SNOHOMISH COUNTY PUD
PUBLIC UTILITY DISTRICT NO. 1

Your Northwest renewables utility invites you to be a Conservation Sensation.

February 23, 2010

VIA ELECTRONIC FILING

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission (FERC)
888 First Street NE
Washington, DC 20426

Re: Jackson Hydroelectric Project, FERC Project No. P-2157
Marsh Creek Slide Plan

Dear Secretary Bose:

The Public Utility District No. 1 of Snohomish County (the "District") files the Marsh Creek Slide Plan (the "MCS Plan"). The District developed the MCS Plan pursuant to the Proposed Aquatic License Article 2 within the Settlement Agreement filed on October 14, 2009. As agreed to within the Settlement Agreement, the District developed the MCS Plan as an early implementation measure.

The District respectfully requests that the Commission's review and approve the MCS Plan in conjunction with its issuance of a New License to the Jackson Hydroelectric Project (the "Project"). The District developed the MCS Plan in consultation with the Aquatic Resources Committee (the "ARC"). Copies of the consultation are included in the MCS Plan's appendix. All comments have been vetted and incorporated into the MCS Plan as appropriate. No additional comments or objections to filing this MCS Plan were received from the ARC.

If you have any questions about the enclosed or the District's relicensing efforts with respect to the Project, please contact Dawn Presler at (425) 783-1709 or me at (425) 783-8606.

Sincerely,

Kim D. Moore, P.E.
Assistant General Manager, Water and Generation Resources
Relicensing Team Lead

Enclosed: Marsh Creek Slide Plan

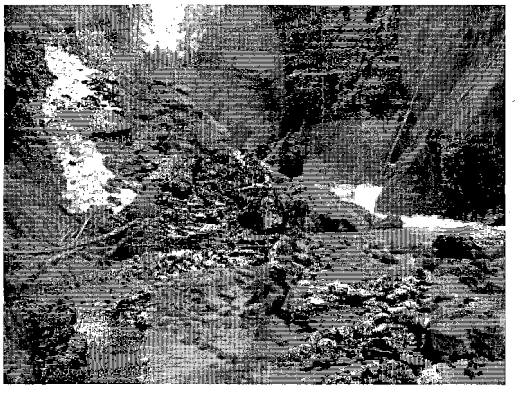
cc: Service List
David Turner, FERC
Matt Cutlip, FERC

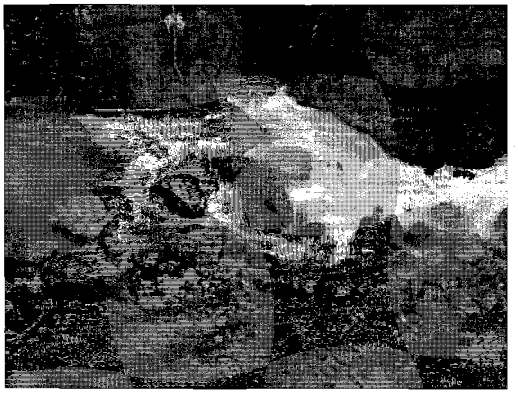
2320 California Street • Everett, WA • 98201 / *Mailing Address:* P.O. Box 1107 • Everett, WA • 98206-1107
425-783-1000 • Toll-free in Western Washington at 1-877-783-1000 • www.snopud.com

Marsh Creek Slide Monitoring and Modification Plan

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

Public Utility District No. 1 of Snohomish County





February 2010

TABLE OF CONTENTS

APPENDICES

ACRONYMS

A-LA	Aquatic License Article
ARC	Aquatic Resource Committee
FERC	Federal Energy Regulatory Commission
HEA	Habitat Enhancement Account
MCS	Marsh Creek Slide
PM&E	Protection, mitigation and enhancement
RM	River mile
RSP	Revised Study Plan
USFS	United States Forest Service

1. INTRODUCTION

1.1. Background

Public Utility District No. 1 of Snohomish County (District) is seeking from the Federal Energy Regulatory Commission (FERC) a new license for the existing 111.8-megawatt (MW) Henry M. Jackson Hydroelectric Project (FERC No. 2157) (Project). The current license expires on May 31, 2011. 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 1964, construction of Culmback Dam was completed to create Spada Reservoir – the source of the majority of drinking water supplied to Snohomish County by the City of Everett. In 1984, the hydroelectric Project construction was completed. The Project includes a 262-foot high rock-fill dam (Culmback Dam); a 1,870-acre reservoir (Spada Lake or Spada Reservoir) operated for the City of Everett's water supply, fisheries habitat enhancement, hydroelectric power, and incidental flood control; a Powerhouse and various other facilities; wildlife mitigation lands; and several developed and undeveloped recreation and river access sites.

On October 14, 2009, the District filed 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 referred to as "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, recreation, historic properties and license term.

The Settlement requests that the Commission adopt, without material modification, Proposed License Articles. These Proposed License Articles will implement a complex and interrelated suite of protection, mitigation and enhancement measures that will result in improved resource conditions and ecological processes in the Sultan River over the term of a new license. The Proposed License Articles mainly address flows, fish passage, fish and wildlife habitat enhancement and protection, water quality, municipal water supply, rule curves for reservoir operation, fish supplementation, recreation, historic properties, and noxious weeds.

Proposed Aquatic License Article 2 (A-LA 2) addresses the Marsh Creek Slide (see Appendix 1). On December 11, 2004, a natural landslide occurred in the Sultan River near Marsh Creek at River Mile (RM) 7.6. The Marsh Creek Slide (MCS) blocked or reduced the upstream passage of adult anadromous salmonids upstream of River Mile 7.6. Since then, the characteristics and geometry of the landslide have changed and currently allow some fish passage in part due to high flows. During the relicensing process, the District conducted the Revised Study Plan No. 20 Phase 1: Fish Passage Assessment, Evaluation of Salmon and Steelhead Migration after a Landslide on the Sultan River (Ruggerone 2008) and the Revised Study Plan No. 24: Feasibility of Marsh Creek Slide Modification to Improve Fish Passage (CH2M Hill 2009). These plans analyzed whether the Marsh Creek Slide is a hindrance to fish passage in the Sultan River and if so, whether modifications to the slide could improve passage.

Proposed A-LA 2 provides that if the ARC determines that the use of dynamite, expandable grout, or comparable methods to modify the MCS are necessary to enhance and maintain anadromous fish passage at the MCS, the District will implement such modification pursuant to a plan, a schedule

approved by the ARC and the Commission, and all necessary regulatory permits. Modification of the slide as described above (if deemed necessary by the ARC) will provide safe, timely, and effective access to 2.1 miles of salmon and steelhead habitat up to the Diversion Dam, and an additional 6.6 miles of historically available habitat upstream of the Diversion Dam after passage is provided at that structure (as described in A-LA 13: Diversion Dam Volitional Passage). It is anticipated that this measure will increase salmon and steelhead production in the Sultan River by allowing these species to fully utilize available habitat and production capacity upstream of the Marsh Creek Slide.

To implement this proposed license article, Proposed A-LA 2 provides for the development of this MCS Monitoring and Modification Plan ("MCS Plan"). Consistent with Proposed A-LA 2, the MCS Plan includes provisions that address:

1. the establishment of a permanent survey control point or benchmark;
2. the methods and schedule for conducting a detailed baseline physical survey at low flow;
3. the method and schedule for using dynamite, expandable grout or comparable methods to modify the size and location of specific rocks to create additional potential passage route(s) and improve passage;
4. the method and schedule for conducting post modification physical surveys of the Marsh Creek Slide;
5. the method and schedule for monitoring fish use and escapement upstream of the Marsh Creek Slide on an annual basis throughout the license term; and
6. the method and schedule for conducting physical surveys of the Marsh Creek Slide subsequent to flow events exceeding 4,000 cfs instantaneous peak as measured at the Diversion Dam or a scheduled process flow pursuant to Proposed Aquatic License Article 8.

Proposed A-LA 2 provides that this plan must be filed with the Commission, for approval, within 180 days of issuance of the license. However, the Settlement Parties agreed to several early implementation measures based on the Effective Date of the Settlement Agreement (i.e., signing of the Settlement), rather than the date of issuance of a new license. *See* Settlement Agreement at Section 1.2.2. The development of the MCS Plan is one such early implementation measure. Consistent with the Settlement Agreement's early implementation commitments, the District is filing this MCS Plan prior to the issuance of the new license. The District requests that the Commission approve this MCS Plan concurrently with its issuance of the new license. Doing so will ensure rapid implementation of A-LA 2.

Consistent with the requirements of Proposed A-LA 2, the District has developed this plan in consultation with the ARC. The District has allowed a minimum of thirty (30) days for members of the ARC to comment and make recommendations before submitting the MCS to the Commission. Along with this MCS Plan, the District has included documentation of consultation; copies of comments and recommendations; and specific descriptions of how comments and recommendations from the ARC are accommodated by the District's plan.

1.2. Purpose

The purpose of the MCS Plan is to implement the District's obligations specified in Proposed A-LA 2. This Marsh Creek Slide Plan is based on results of the RSP 20.1, RSP 24 and the best available information, and developed in consultation with the ARC.

Comments received from the consulted parties on the draft MCS Plan, and District responses to those comments, are included in Appendix 2.

1.3. Coordination and Integration

1.3.1. District's Role

Upon issuance of the new license and approval of the MCS Plan, the District will be responsible to implement the MCS Plan. This responsibility will include:

- providing the funding to carry out the measures as described herein;
- coordinating with surrounding landowners regarding land management in or near the Project boundary that may affect or be affected by the measures provided;
- consultation with the ARC ;
- monitoring resource effects; and
- reporting to FERC.

The District's resource specialists and consultants will be involved as needed. Operational staff will be trained on the unique requirements of the MCS Plan.

1.3.2. ARC Consultation

The District will meet quarterly with the ARC on license implementation measures. As necessary, these meetings will address outstanding issues associated with the implementation of this plan. Where this plan requires consultation with the ARC, such consultation will occur through these quarterly meetings.

1.3.3. Monitoring of Resources

The District will coordinate the actions of the MCS Plan with the actions of the various Project resource management plans including the:

- A-LA 5: Downramping – for cross reference to downramping requirements below the Diversion Dam.
- A-LA 8: Process Flow Regime Plan – for cross reference to timing, magnitude and duration of process flow (high flow) releases.
- A-LA 9: Minimum Instream Flows – for cross reference to minimum instream flows below the Diversion Dam
- A-LA 12: Fish Habitat Enhancement Plan – for cross reference to the process for project approval of additional modifications to the Marsh Creek Slide or other slides.
- A-LA 17: Fisheries and Habitat Monitoring Plan – for cross reference to escapement monitoring and reporting requirements.

2. PRE-MODIFICATION MEASURES

2.1. Establishment of Permanent Control Point or Benchmark

The District will establish benchmarks for vertical and horizontal control in bedrock features upstream and/or downstream from the MCS. Given the dynamic nature of the channel morphology, the District will select locations for benchmarks in areas sheltered from the main current of the river and will place permanent benchmarks in bedrock. The District will also establish redundant benchmarks to ensure survey control well into the future. Benchmarks will be installed by drilling a hole into the bedrock and cementing a bolt into the bedrock. The District will establish the benchmarks for local control and long-term monitoring. The District will not reference these benchmarks to a standard vertical or horizontal datum (e.g. NAVD88 or NAD 83).

2.2. Method for Conducting Detailed Baseline Physical Surveys at Low Flow

The District will survey the site using a reflectorless total station instrument. Topography on the northwest side of the slide will be surveyed in a conventional manner using a prism reflector. The bedrock wall along the southeast side of the slide will be surveyed using the reflectorless capability of the total station. Bathymetry of the pools on the upstream and downstream side of the slide will be surveyed using an inflatable raft tethered to a cable strung across the river. River bottom elevation will be determined by measuring depth, and subtracting from a surveyed pool elevation. Horizontal position in the pool would be surveyed using the total station.

The total station will also be used to survey longitudinal water surface profiles along potential passages routes through the slide. The flow in the Sultan River, which includes releases from the Diversion Dam plus downstream accretion flows, will also be measured when the water surface profiles are surveyed. The flow will be measured by selecting an appropriate flow measurement transect, setting up a tape measure across the transect, and measuring station, depth, and mean column velocity in at least 20 verticals across the wetted width of the transect.

The water surface profiles and flow measurement, needed to characterize the range of conditions expected during salmonid migration, would be collected under both low (~ 100 cfs) and high (~ 200 cfs) flow conditions.

Appropriate break lines will be delineated through raw surveyed data points of the ground surface in the MCS, and a Triangulated Irregular Network (TIN) will be constructed using Carlson Civil 2009. A contour map of the MCS will then be derived from the TIN.

2.3. Schedule for Conducting Detailed Baseline Physical Surveys at Low Flow

The District examined the minimum flow releases from the Diversion Dam and median accretion flows to determine the appropriate seasons to collect low and high flow calibration data. Based upon that information, the District will collect low flow hydraulic data during the month of August, 2010 and high flow calibration data during the month of May, 2010.

3. METHOD AND SCHEDULE FOR MODIFYING THE SIZE AND LOCATION OF SPECIFIC ROCKS TO CREATE ADDITIONAL POTENTIAL PASSAGE ROUTE(S) AND IMPROVE PASSAGE

3.1. Slide Modifications Method

The survey and hydraulic data will be used to develop a numerical model. The District will use the numerical model as a guide for designing modifications to the MCS to improve passage through the slide area. The District will use the River2D model (University of Alberta 2002) to analyze the complex hydraulics through the MCS reach. The interfaces between zones of high velocity (supercritical flow) and zones of low velocity (subcritical flow) in the MCS reach are solved numerically using algorithms. The River2D model will incorporate seasonal hydrology to determine velocities and flow depths during migration of steelhead, and Chinook and Coho salmon. The District will delineate critical paths for passage through the slide. The District will compare hydraulic output from the model along these paths with leaping and swimming abilities (burst, prolonged, and sustained velocities) of steelhead, and Chinook and Coho salmon to assess passage. These results will be used to pinpoint locations of potential barriers.

The District will then design and develop the appropriate modifications to slide morphology *using dynamite, expandable grout or comparable methods* to reduce or eliminate any potential barriers identified from analyses based on the current morphology. The District will design and develop modifications to the MCS with the objective of not compromising the stability of the adjacent slope.

When developing the modification methods, the District will consider safety of work crews.

The District will convene an on-site meeting to discuss planned modifications. Attendees at this meeting will include ARC members and the USFS Enterprise Team, as available. Upon consensus with the ARC on the planned modifications, the District will apply for appropriate permits as discussed below.

3.2. Slide Modification Schedule

If annual escapement of Chinook salmon and/or steelhead trout in the Diversion Dam Index Area (RM 9.2 – 9.7) returns to pre-slide levels and exceeds 10% of the total annual escapement (for either species) within all index areas combined downstream of the Diversion Dam, passage will be deemed unimpaired and modification plans will be put on hold. Conversely, if the portion of the annual escapement in the Diversion Dam Index Area remains below 10% of the combined index area total, as it has since the slide occurred , the slide modification plan will be implemented.

Upon ARC consensus on the modification method, the District will apply for all required hydraulic and land use permits. The permits include, but are not limited to:

- Washington Department of Fish and Wildlife – Hydraulic Project Approval;
- Snohomish County – grading permit; and
- U.S. Army Corps of Engineers – Section 404 Permit.

After all necessary permits are received, the District will advertise and award a contract for slide modifications. The District will implement the slide modification activities during the first approved

window for in-water work after permits are issued, the MCS Plan is approved by FERC, and a new license is issued by FERC. The District currently anticipates conducting this work during the month of August unless a variance to the work window is allowed by the various permitting agencies.

4. POST MODIFICATION MEASURES

4.1. Method and Schedule for Monitoring Fish Use and Escapement Upstream of MCS

Through the duration of the new license, the District will continue its current salmon and steelhead population monitoring program and conduct annual escapement surveys during the spring and fall. These surveys follow co-manager established protocols with a target survey frequency of every 10 to 14 days during the spawning season. Four established index areas exist on the Sultan River between the confluence with the Skykomish River at RM 0.0 and the Diversion Dam at RM 9.7. One of these index areas is upstream of the MCS and the remaining three are downstream. Through observation, the proportion of fish in the index area upstream of the MCS, relative to downstream index areas, will be indicative of the effectiveness of slide modification measures. The proportion observed will be compared with historic trends in proportional spawning use of the river. Another of the index areas is immediately downstream of the MCS. This index area will be monitored for increased concentrations of fish that might reflect a passage impairment immediately upstream. This monitoring will be done to coincide with escapement surveys.

4.2. Method and Schedule for Conducting Post High Flow Surveys

Subsequent to flow events exceeding 4,000 cfs instantaneous peak as measured at the Diversion Dam or a scheduled process flow pursuant to A-LA 8, the District will conduct a visual inspection of the MCS to assess any movement and redistribution of substrate and to characterize changes in slide morphology related to these high flows.

4.3. Method and Schedule for Conducting Post Modification Physical Surveys

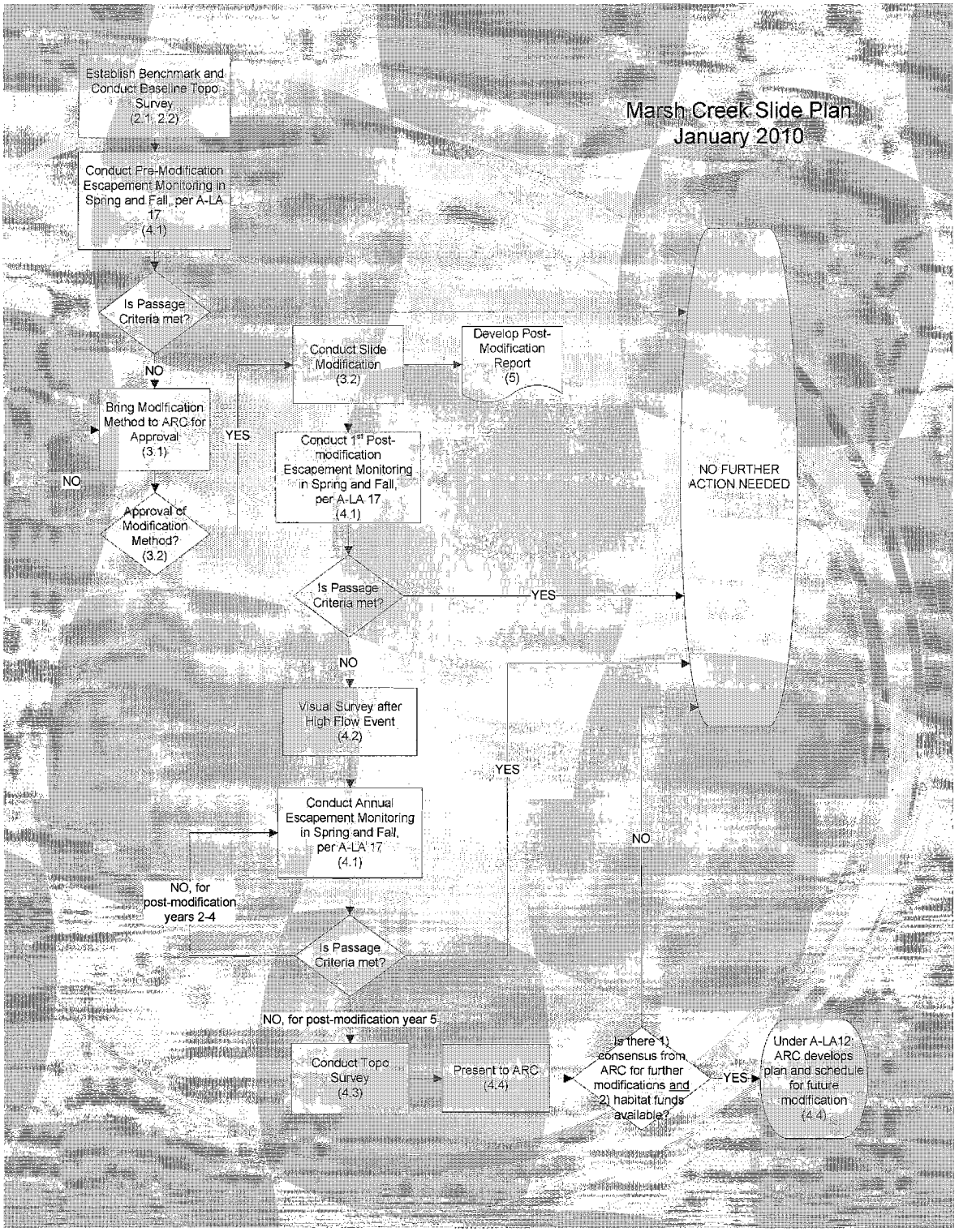
Following the initial topographic survey of the MCS pursuant to Section 2.2, the District will conduct follow up topographic surveys to detect changes in morphology after the modifications, pursuant to Section 3, are made. The need for these post modification surveys will be informed by the results of biological monitoring as described in Section 4.1.

4.4. Method and Schedule for Conducting Future Modifications

Pursuant to Section 4.2, the District will monitor fish passage at the MCS by annually monitoring escapement in the reach upstream of the slide. The ARC agreed in the Joint Explanatory Statement, that if additional modifications are necessary, an additional modification will be made no earlier than six years after the initial modification; this timeframe will allow time to evaluate the effectiveness of the initial modification after process flows and several fishery life cycles occur. If the ARC concludes that an additional modification to the MCS is necessary to enhance fish passage because 1) initial or subsequent modifications cause further slides or blockages or 2) the annual escapement of Chinook salmon and

steelhead trout in the spawning habitat within the Diversion Dam Index Area (RM 9.2 to 9.7) does not exceed ten (10) percent of the total annual escapement of Chinook or steelhead in all index areas in the Sultan River in any year, the District will use funds from the A-LA 12 Habitat Enhancement Account. The method and schedule for such future modifications will be developed when the ARC determines such modifications are necessary.

Figure 1: MCS Modification Flow Chart



5. REPORTING

Within six months of completing the modifications described in Section 3, the District will file a report with FERC detailing what methods were used to modify the slide. The ARC will be provided at least thirty days to review the draft report prior to filing with the Commission.

The District will include reports on escapement monitoring within the annual reports developed pursuant to A-LA 17 describing the monitoring efforts during the previous year.

6. REFERENCES

CH2M Hill. 2009. Fish Passage Feasibility at the Sultan River Diversion Dam. Phase 2 Assessment.

Co-manager and related protocols for Spawning Surveys.

Ruggerone, G. 2008. Phase 1 Fish Passage Assessment. Evaluation of Salmon and Steelhead Migration after a Landslide on the Sultan River. Natural Resource Consultants, Inc.

Snohomish PUD. 2002. Henry M. Jackson Project, Sultan River Fisheries, Standard Operating Procedures.

Snohomish PUD. 2009. Settlement Agreement for the Henry M. Jackson Hydroelectric Project.

University of Alberta. 2002. River 2D Modeling software. http://www.river2d.ualberta.ca/index.htm

Washington Department of Fish and Wildlife. 1978. Chinook Spawning Ground Surveys.

Washington Department of Game. 1983. Wild Steelhead Spawning Escapement Requirement Methodology.

Appendix 1
Proposed Aquatic License Article 2

A-LA 2: Marsh Creek Slide Modification and Monitoring

If, based upon monitoring and other available information, the Aquatic Resource Committee (ARC) determines that the use of dynamite, expandable grout, or comparable methods to modify the size and location of specific rocks at the Marsh Creek Slide (MCS) is necessary to enhance fish passage at the Slide, the Licensee shall implement such modifications pursuant to a plan and a schedule approved by the ARC and the Commission and subject to obtaining any necessary regulatory approval. The Licensee shall seek the input of the US Forest Service (USFS) Enterprise Team in developing the plan for such modifications.

Modifications to the MCS shall be designed with the objective of not compromising the stability of the adjacent slope.

The Licensee shall also monitor fish passage at the MCS by continuing to annually monitor escapement in the reach upstream of the Slide, as it has been conducted since the 1990s. The Licensee shall use funds from the Habitat Enhancement Account (HEA) (see A-LA 12) to implement additional similar modifications to the MCS as necessary if the ARC concludes that an additional modification to the MCS is necessary to enhance fish passage and 1) initial or subsequent modifications cause further slides or blockages or 2) the annual escapement of Chinook salmon and steelhead trout in the spawning habitat within the Diversion Dam Index Area (RM 9.2 to 9.7) does not exceed ten (10) percent of the total annual escapement of Chinook or steelhead in all index areas in the Sultan River in any year. Any additional future modifications by the Licensee to the MCS are subject to availability of HEA funds.

To accomplish these commitments, within 180 days of issuance of the License, the Licensee shall file with the Commission, for approval, a Marsh Creek Slide Monitoring and Modification Plan (Marsh Creek Slide Plan). The Marsh Creek Slide Plan shall include: (1) the establishment of a permanent survey control point or benchmark; (2) the methods and schedule for conducting a detailed baseline physical survey at low flow; (3) the method and schedule for using dynamite, expandable grout or comparable methods to modify the size and location of specific rocks to create additional potential passage route(s) and improve passage; (4) the method and schedule for conducting post modification physical surveys of the Marsh Creek Slide; (5) the method and schedule for monitoring fish use and escapement upstream of the Marsh Creek Slide on an annual basis throughout the License term; and (6) the method and schedule for conducting physical surveys of the Marsh Creek Slide subsequent to flow events exceeding 4,000 cfs instantaneous peak as measured at the Diversion Dam or a scheduled process flow pursuant to A-LA 8.

The Licensee shall develop the Marsh Creek Slide Plan in consultation with the ARC. The Licensee shall allow a minimum of thirty (30) days for members of the ARC to comment and make recommendations before submitting the Marsh Creek Slide Plan to the Commission. When filing the Marsh Creek Slide 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 Marsh Creek Slide Plan.

Appendix 2
Consultation on Draft MCS Plan

Presler, Dawn

From: Presler, Dawn
Sent: Thursday, February 18, 2010 12:14 PM
To: 'Abby Hook'; 'Thomas O'Keefe'; 'Steve Fransen'; 'Tim_Romanski@fws.gov'; 'Maynard, Chris (ECY)'; 'Andy.Haas@co.snohomish.wa.us'; 'deborah.knight@ci.sultan.wa.us'; 'Applegate, Brock A (DFW)'
Cc: Binkley, Keith; Moore, Kim; 'Barry Gall'; 'Jim Miller'
Subject: RE: Jackson ARC - updated Marsh Creek Slide Plan
Attachments: 2157Marsh_Creek_Slide_Plan.pdf

Dear ARC Members (Marsh Creek Slide Quorum Members):

Attached is the updated MCS Plan based on WDFW's suggested edits/comments (we only received comments from WDFW). I've also updated the consultation section. Since these edits were non-substantial in our opinion, we plan to file this MCS Plan with the FERC on Tuesday February 23, 2010 (unless I hear any final objections). Thanks!

Dawn

From: Presler, Dawn
Sent: Friday, January 29, 2010 10:58 AM
To: 'Abby Hook'; 'Thomas O'Keefe'; 'Steve Fransen'; 'Tim_Romanski@fws.gov'; 'Maynard, Chris (ECY)'; 'Andy.Haas@co.snohomish.wa.us'; 'deborah.knight@ci.sultan.wa.us'; 'Applegate, Brock A (DFW)'
Cc: Binkley, Keith; Moore, Kim; 'Barry Gall'; 'Jim Miller'
Subject: Jackson ARC - updated Marsh Creek Slide Plan

Dear ARC Members (Marsh Creek Slide Quorum Members):

Attached is the updated Marsh Creek Slide Plan for your review (redline and clean version containing consultation record to date on draft plan). This plan has been updated per our discussion at the 1/14/10 ARC meeting and emails between Brock/PUD. No additional comments came in by the 1/20/10 deadline. Please take the next two-weeks to review the updated version. As discussed at the ARC meeting, additional comments should be limited to updates only and if I don't hear any additional comments by February 12 I'll update the consultation appendix and file the Plan with FERC. (Feel free to email a support letter/email that I can include in the consultation appendix as well.)

Thanks. Have a great weekend.

Dawn Presler
Relicensing Specialist
Jackson Hydro Project

Snohomish County PUD No. 1
PO Box 1107 Everett, WA 98206-1107
Phone: 425-783-1709

Presler, Dawn

From: Applegate, Brock A (DFW) [Brock.Applegate@dfw.wa.gov]
Sent: Wednesday, February 10, 2010 8:24 PM
To: Presler, Dawn
Subject: Comment #2 to the Marsh Creek Slide Plan

Dawn, Whooops, sorry about that. I got your phone message.

Let's combine the second (last part) with the third sentence. How about this?:

"If the ARC concludes, after the initial effort described in section 3 above that an additional modification to the MCS is necessary to enhance fish passage because 1) the initial or subsequent modifications cause further slides or blockages or 2) the annual escapement of Chinook salmon and steelhead trout in the spawning habitat within the Diversion Dam Index Area (RM 9.2 to 9.7) does not exceed ten (10) percent of the total annual escapement of Chinook or steelhead in all index areas in the Sultan River in any year, the District will use funds from the A-LA-12 Habitat Enhancement Account."

This sentence combines number 2 and 3 comments from the letter. If you need any more clarification before next Tuesday, please feel free to call Mark. Sorry, I was trying to get out the door to a couple of doctors' appointments and missed the grammatical error.

Sincerely, Brock

Brock Applegate
FERC Hydropower Mitigation Biologist
Washington Department of Fish and Wildlife
P.O. Box 1100
111 Sherman St. (physical address)
La Conner, WA 98257-9612

(360) 466-4345 x254
(509) 607-9957 (cell)
(360) 466-0515 (fax)

Presler, Dawn

From: Applegate, Brock A (DFW) [Brock.Applegate@dfw.wa.gov]
Sent: Wednesday, February 10, 2010 11:38 AM
To: Presler, Dawn; Abby Hook; Thomas O'Keefe; Steve Fransen; Tim_Romanski@fws.gov; Maynard, Chris (ECY); Andy.Haas@co.snohomish.wa.us; deborah.knight@ci.sultan.wa.us; Barry Gall; Jim Miller; Binkley, Keith
Cc: Moore, Kim; Hunter, Mark A (DFW); Bails, Jamie L (DFW); Everitt, Bob (DFW); Hoffmann, Annette (DFW); Brock, David W (DFW); Whitney, Jennifer L (DFW)
Subject: Comments on the Marsh Creek Slide Plan-- Jackson Hydroproject
Attachments: 3664_001.pdf

Dear Keith,

Thanks for the opportunity to comment on the Marsh Creek Slide Plan. Please see attached letter for our comments. Feel free to call if you have questions. I will be out of the office Thursday through Monday. If you have question during that time please call/ e-mail Mark Hunter.
Phone 360-902-2542, mark.hunter@dfw.wa.gov

Sincerely, Brock

Brock Applegate
FERC Hydropower Mitigation Biologist
Washington Department of Fish and Wildlife
P.O. Box 1100
111 Sherman St. (physical address)
La Conner, WA 98257-9612

(360) 466-4345 x254
(509) 607-9957 (cell)
(360) 466-0515 (fax)

From: DFW4LC3220@dfw.wa.gov [mailto:DFW4LC3220@dfw.wa.gov]
Sent: Thursday, February 11, 2010 8:36 AM
To: Applegate, Brock A (DFW)
Subject: Attached Image

State of Washington
Department of Fish and Wildlife
P.O. Box 1100, 111 Sherman St. (physical address), La Conner, Washington 98257-9612

February 10, 2010

Public Utility District No. 1 of Snohomish County
Keith Binkley, Senior Environmental Coordinator
PO Box 1107
Everett, WA 98206-1107

Subject: Henry M. Jackson Hydroelectric Project (FERC No. 2157) — Marsh Creek Slide Monitoring and Modification Plan

Dear Mr. Binkley:

The Washington Department of Fish and Wildlife (WDFW) has reviewed Marsh Creek Slide Monitoring and Modification Plan. We offer the following comments. 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 settlement agreement articles. WDFW appreciates the PUD's willingness to work with WDFW on their restoration, management, and habitat improvement plans.

WDFW has some recommendations to Section 4.4:

1) In the second sentence, please strike, "The District will use funds from the A-LA 12 Habitat Enhancement Account (HEA) to implement additional similar modifications to the MCS as necessary." We recommend the PUD replace the beginning of the second sentence with "The ARC agreed in the Joint Explanatory Statement, that if additional modifications are necessary, an additional modification will be made no earlier than six years after the initial modification; this timeframe will allow time to evaluate the effectiveness of the initial modification after process flows and several fishery life cycles occur."
2) The remainder of the second sentence should read, "If the ARC concludes that an additional modification to the MCS is necessary to enhance fish passage 'because' 1) initial or subsequent modifications cause further slides or blockages or 2) the annual escapement of Chinook salmon and steelhead trout in the spawning habitat within the Diversion Dam Index Area (RM 9.2 to 9.7) does not exceed ten (10) percent of the total annual escapement of Chinook or steelhead in all index areas in the Sultan River in any year."

3) Please strike the third sentence and replace with "For any modification of the MCS after the initial effort described in section 3 above, the District will use funds from the A-LA-12 Habitat Enhancement Account."

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

Sincerely,

Brock Applegate
Fish and Wildlife Biologist

Cc: Jamie Bails, WDFW Mill Creek
David Brock, WDFW Mill Creek
Bob Everitt, WDFW Mill Creek
Annette Hoffman, WDFW Mill Creek
Mark Hunter, WDFW Olympia
Jennifer Whitney, WDFW Mill Creek

Presler, Dawn

From: Presler, Dawn
Sent: Friday, January 29, 2010 10:58 AM
To: 'Abby Hook'; 'Thomas O'Keefe'; 'Steve Fransen'; 'Tim_Romanski@fws.gov'; 'Maynard, Chris (ECY)'; 'Andy.Haas@co.snohomish.wa.us'; 'deborah.knight@ci.sultan.wa.us'; 'Applegate, Brock A (DFW)'
Cc: Binkley, Keith; Moore, Kim; 'Barry Gall'; 'Jim Miller'
Subject: Jackson ARC - updated Marsh Creek Slide Plan
Attachments: Draft_Marsh_Creek_Slide_Plan_Jan10.DOC; CLEAN Draft_Marsh_Creek_Slide_Plan_Jan10.pdf

Dear ARC Members (Marsh Creek Slide Quorum Members):

Attached is the updated Marsh Creek Slide Plan for your review (redline and clean version containing consultation record to date on draft plan). This plan has been updated per our discussion at the 1/14/10 ARC meeting and emails between Brock/PUD. No additional comments came in by the 1/20/10 deadline. Please take the next two-weeks to review the updated version. As discussed at the ARC meeting, additional comments should be limited to updates only and if I don't hear any additional comments by February 12 I'll update the consultation appendix and file the Plan with FERC. (Feel free to email a support letter/email that I can include in the consultation appendix as well.)

Thanks. Have a great weekend.

Dawn Presler
Relicensing Specialist
Jackson Hydro Project

Snohomish County PUD No. 1
PO Box 1107 Everett, WA 98206-1107
Phone: 425-783-1709

Presler, Dawn

From: Thomas O'Keefe [okeefe@americanwhitewater.org]
Sent: Friday, January 22, 2010 10:05 AM
To: Presler, Dawn
Subject: Re: Jackson ARC - draft Marsh Creek Slide Plan

Andy provided one additional point.

Currently it is possible to safely portage the landslide on the right. Any modifications that have an impact on the debris field that impacts that ability to portage would be of concern.

On Jan 22, 2010, at 9:29 AM, Presler, Dawn wrote:

Thanks Tom. Will circulate.

From: Thomas O'Keefe [mailto:okeefe@americanwhitewater.org]
Sent: Thursday, January 21, 2010 3:08 PM
To: Presler, Dawn
Cc: Al Wald; Andy Bridge
Subject: Re: Jackson ARC - draft Marsh Creek Slide Plan

Dawn,

A brief comment on this.

In most cases we have not been supportive of modifications to natural landslides or rapids as the results can lead to unintended consequences. There are also questions regarding responsibility for these unintended consequences. However in this case we have signed the settlement agreement and support the interests of the other parties in this proceeding to restore fish passage. Section 3.1 states that "the District will design and develop modifications to the Marsh Creek Slide with the objective of not compromising the stability of the adjacent slope". This is particularly important to our organization as a modification that undermines the toe of the slope and leads to further activation of the landslide could create an even larger potential issue with respect to navigability and fish passage. We request that the District carefully consider the ramifications if this should occur and fully evaluate different approaches to modification in light of this concern.

Best,

Tom

Thomas O'Keefe, PhD
Pacific Northwest Stewardship Director
American Whitewater
3537 NE 87th St.
Seattle, WA 98115

425-417-9012
okeefe@amwhitewater.org
http://www.americanwhitewater.org

Presler, Dawn

From: Binkley, Keith
Sent: Wednesday, January 20, 2010 9:53 AM
To: 'Applegate, Brock A (DFW)'; Presler, Dawn
Cc: Hunter, Mark A (DFW)
Subject: RE: Jackson ARC - language for Marsh Creek Slide Plan

Brock – Here is a little context to make sure we are all on the same page.

The slide occurred several years ago. We have several years of escapement data that indicate that the slide is and continues to be a passage obstruction. In the agreement, we are committing to modifying the slide to improve passage. This is the early implementation measure. This decision has been made. We are confident this will work. However, if the annual escapement monitoring indicates that passage is still impaired, subsequent modifications will be funded from the habitat fund. The metric for measuring passage efficacy is based on escapement in index areas only with the portion in the Diversion Dam Index Area representing 10% of that observed in all index areas.

I hope this helps.

Keith

From: Applegate, Brock A (DFW) [mailto:Brock.Applegate@dfw.wa.gov]
Sent: Tuesday, January 19, 2010 11:59 AM
To: Presler, Dawn
Cc: Binkley, Keith; Hunter, Mark A (DFW)
Subject: RE: Jackson ARC - language for Marsh Creek Slide Plan

Hi Dawn,

It looks like the decision criteria is in the flowchart, but not the narrative. Here is the recommended language to add to the narrative to establish a criteria for proceeding with the project.

Please add to beginning of section 3.2 on p. 5 :

"Slide modification decision point, (i.e., determine if slide modification is necessary as discussed in settlement agreement A-LA 2, paragraph 3, bullet (6)).

If the prior annual escapement of chinook and steelhead trout in the spawning index area (RM 9.2 – 9.7) exceeds 10% of the total annual escapement of chinook and steelhead in the entire river downstream of the diversion dam, passage modification plans will be put on hold. If the diversion dam index area exceeds 10% of the total annual escapement of chinook and steelhead for three consecutive years, the fish passage modification plan will be suspended indefinitely. On the other hand, if the Diversion Dam Index Area Annual Escapement falls below 10% for three consecutive years, the slide modification plan will be implemented. "

Thanks for allowing us to make comments.

Sincerely, Brock

Brock Applegate

FERC Hydropower Mitigation Biologist
Washington Department of Fish and Wildlife
P.O. Box 1100
111 Sherman St. (physical address)
La Conner, WA 98257-9612

(360) 466-4345 x254
(509) 607-9957 (cell)
(360) 466-0515 (fax)

From: Presler, Dawn [mailto:DJPresler@SNOPUD.com]
Sent: Tuesday, January 19, 2010 9:45 AM
To: Applegate, Brock A (DFW)
Cc: Binkley, Keith
Subject: Jackson ARC - language for Marsh Creek Slide Plan

Hi Brock,
Thanks for your input into the ARC guidelines and Marsh Creek Slide Plan last week. Can you email the suggested language for the Marsh Creek Slide Plan regarding the passage criteria to add to section 3.2? Thanks!

Dawn Presler
Relicensing Specialist
Jackson Hydro Project

Snohomish County PUD No. 1
PO Box 1107 Everett, WA 98206-1107
Phone: 425-783-1709

Aquatic Resource Committee (ARC) Meeting Summary

January 14, 2010

Present:

- District – Kim Moore, Dawn Presler, Keith Binkley
- American Whitewater (AW) – Tom O'Keefe, Al Wald
- City of Sultan (Sultan) – Deborah Knight
- City of Everett (Everett) – Jim Miller
- National Marine Fishery Services (NMFS) – Steve Fransen
- Snohomish County – Andy Haas
- Tulalip Tribes – Abby Hook
- US Fish and Wildlife Service (USFWS) – Tim Romanski
- Washington Department of Fish and Wildlife (WDFW) – Brock Applegate, Jamie Bails
- Washington Department of Ecology (Ecology) - Chris Maynard

Absent:

- US Forest Service (USFS) – Barry Gall

TOPICS DISCUSSED

EXCERPT RE: MCS FROM MEETING SUMMARY

2. **Marsh Creek Slide (MCS) Plan**

The District hired R2 Resource Consultants to assist with technical expertise for this proposed license article. They have subcontracted with Randy Martin of Granite NW, the person recommended by Al Wald. R2 will conduct modeling – contour and physical template – to aid in the plan for fish passage at the MCS.

The group reviewed the draft MCS Plan emailed on 12/18/09 and provided several comments to be added by the District:

- NMFS and USFWS suggested removing ESA consultation from the permitting requirements as the license would already cover ESA consultation for this license article.
- USFWS suggested the District add a step in the Figure for ARC review and approval of the exact modification methods.
- Under Section 2.1, page 4, WDFW suggested remove reference to flashiness of the river as it provides no substance to the plan and no definition for flashiness. WDFW stated that parts of the river below hydroproject should have less "flashy" flows because of our ability to control the flow to some degree.
- WDFW suggested referencing the fish passage criteria in the modification section.
- Ecology suggested that the District also conduct a snorkel survey/count fish below the MCS as this may also indicate if fish are passing the MCS.

The District agreed to the above modifications to the draft plan. Any additional comments are due by January 20. Those present stated that if no additional comments come in by January 20, they are in agreement that the plan is good for filing with FERC. *See handout for updated draft MCS Plan.*

There was a discussion about the permitting requirements for this proposed license article. The District plans on adopting NEPA for its SEPA. Jamie Bails noted that for the JARPA/HPA she will need the exact detail of how the modification will occur, how the modification will impact fish, control measures for protecting the water/fish in the river during modification. She would like to see a draft of the permit upfront so she can be on board/understand the contents of the JARPA application when it is submitted. Blasting is not a normal type of in water modification method so additional, supportive information on this method would be of great benefit for Jamie if this method is selected.

Kim noted that the 404 permitting process could be a lengthy process. NMFS suggested that NMFS and USFWS send in concurrence letters with the application to reduce the processing time of the 404 permit.

Action Items:

- Brock – email Dawn suggested wording per suggestions above
- Dawn – review the Settlement Agreement for filing requirements for ARC-approved plans
- Dawn – update the MCS Plan as recommended above and resend to group for final review of updates
- Dawn/Kim – look into the 404 permit exemptions list and Snohomish County permitting requirements

Presler, Dawn

From: Presler, Dawn
Sent: Wednesday, January 13, 2010 11:14 AM
To: 'Barry Gall'
Subject: FW: Jackson ARC - draft Marsh Creek Slide Plan
Attachments: DRAFT_MCSPlan_Dec2009.pdf

Just got back from vacation. Here you go.

Dawn

From: Presler, Dawn
Sent: Friday, December 18, 2009 11:31 AM
To: 'Dwilliams@tulaliptribes-nsn.gov'; 'brock.applegate@dfw.wa.gov'; 'Thomas O'Keefe'; 'deborah.knight@ci.sultan.wa.us'; 'Andy.Haas@co.snohomish.wa.us'; 'Tim_Romanski@fws.gov'; 'steven.m.fransen@noaa.gov'; 'Jim Miller'; 'Barry Gall'; 'Abby Hook'; 'Maynard, Chris (ECY)'
Cc: Moore, Kim; Binkley, Keith
Subject: Jackson ARC - draft Marsh Creek Slide Plan

Dear ARC Members:
Attached is the draft Marsh Creek Slide Plan based on our discussion at the 11/16 ARC meeting. Please take the next 30-days (by January 20) to review and provide comments, if any. We'll be discussing the contents at the Jan 14 meeting if you need clarification or have some initial input. *Forward to your backup ARC member if appropriate.*

Happy Holidays!

Dawn

From: Presler, Dawn
Sent: Wednesday, December 09, 2009 6:01 PM
To: 'Dwilliams@tulaliptribes-nsn.gov'; 'brock.applegate@dfw.wa.gov'; 'Thomas O'Keefe'; 'deborah.knight@ci.sultan.wa.us'; 'Andy.Haas@co.snohomish.wa.us'; 'Tim_Romanski@fws.gov'; 'steven.m.fransen@noaa.gov'; 'Jim Miller'; 'Barry Gall'; 'Abby Hook'; 'Maynard, Chris (ECY)'
Cc: Moore, Kim; Binkley, Keith
Subject: Jackson ARC - draft agenda for 1/14 ARC meeting

Dear ARC Members:
Attached is the draft ARC agenda for the Jan 14 meeting. Please let me know if you have any comments/additional agenda items for the attached by next Thursday December 17 COB, after which I will update and post to the web per the draft ARC guidelines.

Also, **please confirm by Thursday Dec 17 if you plan on attending the float trip that morning** so we can make sure to have enough rafts for the group.

Forward to your backup ARC member if appropriate. We would like to bring Scott Spahr, our civil engineer who will manage the construction contract for side-channel work, along on the float trip; per the ARC draft guidelines, please let me know if you object to this additional person. Thanks!

Dawn Presler
Relicensing Specialist

ARC Meeting Summary

November 16, 2009

Present:

- District – Kim Moore, Dawn Presler, Keith Binkley
- American Whitewater – Tom O'Keefe (via phone), Al Wald
- USFWS – Tim Romanski
- City of Sultan – Deborah Knight
- City of Everett – Jim Miller
- Tulalip Tribes – Abby Hook, Daryl Williams
- WDFW – Brock Applegate, Mark Hunter
- WDOE - Chris Maynard, Jim Pacheco
- USFS – Barry Gall

Absent:

- Snohomish County – Andy Haas
- NMFS – Steve Fransen

TOPICS DISCUSSED

EXCERPT RE: MCS FROM MEETING SUMMARY

4. Marsh Creek Slide (A-LA2)

Keith presented the draft scope of work for the Marsh Creek Slide PM&E (see handout). The window for in-water work for the Sultan River is August 1-15 (only 2 weeks). Randy Martin (as recommended by Al Wald) went to the site with the District and recommended using air compressors and hydraulic breakers to break apart rocks rather than using dynamite. There was discussion on the necessity of 2D modeling pre-modification (overkill, money better spent on the one-time modification) and post-modification (not needed if the fish are able to pass) and the necessity of a process flow release (wait until hit target flows for mobilization of gravels). A potential better approach identified would be:

- Look at existing information (SP20P1, SP24, Chris Brummer's PhD. work)
- Baseline topographic/bathymetric survey, hydraulic modeling
- Structural modification, informed by baseline survey
- Biological monitoring, escapement
- Process Flow
- Biological monitoring, escapement
- Post survey, only to be conducted if no escapement above slide, will be used to inform future modifications
- Determine need for further modification under the habitat fund

Action Items:

- All – review SP20 phase 1 and SP24 technical reports
- All – provide comments to Keith on draft scope of work by December 1
- Barry – see if USFS Enterprise Team would make sense to use given project scope and timeframe

CERTIFICATE OF SERVICE

I hereby certify that I have this day served via e-mail or via the U.S. Postal Service a copy of the foregoing filing upon each person designated on the official service list compiled by the Secretary in this proceeding in accordance with Rule 2010 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission.

Dated at Everett, Washington, this 23rd day of February, 2010.

Ray Finnen, Senior Paralegal
Public Utility District No. 1 of Snohomish County
PO Box 1107
Everett, WA 98206-1107
Phone: 425.783.8262
Fax: 425.783.8305
E-mail: rffinnen@snopud.com

Service List for P-2157 Henry M. Jackson Hydroelectric Licensing Project :

Daniel Adamson
Davis Wright Tremaine LLP
1919 Pennsylvania Ave., N.W.
Suite 200
Washington, D. C 20006
E-mail: danadamson@dwt.com

A. Reid Allison, Attorney
Tulalip Tribes of Washington
6406 Marine Drive
Tulalip, WA 98271
E-mail: rallison@tulaliptribes-nsn.gov

Kristen Bonanno
Negotiation Specialist
Forest Service
PO Box 3623
Portland, OR 97208-3623
E-mail: kbonanno@fs.fed.us

Brian Faller, Asst. Attorney General
WA Office of Attorney General
PO Box 40117
Olympia, WA 98504-0117
E-mail: brianf@atg.wa.gov

Steve Fransen, Biologist
510 Desmond Drive SE, Suite 103
Lacey, WA 98503
E-mail: steven.m.fransen@noaa.gov

Bill Frymire, Senior Counsel
WA Office of Attorney General
PO Box 40100
Olympia, WA 98504-0017
E-mail: billf@atg.wa.gov

Ian Kanair, ENR Dept. Director
Snoqualmie Indian Tribe
PO Box 969
Snoqualmie,WA 98065-0969
E-mail: ian@snoqualmienation.com

Monika Kannadaguli
Project Manager/Environmental
Department of Ecology
3190-160th Ave SE
Bellevue, WA 98008
E-mail: mkan461@ecy.wa.gov

Justin Kasting, Deputy Prosecuting Attorney, Snohomish County
Prosecuting Attorney's Office
3000 Rockefeller, M/S 504
Everett, WA 98201
E-mail: jkasting@co.snohomish.wa.us

Keith Kirkendall, NOAA
1201 NE Lloyd Blvd, Suite 1100
Portland, OR97232
E-mail: keith.kirkendall@noaa.gov

Joan Marchioro, Senior Counsel
WA Office of Attorney General
PO Box 40117
Olympia,WA 98504-0117
E-mail: JoanM2@atg.wa.gov

Richard McGuire
Alpine Lakes Protection Society
11025 24th Ave NE
Seattle, WA 98125
E-mail: rckmcguire@gmail.com

Kathryn Miller
Trout Unlimited
227 SW Pine Street; Suite 200
Portland, OR97204
E-mail: kmiller@tu.org

Eric Nagle, Dept. of the Interior
Office of the Regional Solicitor
805 SW Broadway, Suite 600
Portland, OR 97205
E-mail: eric.nagle@sol.doi.gov

Thomas O'Keefe
PNW Stewartship Director
3537 NE 87th St
Seattle, WA 98115
E-mail: okeefe@amwhitewater.org

Eric Ozog, SR Realty Specialist
Mt. Baker-Snoqualmie National
Forest, Verlot Public Svc Ctr
33515 Mtn Loop Hwy
Granite Falls, WA 98252
E-mail: eozog@fs.fed.us

Andrea Rodgers
Snoqualmie Indian Tribe
PO Box 969
Snoqualmie, WA 98065-0969

Nolan Shishido, Attorney
U.S. Department of Interior
Office of the Regional Solicitor
805 SW Broadway, Suite 600
Portland, OR 97205
E-mail: nolan.shishido@sol.doi.gov

Honorable Ray Stephenson
Mayor, City of Everett
2930 Wetmore Avenue, Ste 10-A
Everett, WA 98201

Michael Swiger, Member
Van Ness Feldman, PC
1050 Thomas Jefferson Street, NW
7th Floor
Washington, D.C. 20007
E-mail: mas@vnf.com

Daryl Brent Williams
Environmental Liaison
Tulalip Tribes of Washington
6406 Marine Drive
Tulalip, WA 98271
E-mail: dwilliams@tulaliptribes-nsn.gov

Neil Wise
WA Office of Attorney General
PO Box 40100
Olympia, WA 98504-0100

Document Content(s)