical ranking of priorities as the District is committed to meeting all of its license conditions to the best of its ability. The District cannot prioritize which condition is more important than another. Therefore, based on further consultation with the ARC on a February 14, 2012 conference call, the Plan has been updated to reflect primary, secondary, and tertiary levels of priorities if situations of water use conflict arise. Level 1 was numbered to acknowledge the Settlement Agreement’s commitment to prioritizing instream flows.</p> <p>The ARC is a consensus based group, which is consistent with the Settlement Agreement and ARC Guidelines. The District cannot support changing the Plan and its operations based on a majority of the ARC members as this could lead to circumstances that are contrary to federal agency recommendations, or License requirements.</p>

	Priorities.”	
2.	<p>5.1 Monitoring, first paragraph, last sentence.</p> <p>WDFW would like adaptive management addressed in each license article and their implementation plans. Please have the last sentence read: “This evaluation and adaptive management process is in addition to the adaptive management provisions described within each License Article implementation plans’ requirements.”</p>	Updated sentence as proposed.
3.	<p>5.1 Monitoring, second paragraph, third sentence.</p> <p>WDFW would prefer to have the ability for any ARC member to propose specific measures. Please add “or any ARC member” to the sentence. The third sentence should read, “Based upon this monitoring and evaluation, and within the constraints of such License conditions, the District or any ARC member may propose to modify specific implementation measures.”</p>	Updated sentence as proposed.
U.S. Fish and Wildlife Service Comments (Redlines Emailed January 11, 2012)		

4.	<p>1.1 Background</p> <p>1. Spada Lake Reservoir water use issues when refill, Project operations, and flow releases under Spada Lake Reservoir water surface elevation guidelines may conflict.</p>	Updated sentence as proposed.
5.	<p>3. SUMMARY OF OPERATIONAL PRIORITIES</p> <p>(Seems to me that if these are priorities they need to be put in some kind of order, highest to lowest) I tried below but certainly open to what others think</p>	The lists were updated based on further consultation with the ARC members during a conference call on February 14, 2012. See also response to number 1 above.
Washington Department of Ecology Comments (Email Dated January 12, 2012)		
6.	<p>4.1.2 Spada Lake Reservoir drops below elevation 1,380 feet msl.</p> <p>Add at the end of the paragraph, “The ramping rates in A-LA-5 of the Settlement Agreement will still apply in the Sultan River below the dam, the diversion dam, and the powerhouse.”</p>	Language was added to section 4.1.2 that states minimum flows and ramping rates will apply.
7.	<p>Not all the license issues are covered. Article 15 describes that the Adaptive Management will cover Spada Lake levels, flow releases and all other license issues. Since many of the license conditions’ adaptive issues are covered in other plans, pull those together by reference, perhaps in a table. This will be helpful to readers and better fulfill the obligation of</p>	As discussed with Chris Maynard (WA Department of Ecology) on January 24, 2012, the intent of the Adaptive Management Plan is how the District will address water use conflicts. The Plan’s intent is not to describe all adaptive management for the Project’s operations. Therefore, the Plan has not been updated as recommended. The addition of the WDFW’s recommendation for section 5.1, first paragraph, last sentence (see no. 2 in the

	<p>this license article. For the license articles that are not covered by adaptive planning in other documents, include adaptive plans for them in detail. Below are the license conditions of interest to Ecology but referred to as the Settlement Agreement articles or as 401 Water Quality Certification conditions.</p> <p>A-LA-2 Marsh Creek Slide</p> <p>A-LA 6 Large Woody Debris</p> <p>A LA 7 Side Channels</p> <p>A-LA 12 Fish habitat Enhancement Plan</p> <p>A-LA 13 Diversion Dam Volitional Fish Passage</p> <p>A-LA 17 Fisheries and Habitat Monitoring Plan</p> <p>A-LA-18 Water Supply</p> <p>401 Water Quality Certification Conditions:</p> <p>5.1 Contains general conditions, many giving flexibility to adaptively deal with changing conditions.</p> <p>5.2 <i>Instream flows and Habitat</i> are all covered through addressing settlement</p>	<p>table above) adequately and succinctly addresses adaptive management in other License articles.</p>
--	--	--

	<p>agreement articles</p> <p>2</p> <p>5.3 <i>Temperature</i> is mostly covered in the Settlement Agreement A-LA 3</p> <p>6.0 and Appendix E of the 401 <i>Contaminant Spill</i> needs adaptive management included</p> <p>7.0 <i>Construction Projects and Habitat Modifications</i> needs adaptive management included and referenceto the <i>Water Quality Protection Plan for Construction Projects</i> and <i>In Water Work Protection Plan</i></p> <p>8.0 <i>Herbicide/Pesticide/Fertilizer</i> applications needs something about adaptive management and reference</p> <p>to the <i>In Water Work Protection Plan</i> adaptive elements</p> <p>10.0 <i>Modifications to Monitoring</i> can be referenced in terms of adaptive planning</p> <p>11.0 <i>Water Quality Criteria Violations</i> can be referenced in terms of adaptive management</p>	
--	--	--