



Your Northwest renewables utility

January 23, 2013

VIA ELECTRONIC FILING

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

**Re: Jackson Hydroelectric Project, FERC No. P-2157
Side Channel Enhancements – Ramping Rate Evaluation Plan
License Article 405**

Dear Secretary Bose:

Enclosed is the Public Utility District No. 1 of Snohomish County's Side Channel Enhancement Ramping Rate Evaluation Plan (RRE Plan) per License Article 405 for the Jackson Hydroelectric Project. The draft RRE Plan was provided to the Aquatic Resource Committee (ARC) for a 30-day review and comment and discussed at the ARC meeting on January 16, 2013; consultation documentation is included in the RRE Plan's appendices.

If you have any questions on the RRE Plan, please contact Keith Binkley, Natural Resources Manager, at (425) 783-1769 or KMBinkley@snopud.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kim D. Moore", is written over a blue circular stamp or seal.

Kim D. Moore, P.E.
Assistant General Manager of Generation, Water, and Corporate Services
KDMoore@snopud.com
(425) 783-8606

Enclosed: RRE Plan

Side Channel Enhancements Ramping Rate Evaluation Plan

License Article 405



Everett, WA



January 2013

Table of Contents

1. INTRODUCTION	1
1.1. Background	1
1.2. Purpose	1
1.3. Consultation	1
2. METHODS AND SCHEDULE	2
3. REPORTING	4

Appendices

Appendix 1	Consultation Document Regarding Draft Plan
Appendix 2	Responses to Comments Regarding Draft Plan

List of Figures

Figure 1. Side Channel Enhancements in Lower Sultan River.....	3
--	---

List of Tables

Table 1. Downramping Rate Schedule, 600 to 300 cfs flow range, Reach 1, Lower Sultan River.....	2
---	---

Acronyms and Abbreviations

A-LA	Aquatic License Article
ARC	Aquatic Resource Committee
cfs	cubic feet per second
District	Public Utility District No. 1 of Snohomish County
ELJ	engineered log jam
FERC	Federal Energy Regulatory Commission
Project	Henry M. Jackson Hydroelectric Project (FERC No. 2157)
RM	River mile
SC	Side channel
SCE	Side channel enhancement
USGS	United States Geological Survey

1. INTRODUCTION

1.1. Background

The Public Utility District No. 1 of Snohomish County (District) is the licensee for the Henry M. Jackson Hydroelectric Project (Project) under a license issued by the Federal Energy Regulatory Commission (FERC) on September 2, 2011. The Project is located on the Sultan River in Snohomish County, Washington, near the City of Sultan. The original Project license was issued in 1961 and amended in 1984. In 1964, construction of Culmback Dam was completed to create Spada Lake Reservoir – the major source of Snohomish County drinking water. In 1984, the construction of the hydroelectric facilities and raising of Culmback Dam were completed, creating the Project as it exists today. The Project includes a 262-foot high rock-fill dam (Culmback Dam); a 1,870-acre reservoir (Spada Lake Reservoir) operated for the City of Everett’s water supply, fisheries habitat enhancement, hydroelectric power, incidental flood control and recreational opportunities; 111.8 MW nameplate capacity powerhouse; 8-mile long power penstock; and associated facilities.

Aquatic License Article 5 (A-LA 5) establishes downramping rate schedules for the Project. These schedules were established for the protection of salmonid fry that may be vulnerable to stranding associated with rapid changes in water surface elevation (stage) during operation of the Project. Seasonal schedules apply to Reaches 1 and 2 of the Sultan River. These are highly specific to time of day and flow range in the Sultan River. Further upstream in Reach 3, flow adjustments are made infrequently and not tied to changes in generation as in Reach 1 and to a lesser extent in Reach 2. In Reach 3, specific downramping rates apply only to flow releases directly from Culmback Dam. The focus of this evaluation of ramping rates is Reach 1, downstream of the Project powerhouse. This reach is directly under the influence of powerhouse discharge and exhibits the habitat characteristics of an alluvial system that may add to fry vulnerability. While the existing rates were developed through detailed studies and are protective of the resource, recent changes in habitat associated with side channel (SC) restoration efforts have prompted this supplemental evaluation.

1.2. Purpose

License Article 405 requires, “*Within 6 months of completing the side-channel enhancement projects required by Appendix A, condition 5.2 (A-LA 7), the licensee shall file, for Commission approval, a Ramping Rate Evaluation Plan. The plan shall include: 1) the methods and schedule for conducting an evaluation to determine whether additional ramping rate restrictions are necessary to protect juvenile fish from stranding in the reconnected side channels required by Appendix A, condition 5.2 (A-LA 7); and 2) a provision to file a ramping rate report within one year of completing the side channel enhancements, with any specific proposals for more restrictive ramping rate based on the outcome of the ramping rate evaluation.*” This Side Channel Enhancements Ramping Rate Evaluation Plan (Plan) addresses this requirement.

1.3. Consultation

The draft of this Plan was provided to members of the Aquatic Resources Committee (ARC) for a 30-day review and comment period. Consultation documentation is included in Appendix 1, and the District’s responses to written comments received are included in Appendix 2.

2. METHODS AND SCHEDULE

The District proposes to evaluate patterns of flow behavior in four distinct side channels in the lower Sultan River. These side channels: SC1, SC2, SC3, and SC4 each underwent restoration in summer 2012 are highlighted in Figure 1. With the exception of SC1, all side channels have one inlet and one outlet. SC1 has two inlets and two outlets.

Consistent with other monitoring efforts, side channel habitats will be monitored seasonally to qualitatively assess functionality over the full range of flow conditions with focused quantitative surveys conducted when mainstem flows drop below 600 cfs, as measured at United States Geological Survey (USGS) Streamflow Gage No. 12138160. The flow range below 600 cfs was selected for this evaluation to be consistent with prior survey efforts related to project downramping (CH2MHill 1990). Table 1 depicts the applicable downramping schedule in Reach 1 when the flow range is between 600 and 300 cfs (minimum instream flow), as measured at USGS Streamflow Gage No. 12138160.

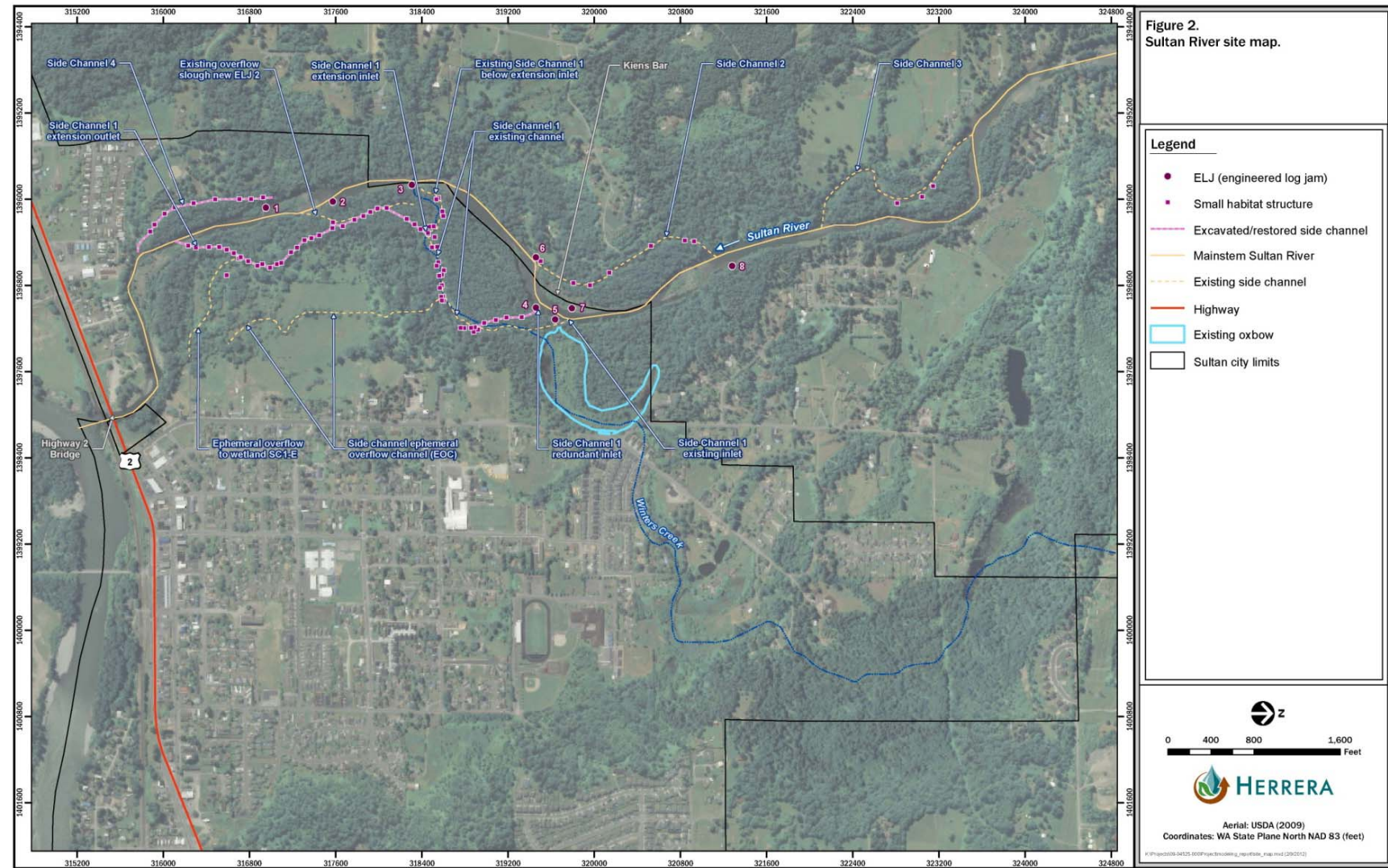
Table 1. Downramping Rate Schedule, 600 to 300¹ cfs flow range, Reach 1, Lower Sultan River (per License Appendix G, A-LA 5).

Season	Day Rate	Night Rate
January 1 to May 31	2 inches per hour	4 inches per hour
June 1 to September 15	2 inches per hour	1 inch per hour
September 16 to October 31	2 inches per hour	2 inches per hour
November 1 to December 31	4 inches per hour	4 inches per hour

Qualitative surveys will rely on field observations and photo documentation. Quantitative surveys, under this plan, will document flow volume at the inlets and outlets of each of the four side channels. Benchmarks for horizontal and vertical control will be established near the inlet and outlet to each side channel. Bed elevation, water depth / stage, and velocity will be collected along an established transect during each site visit in the target flow range between 600 and 300 cfs. No less than three site visits will be made to bracket this flow range. This information will define flow connectivity and the relationship between mainstem and side channel flow. This information will be supplemented with physical habitat measurements collected along the length of each channel, photo documentation, and systematic measurement of select habitat characteristics (depth, width, substrate, presence of woody debris, and riparian condition).

Site visits will be scheduled to occur during summer 2013, as flow conditions allow, with a draft report provided to the ARC by August 31, 2013, for a 30-day review and comment period. A final report will be filed with the FERC by October 31, 2013.

¹ If the District determines, in consultation with the ARC, that a drought event resulting in advisory reductions in domestic water consumption (as described by the 2007 City of Everett's Drought Response Plan as a Stage 1 response to a drought event) is occurring, conservative downramping rates will be used as minimum flows are reduced below 300 cfs coupled with additional focused surveys.



3. REPORTING

The District will file with the FERC a Ramping Rate Report within one year of completing the side channel enhancements (by October 31, 2013). The Ramping Rate Report will include:

1. summary of evaluation methods
2. visual documentation of flow conditions during each site visit
3. discharge measurements collected during each site visit and development of stage/discharge rating curves at each inlet and outlet
4. any specific proposals for more restrictive ramping rates based on the outcome of this ramping rate evaluation
5. documentation of consultation with the ARC
6. copies of comments and recommendations on the completed report after it has been prepared and provided to the Aquatic Resource Committee and specific descriptions of how the ARC's comments are accommodated by the report

The District will provide a 30-day review and comment period of the draft Ramping Rate Report to the ARC. If the District does not adopt a recommendation, the report will include the reasons based on Project-specific information.

Appendix 1

Consultation Document Regarding Draft Plan

Presler, Dawn

From: Maynard, Chris (ECY) <cmay461@ecy.wa.gov>
Sent: Tuesday, October 23, 2012 3:17 PM
To: Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; Applegate, Brock A (DFW); Leonetti, Frank; 'Jim Miller'; 'Thomas O'Keefe'
Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim; Binkley, Keith
Subject: RE: ARC - draft mtg summary for your review

I just read the notes of the ARC meeting that Tim and I missed. I'm not sure if SnoPUD plans to share the results of the year 1 benthic survey along this year, but I would like to see a summary (with raw data available to any ARC member who wants it) distributed to the ARC the beginning of December along with the reach 3 water temperature data.

I don't recall who brought up the downramping rate evaluation for effect on side channels but I agree with the language in the meeting summary that a plan is not needed as channels remain connected at minimum flows. Kieth and Steve and I exchanged emails on this and are in agreement.

From: Presler, Dawn [<mailto:DJPresler@SNOPUD.com>]
Sent: Monday, October 22, 2012 11:04 AM
To: 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; Applegate, Brock A (DFW); Leonetti, Frank; 'Jim Miller'; 'Thomas O'Keefe'
Cc: 'Tim_Romanski@fws.gov'; Maynard, Chris (ECY); 'mick.matheson@ci.sultan.wa.us'; Moore, Kim; Binkley, Keith
Subject: ARC - draft mtg summary for your review

Dear ARC Members,

Attached are the:

1. draft of the meeting summary
2. quarterly standard conditions update and
3. Keith's meeting PPT
4. Snohomish County's FHE proposal PPT

from our ARC meeting on October 17. If you have any changes/edits to the meeting summary, please email them to me by October 29 COB; otherwise, a lack of response will be deemed approval of the summary as written.

I will route a separate email for consensus on the FHE Plan proposals selection.

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: Binkley, Keith
Sent: Thursday, October 25, 2012 10:16 AM
To: 'Maynard, Chris (ECY)'; Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; Applegate, Brock A (DFW); Leonetti, Frank; 'Jim Miller'; 'Thomas O'Keefe'
Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim
Subject: ARC - Request to remove license requirement for Downramping Evaluation Plan

This email is a follow-up to a discussion during the ARC meeting on October 17. During that meeting, we discussed Article 405 and the requirement for a Ramping Rate Evaluation Plan and subsequent report. The article states that *"within 6 months of completing the side-channel enhancement projects required by Appendix A, condition 5.2 (A-LA 7), the licensee shall file, for Commission approval, a Ramping Rate Evaluation Plan. The plan shall include: 1) the methods and schedule for conducting an evaluation to determine whether additional ramping rate restrictions are necessary to protect juvenile fish from stranding in the reconnected side channels required by Appendix A, condition 5.2 (A-LA 7); and 2) a provision to file a ramping rate report within one of completing the side channel enhancements, with any specific proposals for more restrictive ramping rate based on the outcome of the ramping rate evaluation."*

The District is requesting to remove this license requirement for a plan and report and hereby seeking verification from the ARC that it is not necessary. The request is based on protections in place under the broader requirement under A-LA 7 to provide connectivity between the mainstem and side channels at mainstem flows above the 300 cfs minimum flow. Through inference, the requirement to keep 10,000 linear feet of side channel wetted at minimum flows ensures that these habitats will be wetted at flows greater than 300 cfs. This connectivity was established at completion of the construction of the side channel project this fall and will be documented as a maintenance requirement for these projects. In addition to connectivity and adequate flow through the side channels, the topographic configuration of both the existing and newly created channels does not create the type of stranding situation observed in mainstem habitats. The District contends that the downramping rate schedule, as presented in A-LA 5, provides adequate resource protection for fish present in the mainstem and side channels to the Sultan River and that additional ramping rate restrictions are not necessary.

Please reply to this email indicating your acknowledgement and acceptance of this request.

Thank you

Keith

*Keith Binkley
Manager - Natural Resources Department
Snohomish County PUD
425 783 1769 (office)
425 293 6201 (mobile)*

Email correspondence on this topic follows:

From: Maynard, Chris (ECY) [<mailto:cmay461@ecy.wa.gov>]
Sent: Tuesday, October 23, 2012 3:17 PM
To: Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; Applegate, Brock A (DFW); Leonetti, Frank;

'Jim Miller'; 'Thomas O'Keefe'

Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim; Binkley, Keith

Subject: RE: ARC - draft mtg summary for your review

I don't recall who brought up the downramping rate evaluation for effect on side channels but I agree with the language in the meeting summary that a plan is not needed as channels remain connected at minimum flows. Kieth and Steve and I exchanged emails on this and are in agreement.

From: Binkley, Keith [<mailto:KMBinkley@SNOPUD.com>]

Sent: Thursday, October 18, 2012 11:50 AM

To: Maynard, Chris (ECY)

Cc: 'Steven Fransen'

Subject: Downramping Rate Evaluation Plan

Hi Chris – I got your voice message. I think the three of us are all on the same page and the issue is really connectivity not downramping. Along those lines, we can infer that if connectivity is in place at the project minimum of 300 cfs that it will be in place for all flows above that. So, if you agree, I will present to the ARC a program to document low flow connectivity and flow at both the inlets and outlets of each side channel.

Let me know if you concur.

Thanks

Keith

From: Maynard, Chris (ECY) [<mailto:cmay461@ecy.wa.gov>]

Sent: Thursday, October 18, 2012 10:39 AM

To: Binkley, Keith

Subject: RE: Downramping Rate Evaluation Plan

I don't recall who brought it up. Do you think it came from concern for totally cutting off channel flow from the river before we had the information about having flows at the inlets and outlets at all ranges of operation?

From: Binkley, Keith [<mailto:KMBinkley@SNOPUD.com>]

Sent: Wednesday, October 17, 2012 12:51 PM

To: Maynard, Chris (ECY)

Cc: 'Steven Fransen'

Subject: Downramping Rate Evaluation Plan

Chris – I would like to have a conversation with you about the need (or not) for a downramping rate evaluation plan tied to the side channel project. This requirement is under Article 405. This came up today during the ARC meeting and we were all scratching our head about the logic behind it. In terms of connectivity, the side channels all flow at the inlet and outlet under the full range of operational flows so there is no risk of stranding. Furthermore, the banks within the side channels do not contain bars or topographic features that would result in stranding. I was trying to recall how this became a license requirement.

Give me a call when you get a chance. Steve has volunteered to provide perspective as well as we sort through this.

Keith Binkley
Manager - Natural Resources Department
Snohomish County PUD
425 783 1769 (office)
425 293 6201 (mobile)

Presler, Dawn

From: Thomas O'Keefe <okeefe@americanwhitewater.org>
Sent: Thursday, October 25, 2012 1:41 PM
To: Binkley, Keith
Cc: 'Maynard, Chris (ECY)'; Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; Applegate, Brock A (DFW); Leonetti, Frank; 'Jim Miller'; 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim
Subject: Re: ARC - Request to remove license requirement for Downramping Evaluation Plan

I defer to my agency and tribal colleagues but based on my own empirical assessment in the field the proposed course of action makes sense and I have no concerns. The more interesting relevant question is how they preform long term.

-- Tom

On Oct 25, 2012, at 10:15 AM, Binkley, Keith wrote:

This email is a follow-up to a discussion during the ARC meeting on October 17. During that meeting, we discussed Article 405 and the requirement for a Ramping Rate Evaluation Plan and subsequent report. The article states that *"within 6 months of completing the side-channel enhancement projects required by Appendix A, condition 5.2 (A-LA 7), the licensee shall file, for Commission approval, a Ramping Rate Evaluation Plan. The plan shall include: 1) the methods and schedule for conducting an evaluation to determine whether additional ramping rate restrictions are necessary to protect juvenile fish from stranding in the reconnected side channels required by Appendix A, condition 5.2 (A-LA 7); and 2) a provision to file a ramping rate report within one of completing the side channel enhancements, with any specific proposals for more restrictive ramping rate based on the outcome of the ramping rate evaluation."*

The District is requesting to remove this license requirement for a plan and report and hereby seeking verification from the ARC that it is not necessary. The request is based on protections in place under the broader requirement under A-LA 7 to provide connectivity between the mainstem and side channels at mainstem flows above the 300 cfs minimum flow. Through inference, the requirement to keep 10,000 linear feet of side channel wetted at minimum flows ensures that these habitats will be wetted at flows greater than 300 cfs. This connectivity was established at completion of the construction of the side channel project this fall and will be documented as a maintenance requirement for these projects. In addition to connectivity and adequate flow through the side channels, the topographic configuration of both the existing and newly created channels does not create the type of stranding situation observed in mainstem habitats. The District contends that the downramping rate schedule, as presented in A-LA 5, provides adequate resource protection for fish present in the mainstem and side channels to the Sultan River and that additional ramping rate restrictions are not necessary.

Please reply to this email indicating your acknowledgement and acceptance of this request.

Thank you

Keith

*Keith Binkley
Manager - Natural Resources Department
Snohomish County PUD
425 783 1769 (office)
425 293 6201 (mobile)*

Email correspondence on this topic follows:

From: Maynard, Chris (ECY) [<mailto:cmay461@ecy.wa.gov>]
Sent: Tuesday, October 23, 2012 3:17 PM
To: Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; Applegate, Brock A (DFW); Leonetti, Frank; 'Jim Miller'; 'Thomas O'Keefe'
Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim; Binkley, Keith
Subject: RE: ARC - draft mtg summary for your review

I don't recall who brought up the downramping rate evaluation for effect on side channels but I agree with the language in the meeting summary that a plan is not needed as channels remain connected at minimum flows. Kieth and Steve and I exchanged emails on this and are in agreement.

From: Binkley, Keith [<mailto:KMBinkley@SNOPUD.com>]
Sent: Thursday, October 18, 2012 11:50 AM
To: Maynard, Chris (ECY)
Cc: 'Steven Fransen'
Subject: Downramping Rate Evaluation Plan

Hi Chris – I got your voice message. I think the three of us are all on the same page and the issue is really connectivity not downramping. Along those lines, we can infer that if connectivity is in place at the project minimum of 300 cfs that it will be in place for all flows above that. So, if you agree, I will present to the ARC a program to document low flow connectivity and flow at both the inlets and outlets of each side channel.

Let me know if you concur.

Thanks

Keith

From: Maynard, Chris (ECY) [<mailto:cmay461@ecy.wa.gov>]
Sent: Thursday, October 18, 2012 10:39 AM
To: Binkley, Keith
Subject: RE: Downramping Rate Evaluation Plan

I don't recall who brought it up. Do you think it came from concern for totally cutting off channel flow from the river before we had the information about having flows at the inlets and outlets at all ranges of operation?

From: Binkley, Keith [<mailto:KMBinkley@SNOPUD.com>]
Sent: Wednesday, October 17, 2012 12:51 PM
To: Maynard, Chris (ECY)

Cc: 'Steven Fransen'

Subject: Downramping Rate Evaluation Plan

Chris – I would like to have a conversation with you about the need (or not) for a downramping rate evaluation plan tied to the side channel project. This requirement is under Article 405. This came up today during the ARC meeting and we were all scratching our head about the logic behind it. In terms of connectivity, the side channels all flow at the inlet and outlet under the full range of operational flows so there is no risk of stranding. Furthermore, the banks within the side channels do not contain bars or topographic features that would result in stranding. I was trying to recall how this became a license requirement.

Give me a call when you get a chance. Steve has volunteered to provide perspective as well as we sort through this.

Keith Binkley

Manager - Natural Resources Department

Snohomish County PUD

425 783 1769 (office)

425 293 6201 (mobile)

Presler, Dawn

From: Binkley, Keith
Sent: Thursday, October 25, 2012 12:21 PM
To: Presler, Dawn
Subject: FW: ARC - Request to remove license requirement for Downramping Evaluation Plan
Importance: High

1

From: Jim Miller [mailto:JMiller@ci.everett.wa.us]
Sent: Thursday, October 25, 2012 10:37 AM
To: Binkley, Keith
Cc: Julie Sklare
Subject: ARC - Request to remove license requirement for Downramping Evaluation Plan
Importance: High

Keith:

The City of Everett is in receipt of and in agreement with your Downramping request/proposal as articulated below.

Jim Miller

From: Binkley, Keith [mailto:KMBinkley@SNOPUD.com]
Sent: Thursday, October 25, 2012 10:16 AM
To: 'Maynard, Chris (ECY)'; Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; Applegate, Brock A (DFW); Leonetti, Frank; Jim Miller; 'Thomas O'Keefe'
Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim
Subject: ARC - Request to remove license requirement for Downramping Evaluation Plan

This email is a follow-up to a discussion during the ARC meeting on October 17. During that meeting, we discussed Article 405 and the requirement for a Ramping Rate Evaluation Plan and subsequent report. The article states that *"within 6 months of completing the side-channel enhancement projects required by Appendix A, condition 5.2 (A-LA 7), the licensee shall file, for Commission approval, a Ramping Rate Evaluation Plan. The plan shall include: 1) the methods and schedule for conducting an evaluation to determine whether additional ramping rate restrictions are necessary to protect juvenile fish from stranding in the reconnected side channels required by Appendix A, condition 5.2 (A-LA 7); and 2) a provision to file a ramping rate report within one of completing the side channel enhancements, with any specific proposals for more restrictive ramping rate based on the outcome of the ramping rate evaluation."*

The District is requesting to remove this license requirement for a plan and report and hereby seeking verification from the ARC that it is not necessary. The request is based on protections in place under the broader requirement under A-LA 7 to provide connectivity between the mainstem and side channels at mainstem flows above the 300 cfs minimum flow. Through inference, the requirement to keep 10,000 linear feet of side channel wetted at minimum flows ensures that these habitats will be wetted at flows greater than 300 cfs. This connectivity was established at completion of the construction of the side channel project this fall and will be documented as a maintenance requirement for these projects. In addition to connectivity and adequate flow through the side channels, the topographic configuration of both the existing and newly created channels does not create the type of stranding situation observed in mainstem habitats. The District contends that the downramping rate schedule, as presented in A-LA 5, provides adequate resource protection for fish present in the mainstem and side channels to the Sultan River and that additional ramping rate restrictions are not necessary.

Please reply to this email indicating your acknowledgement and acceptance of this request.

Presler, Dawn

From: Binkley, Keith
Sent: Thursday, October 25, 2012 3:08 PM
To: Presler, Dawn
Subject: FW: ARC - Request to remove license requirement for Downramping Evaluation Plan

From: Steven Fransen [mailto:steven.m.fransen@noaa.gov]
Sent: Thursday, October 25, 2012 2:56 PM
To: Binkley, Keith
Subject: Re: ARC - Request to remove license requirement for Downramping Evaluation Plan

Keith,

Your description and rationale are fine with me. I don't see any direct benefit from an additional ramping rate evaluation plan.

SF

On Thu, Oct 25, 2012 at 10:15 AM, Binkley, Keith <KMBinkley@snopud.com> wrote:

This email is a follow-up to a discussion during the ARC meeting on October 17. During that meeting, we discussed Article 405 and the requirement for a Ramping Rate Evaluation Plan and subsequent report. The article states that *"within 6 months of completing the side-channel enhancement projects required by Appendix A, condition 5.2 (A-LA 7), the licensee shall file, for Commission approval, a Ramping Rate Evaluation Plan. The plan shall include: 1) the methods and schedule for conducting an evaluation to determine whether additional ramping rate restrictions are necessary to protect juvenile fish from stranding in the reconnected side channels required by Appendix A, condition 5.2 (A-LA 7); and 2) a provision to file a ramping rate report within one of completing the side channel enhancements, with any specific proposals for more restrictive ramping rate based on the outcome of the ramping rate evaluation."*

The District is requesting to remove this license requirement for a plan and report and hereby seeking verification from the ARC that it is not necessary. The request is based on protections in place under the broader requirement under A-LA 7 to provide connectivity between the mainstem and side channels at mainstem flows above the 300 cfs minimum flow. Through inference, the requirement to keep 10,000 linear feet of side channel wetted at minimum flows ensures that these habitats will be wetted at flows greater than 300 cfs. This connectivity was established at completion of the construction of the side channel project this fall and will be documented as a maintenance requirement for these projects. In addition to connectivity and adequate flow through the side channels, the topographic configuration of both the existing and newly created channels does not create the type of stranding situation observed in mainstem habitats. The District contends that the downramping rate schedule, as presented in A-LA 5, provides adequate resource protection for fish present in the mainstem and side channels to the Sultan River and that additional ramping rate restrictions are not necessary.

Please reply to this email indicating your acknowledgement and acceptance of this request.

Presler, Dawn

From: Binkley, Keith
Sent: Thursday, October 25, 2012 3:08 PM
To: Presler, Dawn
Subject: FW: ARC - Request to remove license requirement for Downramping Evaluation Plan

From: Everest, Loren -FS [mailto:leverest@fs.fed.us]
Sent: Thursday, October 25, 2012 3:03 PM
To: Binkley, Keith
Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

I agree that as long as side channels remain connected and fully wetted at minimum flows, then stranding in the side channels is not an issue and a ramping rate evaluation plan is not necessary.

.~`.. ><(((0>`..~`..~`..~`..><(((0>
Loren Everest
Fisheries Program Manager
Mt. Baker Snoqualmie NF
Office (425) 783-6040
Cell (425) 238-2721
><(((0>`..~`..~`..~`..><(((0>_~`..~`..~`..~`><(((0>

From: Binkley, Keith [mailto:KMBinkley@SNOPUD.com]
Sent: Thursday, October 25, 2012 10:16 AM
To: 'Maynard, Chris (ECY)'; DJPRESLER@SNOPUD.COM; 'Steven Fransen'; 'Anne Savery'; Everest, Loren -FS; Applegate, Brock A (DFW); Leonetti, Frank; 'Jim Miller'; okeefe@americanwhitewater.org
Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim
Subject: ARC - Request to remove license requirement for Downramping Evaluation Plan

This email is a follow-up to a discussion during the ARC meeting on October 17. During that meeting, we discussed Article 405 and the requirement for a Ramping Rate Evaluation Plan and subsequent report. The article states that *"within 6 months of completing the side-channel enhancement projects required by Appendix A, condition 5.2 (A-LA 7), the licensee shall file, for Commission approval, a Ramping Rate Evaluation Plan. The plan shall include: 1) the methods and schedule for conducting an evaluation to determine whether additional ramping rate restrictions are necessary to protect juvenile fish from stranding in the reconnected side channels required by Appendix A, condition 5.2 (A-LA 7); and 2) a provision to file a ramping rate report within one of completing the side channel enhancements, with any specific proposals for more restrictive ramping rate based on the outcome of the ramping rate evaluation."*

The District is requesting to remove this license requirement for a plan and report and hereby seeking verification from the ARC that it is not necessary. The request is based on protections in place under the broader requirement under A-LA 7 to provide connectivity between the mainstem and side channels at mainstem flows above the 300 cfs minimum flow. Through inference, the requirement to keep 10,000 linear feet of side channel wetted at minimum flows ensures that these habitats will be wetted at flows greater than 300 cfs. This connectivity was established at completion of the construction of the side channel project this fall and will be documented as a maintenance requirement for these projects. In addition to connectivity and adequate flow through the side channels, the topographic configuration of both the existing and newly created channels does not create the type of stranding situation observed in mainstem habitats. The District contends that the downramping rate schedule, as presented in A-LA 5, provides adequate resource protection for fish present in the mainstem and side channels to the Sultan River and that additional ramping rate restrictions are not necessary.

Presler, Dawn

From: Binkley, Keith
Sent: Monday, October 29, 2012 10:16 AM
To: Binkley, Keith; 'Maynard, Chris (ECY)'; Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; 'Applegate, Brock A (DFW)'; 'Leonetti, Frank'; 'Jim Miller'; 'Thomas O'Keefe'
Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim
Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

So far, I have heard back from Jim, Loren, Steve, and Chris in support and from Tom to defer to the group. I'm waiting to hear from Brock, Anne, Tim, and Mick before moving this forward. Thanks for giving this your attention.

Keith

From: Binkley, Keith
Sent: Thursday, October 25, 2012 10:16 AM
To: 'Maynard, Chris (ECY)'; Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; Applegate, Brock A (DFW); Leonetti, Frank; 'Jim Miller'; 'Thomas O'Keefe'
Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim
Subject: ARC - Request to remove license requirement for Downramping Evaluation Plan

This email is a follow-up to a discussion during the ARC meeting on October 17. During that meeting, we discussed Article 405 and the requirement for a Ramping Rate Evaluation Plan and subsequent report. The article states that *"within 6 months of completing the side-channel enhancement projects required by Appendix A, condition 5.2 (A-LA 7), the licensee shall file, for Commission approval, a Ramping Rate Evaluation Plan. The plan shall include: 1) the methods and schedule for conducting an evaluation to determine whether additional ramping rate restrictions are necessary to protect juvenile fish from stranding in the reconnected side channels required by Appendix A, condition 5.2 (A-LA 7); and 2) a provision to file a ramping rate report within one of completing the side channel enhancements, with any specific proposals for more restrictive ramping rate based on the outcome of the ramping rate evaluation."*

The District is requesting to remove this license requirement for a plan and report and hereby seeking verification from the ARC that it is not necessary. The request is based on protections in place under the broader requirement under A-LA 7 to provide connectivity between the mainstem and side channels at mainstem flows above the 300 cfs minimum flow. Through inference, the requirement to keep 10,000 linear feet of side channel wetted at minimum flows ensures that these habitats will be wetted at flows greater than 300 cfs. This connectivity was established at completion of the construction of the side channel project this fall and will be documented as a maintenance requirement for these projects. In addition to connectivity and adequate flow through the side channels, the topographic configuration of both the existing and newly created channels does not create the type of stranding situation observed in mainstem habitats. The District contends that the downramping rate schedule, as presented in A-LA 5, provides adequate resource protection for fish present in the mainstem and side channels to the Sultan River and that additional ramping rate restrictions are not necessary.

Please reply to this email indicating your acknowledgement and acceptance of this request.

Thank you

Keith

*Keith Binkley
Manager - Natural Resources Department
Snohomish County PUD*

Presler, Dawn

From: Binkley, Keith
Sent: Monday, October 29, 2012 1:47 PM
To: 'Leonetti, Frank'; 'Maynard, Chris (ECY)'; Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; 'Applegate, Brock A (DFW)'; 'Jim Miller'; 'Thomas O'Keefe'
Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim
Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

Thanks for your input Frank and it was an oversight on my part to not request your input in my prior email. Yes, our obligation is to ensure that flow through is maintained over the license term. The last thing we want to do is create an "attractive nuisance" where fish move in but are trapped and can't move back out. Your thoughts on establishing stage / discharge rating curves at the inlets and also the outlets of the side channels are consistent with my thoughts on the subject.

Thanks again,

Keith

From: Leonetti, Frank [mailto:frank.leonetti@snoco.org]
Sent: Monday, October 29, 2012 1:07 PM
To: Binkley, Keith; 'Maynard, Chris (ECY)'; Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; 'Applegate, Brock A (DFW)'; 'Jim Miller'; 'Thomas O'Keefe'
Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim
Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

Hi Keith, thinking about this a little more, it seems unlikely that a downramping study in the next 6 months-1yr would be very useful given the design criteria for the side channels. In the longer term I have some questions. We see many side channels that experience either deformation of the banks and channel alignment (and gravel recruitment/storage) or actual bedload movement from the mainstem into the side channel that significantly changes bed topography over time, often with fill at the inlet. Some of this can be subtle. It's conceivable that higher flows could entrain juveniles into the side channel which would be disconnected at or above 300 cfs due to these kinds of topographic changes that isolate pool or glide areas between high elevation riffle crests. And, would most likely happen at the highest process flows. If Im reading correctly below, it looks like the PUD would be obligated to maintain channel flow-through at 300cfs. Would this be true if such bed topographic changes occurred? Does this mean you would excavate riffle crests to assure this? Perhaps it makes sense to evaluate flow connectivity at a variety of flows after flow events that are predicted to mobilize bedload. I'm just thinking those channels are likely to look very different 10-20 years out (they'll be great habitat!), but might require some down ramping evaluation around that 300cfs threshold.

Im OK with removing the existing language but it seems like a downramping study might make sense if such channel changes occur in the future. Evaluation of flow at different discharges would be useful, easy to do, and inform the need for more rigorous evaluation of downramping. You'd wind up with a habitat rating curve showing flow vs. wetted area and flow vs. connectivity (or flow-through). -Frank

Frank Leonetti / 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
frank.leonetti@co.snohomish.wa.us

Presler, Dawn

From: Binkley, Keith
Sent: Monday, October 29, 2012 1:38 PM
To: Presler, Dawn
Subject: FW: ARC - Request to remove license requirement for Downramping Evaluation Plan

From: Mick Matheson [mailto:mick.matheson@ci.sultan.wa.us]
Sent: Monday, October 29, 2012 1:47 PM
To: Binkley, Keith
Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

Keith,

I don't have an issue with the District's request to remove the license requirement for a Downramping Evaluation Plan.

Mick Matheson, P.E.

City of Sultan
Director of Public Works/City Engineer
Tel: (360) 793-2231
Fax: (360) 793-3344
Direct: (360) 793-2262
Cell: (425) 583-6528
mick.matheson@ci.sultan.wa.us

From: Binkley, Keith [mailto:KMBinkley@SNOPUD.com]
Sent: Thursday, October 25, 2012 10:16 AM
To: 'Maynard, Chris (ECY)'; Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; Applegate, Brock A (DFW); Leonetti, Frank; 'Jim Miller'; 'Thomas O'Keefe'
Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim
Subject: ARC - Request to remove license requirement for Downramping Evaluation Plan

This email is a follow-up to a discussion during the ARC meeting on October 17. During that meeting, we discussed Article 405 and the requirement for a Ramping Rate Evaluation Plan and subsequent report. The article states that *"within 6 months of completing the side-channel enhancement projects required by Appendix A, condition 5.2 (A-LA 7), the licensee shall file, for Commission approval, a Ramping Rate Evaluation Plan. The plan shall include: 1) the methods and schedule for conducting an evaluation to determine whether additional ramping rate restrictions are necessary to protect juvenile fish from stranding in the reconnected side channels required by Appendix A, condition 5.2 (A-LA 7); and 2) a provision to file a ramping rate report within one of completing the side channel enhancements, with any specific proposals for more restrictive ramping rate based on the outcome of the ramping rate evaluation."*

The District is requesting to remove this license requirement for a plan and report and hereby seeking verification from the ARC that it is not necessary. The request is based on protections in place under the broader requirement under A-LA 7 to provide connectivity between the mainstem and side channels at mainstem flows above the 300 cfs minimum flow. Through inference, the requirement to keep 10,000 linear feet of side channel wetted at minimum flows ensures that these habitats will be wetted at flows greater than 300 cfs. This connectivity was established at completion of the construction of the side channel project this fall and will be documented as a maintenance requirement for these

Presler, Dawn

From: Binkley, Keith
Sent: Monday, October 29, 2012 3:43 PM
To: 'Applegate, Brock A (DFW)'; 'Leonetti, Frank'; Maynard, Chris (ECY); Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; 'Jim Miller'; 'Thomas O'Keefe'
Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim
Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

Thanks for your input as well Brock. It would have been good to discuss this more in person or in the field but I think we are getting there via email. I appreciate everyone's patience. In answer to your question, if in the future, connectivity becomes an issue, we will make the necessary physical changes to ensure connectivity at the 300 cfs minimum flow schedule in the license. Through inference, the requirement to keep 10,000 linear feet of side channel wetted at minimum flows ensures that these habitats will be wetted at flows greater than 300 cfs. Downramping refers to something different than connectivity, it is the rate of change in stage. The license requirement being discussed for removal relates to an evaluation of whether more restrictive rates are necessary at the project to address flow behavior within the side channels. So since we know it will be wetted over the range of flows, the question boils down to the relevance of rate in this topographic setting.

From: Applegate, Brock A (DFW) [mailto:Brock.Applegate@dfw.wa.gov]
Sent: Monday, October 29, 2012 2:23 PM
To: Binkley, Keith; 'Leonetti, Frank'; Maynard, Chris (ECY); Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; 'Jim Miller'; 'Thomas O'Keefe'
Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim
Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

Hi Keith, I agree with Frank's e-mail. However, what if connectivity of the side channel requires more flow because of future physical changes to the side channels? Future ramping rate studies could have value. WDFW can agree with your license requirement removal if the ARC maintains the ability to adjust flow rates, if necessary. In addition, I am unclear on how the flow/rate response of the main channel will affect the ever-changing side channels and maintaining flexibility in addressing our concerns would be important.

Thanks for coordinating on the license requirement.

Sincerely, Brock

Brock Applegate
Major Projects Mitigation Biologist
Washington Department of Fish and Wildlife
16018 Mill Creek Boulevard
Mill Creek, WA 98012-1541

(425) 775-1311 x310
(360) 789-0578 (cell)
(425) 338-1066 (fax)

From: Binkley, Keith [mailto:KMBinkley@SNOPUD.com]
Sent: Monday, October 29, 2012 1:47 PM
To: 'Leonetti, Frank'; Maynard, Chris (ECY); Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; Applegate, Brock A (DFW); 'Jim Miller'; 'Thomas O'Keefe'
Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim
Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

Thanks for your input Frank and it was an oversight on my part to not request your input in my prior email. Yes, our obligation is to ensure that flow through is maintained over the license term. The last thing we want to do is create an "attractive nuisance" where fish move in but are trapped and can't move back out. Your thoughts on establishing stage / discharge rating curves at the inlets and also the outlets of the side channels are consistent with my thoughts on the subject.

Thanks again,

Keith

From: Leonetti, Frank [<mailto:frank.leonetti@snoco.org>]

Sent: Monday, October 29, 2012 1:07 PM

To: Binkley, Keith; 'Maynard, Chris (ECY)'; Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; 'Applegate, Brock A (DFW)'; 'Jim Miller'; 'Thomas O'Keefe'

Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim

Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

Hi Keith, thinking about this a little more, it seems unlikely that a downramping study in the next 6 months-1yr would be very useful given the design criteria for the side channels. In the longer term I have some questions. We see many side channels that experience either deformation of the banks and channel alignment (and gravel recruitment/storage) or actual bedload movement from the mainstem into the side channel that significantly changes bed topography over time, often with fill at the inlet. Some of this can be subtle. It's conceivable that higher flows could entrain juveniles into the side channel which would be disconnected at or above 300 cfs due to these kinds of topographic changes that isolate pool or glide areas between high elevation riffle crests. And, would most likely happen at the highest process flows. If I'm reading correctly below, it looks like the PUD would be obligated to maintain channel flow-through at 300cfs. Would this be true if such bed topographic changes occurred? Does this mean you would excavate riffle crests to assure this? Perhaps it makes sense to evaluate flow connectivity at a variety of flows after flow events that are predicted to mobilize bedload. I'm just thinking those channels are likely to look very different 10-20 years out (they'll be great habitat!), but might require some down ramping evaluation around that 300cfs threshold.

I'm OK with removing the existing language but it seems like a downramping study might make sense if such channel changes occur in the future. Evaluation of flow at different discharges would be useful, easy to do, and inform the need for more rigorous evaluation of downramping. You'd wind up with a habitat rating curve showing flow vs. wetted area and flow vs. connectivity (or flow-through). -Frank

Frank Leonetti / 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

frank.leonetti@co.snohomish.wa.us

NOTICE: All emails, and attachments, sent to and from Snohomish County are public records and may be subject to disclosure pursuant to the Public Records Act ([RCW 42.56](#)).

From: Binkley, Keith [<mailto:KMBinkley@SNOPUD.com>]

Sent: Monday, October 29, 2012 10:16 AM

To: Binkley, Keith; 'Maynard, Chris (ECY)'; Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; 'Applegate, Brock A (DFW)'; Leonetti, Frank; 'Jim Miller'; 'Thomas O'Keefe'

Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim

Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

So far, I have heard back from Jim, Loren, Steve, and Chris in support and from Tom to defer to the group. I'm waiting to hear from Brock, Anne, Tim, and Mick before moving this forward. Thanks for giving this your attention.

Keith

From: Binkley, Keith

Sent: Thursday, October 25, 2012 10:16 AM

To: 'Maynard, Chris (ECY)'; Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; Applegate, Brock A (DFW); Leonetti, Frank; 'Jim Miller'; 'Thomas O'Keefe'

Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim

Subject: ARC - Request to remove license requirement for Downramping Evaluation Plan

This email is a follow-up to a discussion during the ARC meeting on October 17. During that meeting, we discussed Article 405 and the requirement for a Ramping Rate Evaluation Plan and subsequent report. The article states that *"within 6 months of completing the side-channel enhancement projects required by Appendix A, condition 5.2 (A-LA 7), the licensee shall file, for Commission approval, a Ramping Rate Evaluation Plan. The plan shall include: 1) the methods and schedule for conducting an evaluation to determine whether additional ramping rate restrictions are necessary to protect juvenile fish from stranding in the reconnected side channels required by Appendix A, condition 5.2 (A-LA 7); and 2) a provision to file a ramping rate report within one of completing the side channel enhancements, with any specific proposals for more restrictive ramping rate based on the outcome of the ramping rate evaluation."*

The District is requesting to remove this license requirement for a plan and report and hereby seeking verification from the ARC that it is not necessary. The request is based on protections in place under the broader requirement under A-LA 7 to provide connectivity between the mainstem and side channels at mainstem flows above the 300 cfs minimum flow. Through inference, the requirement to keep 10,000 linear feet of side channel wetted at minimum flows ensures that these habitats will be wetted at flows greater than 300 cfs. This connectivity was established at completion of the construction of the side channel project this fall and will be documented as a maintenance requirement for these projects. In addition to connectivity and adequate flow through the side channels, the topographic configuration of both the existing and newly created channels does not create the type of stranding situation observed in mainstem habitats. The District contends that the downramping rate schedule, as presented in A-LA 5, provides adequate resource protection for fish present in the mainstem and side channels to the Sultan River and that additional ramping rate restrictions are not necessary.

Please reply to this email indicating your acknowledgement and acceptance of this request.

Thank you

Keith

Keith Binkley

Manager - Natural Resources Department

Snohomish County PUD

425 783 1769 (office)

425 293 6201 (mobile)

Email correspondence on this topic follows:

Presler, Dawn

From: Tim_Romanski@fws.gov
Sent: Tuesday, October 30, 2012 12:12 PM
To: Binkley, Keith
Cc: 'Anne Savery'; 'Applegate, Brock A (DFW)'; Maynard, Chris (ECY); Presler, Dawn; 'Leonetti, Frank'; 'Jim Miller'; Moore, Kim; 'Loren Everest - USFS'; 'mick.matheson@ci.sultan.wa.us'; 'Thomas O'Keefe'; 'Steven Fransen'
Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

Sorry, it has taken a while to weigh in. I have been out of the office. I concur with both Steve and Keith. A ramping rate study is not necessary, especially to ensure proper connectivity of the side channel. I am not sure how such a study got to be part of the license in the first place. And any connectivity issues would be addressed with a physical alteration at the mouth of the side channel as proposed by Keith. Monitoring at the side channel will tell us if and when such alteration is needed.

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>

10/29/2012 03:42 PM

To "'Applegate, Brock A (DFW)'" <Brock.Applegate@dfw.wa.gov>, "'Leonetti, Frank'" <frank.leonetti@snoco.org>, "'Maynard, Chris (ECY)'" <cmay461@ECY.WA.GOV>, "'Presler, Dawn'" <DJPresler@SNOPUD.com>, "'Steven Fransen'" <steven.m.fransen@noaa.gov>, "'Anne Savery'" <asavery@tulaliptribes-nsn.gov>, "'Loren Everest - USFS'" <leverest@fs.fed.us>, "'Jim Miller'" <JMiller@ci.everett.wa.us>, "'Thomas O'Keefe'" <okeefe@americanwhitewater.org>
cc "'Tim_Romanski@fws.gov'" <Tim_Romanski@fws.gov>, "'mick.matheson@ci.sultan.wa.us'" <mick.matheson@ci.sultan.wa.us>, "Moore, Kim" <KDMoore@SNOPUD.com>

Subject RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

Thanks for your input as well Brock. It would have been good to discuss this more in person or in the field but I think we are getting there via email. I appreciate everyone's patience. In answer to your question, if in the future, connectivity becomes an issue, we will make the necessary physical changes to ensure connectivity at the 300 cfs minimum flow schedule in the license. Through inference, the requirement to keep 10,000 linear feet of side channel wetted at minimum flows ensures that these habitats will be wetted at flows greater than 300 cfs. Downramping refers to something different than connectivity, it is the rate of change in stage. The license requirement being discussed for removal relates to an evaluation of whether more restrictive rates are necessary at the project to address flow behavior within the side channels. So since we know it will be wetted over the range of flows, the question boils down to the relevance of rate in this topographic setting.

From: Applegate, Brock A (DFW) [mailto:Brock.Applegate@dfw.wa.gov]
Sent: Monday, October 29, 2012 2:23 PM
To: Binkley, Keith; 'Leonetti, Frank'; Maynard, Chris (ECY); Presler, Dawn; 'Steven Fransen'; 'Anne Savery'; 'Loren Everest - USFS'; 'Jim Miller'; 'Thomas O'Keefe'
Cc: 'Tim_Romanski@fws.gov'; 'mick.matheson@ci.sultan.wa.us'; Moore, Kim
Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

Presler, Dawn

From: Binkley, Keith
Sent: Wednesday, November 14, 2012 8:50 AM
To: 'Anne Savery'; 'Tim_Romanski@fws.gov'; 'Applegate, Brock A (DFW)'; Maynard, Chris (ECY); Presler, Dawn; 'Leonetti, Frank'; 'Jim Miller'; Moore, Kim; 'Loren Everest - USFS'; 'mick.matheson@ci.sultan.wa.us'; 'Thomas O'Keefe'; 'Steven Fransen'
Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

Thanks for your input Anne.

From: Anne Savery <asavery@tulaliptribes-nsn.gov>
Date: November 13, 2012, 11:10:04 AM PST
To: "Binkley, Keith" <KMBinkley@SNOPUD.com>, "'Tim_Romanski@fws.gov'" <Tim_Romanski@fws.gov>
Cc: "'Applegate, Brock A (DFW)'" <Brock.Applegate@dfw.wa.gov>, "Maynard, Chris (ECY)" <cmay461@ECY.WA.GOV>, "Presler, Dawn" <DJPresler@SNOPUD.com>, "'Leonetti, Frank'" <frank.leonetti@snoco.org>, 'Jim Miller' <JMiller@ci.everett.wa.us>, "Moore, Kim" <KDMoore@SNOPUD.com>, 'Loren Everest - USFS' <leverest@fs.fed.us>, "'mick.matheson@ci.sultan.wa.us'" <mick.matheson@ci.sultan.wa.us>, 'Thomas O'Keefe' <okeefe@americanwhitewater.org>, 'Steven Fransen' <steven.m.fransen@noaa.gov>
Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

Sorry for the delay in my response - I was shut out of my Tulalip email account for a week (+).

My thoughts on the sidechannels align with Frank's. They are experimental, need to have time to develop a dynamic equilibrium with the lower Sultan River and will require monitoring to understand the stage/discharge relationship.

On to down ramping - I hesitate to agree to removing the downramping requirement for two reasons. 1. we don't know what will happen in the side channels if downramping in the mainstem exceeds or even meets the current prescription - regardless of whether the minimum instream flow is being met in the lower Sultan River
2. the side channels will be evolving over time - we won't know what the connectivity of the downstream ends of the side channels at any flow regime or what sort of refugia are created for juveniles, until it is allowed to develop.

I suggest we monitor the stage discharge relationship of both the upstream and downstream ends of the side channels (especially respect to down ramping events) and to monitor the development of habitats within the side channels. Monitoring should tell us if we need a downramping rate specific to sidechannels.

Anne

From: Anne Savery
Sent: Thursday, November 08, 2012 12:06 PM
To: Binkley, Keith; 'Tim_Romanski@fws.gov'
Cc: 'Applegate, Brock A (DFW)'; Maynard, Chris (ECY); Presler, Dawn; 'Leonetti, Frank'; 'Jim Miller'; Moore, Kim; 'Loren Everest - USFS'; 'mick.matheson@ci.sultan.wa.us'; 'Thomas O'Keefe'; 'Steven Fransen'

Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

From: Binkley, Keith [KMBinkley@SNOPUD.com]

Sent: Monday, November 05, 2012 5:08 PM

To: 'Tim_Romanski@fws.gov'

Cc: Anne Savery; 'Applegate, Brock A (DFW)'; Maynard, Chris (ECY); Presler, Dawn; 'Leonetti, Frank'; 'Jim Miller'; Moore, Kim; 'Loren Everest - USFS';

mick.matheson@ci.sultan.wa.us; 'Thomas O'Keefe'; 'Steven Fransen'

Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

That is correct Tim and thanks for pointing out the District's obligation to physical ensure the connectivity is maintained.

From: Tim_Romanski@fws.gov [mailto:Tim_Romanski@fws.gov]

Sent: Monday, November 05, 2012 3:51 PM

To: Binkley, Keith

Cc: 'Anne Savery'; 'Applegate, Brock A (DFW)'; Maynard, Chris (ECY); Presler, Dawn; 'Leonetti, Frank'; 'Jim Miller'; Moore, Kim; 'Loren Everest - USFS';

mick.matheson@ci.sultan.wa.us; 'Thomas O'Keefe'; 'Steven Fransen'

Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

I think the language looks good. I am assuming if the connectivity is lost for whatever reason that the County would have a adequate response (i.e. restore connectivity through physical alteration of side-channel). Thanks Keith for coordinating 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)

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

11/05/2012 01:58 PM

To

""Tim_Romanski@fws.gov"" <Tim_Romanski@fws.gov<mailto:Tim_Romanski@fws.gov>>

cc

""Anne Savery"" <asavery@tulaliptribes-nsn.gov<<mailto:asavery@tulaliptribes-nsn.gov>>>

""Applegate, Brock A (DFW)""

<Brock.Applegate@dfw.wa.gov<<mailto:Brock.Applegate@dfw.wa.gov>>>, "Maynard, Chris

(ECY)" <cmay461@ECY.WA.GOV<<mailto:cmay461@ECY.WA.GOV>>>, "Presler, Dawn" <DJPresler@SNOPUD.com<<mailto:DJPresler@SNOPUD.com>>>, "Leonetti, Frank" <frank.leonetti@snoco.org<<mailto:frank.leonetti@snoco.org>>>, "Jim Miller" <JMiller@ci.everett.wa.us<<mailto:JMiller@ci.everett.wa.us>>>, "Moore, Kim" <KDMoore@SNOPUD.com<<mailto:KDMoore@SNOPUD.com>>>, "Loren Everest - USFS" <leverest@fs.fed.us<<mailto:leverest@fs.fed.us>>>, "mick.matheson@ci.sultan.wa.us" <mick.matheson@ci.sultan.wa.us<<mailto:mick.matheson@ci.sultan.wa.us>>>, "Thomas O'Keefe" <okeefe@americanwhitewater.org<<mailto:okeefe@americanwhitewater.org>>>, "Steven Fransen" <steven.m.fransen@noaa.gov<<mailto:steven.m.fransen@noaa.gov>>>

Subject

RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

Thanks Tim.

I would ask the membership to review the entire email string and then see if the following language from the maintenance and monitoring section of the SCE/LWD plan addresses the issue:

Side channel habitats will be monitored seasonally to qualitatively assess functionality over the full range of flow conditions with focused surveys conducted when mainstem flows drop below 400 cfs. Benchmarks for horizontal and vertical control will be established near the inlet to each side channel. Bed elevation, water depth / stage, and velocity will be collected along an established transect during each site visit. This information will define flow connectivity and the relationship between mainstem and side channel flow.

Thanks all,

Keith

From: [Tim Romanski@fws.gov](mailto:Tim_Romanski@fws.gov)<mailto:Tim_Romanski@fws.gov>
[mailto:Tim_Romanski@fws.gov]

Sent: Tuesday, October 30, 2012 12:12 PM

To: Binkley, Keith

Cc: 'Anne Savery'; 'Applegate, Brock A (DFW)'; Maynard, Chris (ECY); Presler, Dawn; 'Leonetti, Frank'; 'Jim Miller'; Moore, Kim; 'Loren Everest - USFS'; 'mick.matheson@ci.sultan.wa.us'; 'Thomas O'Keefe'; 'Steven Fransen'

Subject: RE: ARC - Request to remove license requirement for Downramping Evaluation Plan

Sorry, it has taken a while to weigh in. I have been out of the office. I concur with both Steve and Keith. A ramping rate study is not necessary, especially to ensure proper connectivity of the side channel. I am not sure how such a study got to be part of the license in the first place. And any connectivity issues would be addressed with a physical alteration at the mouth of the side

Presler, Dawn

From: Presler, Dawn
Sent: Tuesday, November 27, 2012 1:41 PM
To: 'Anne Savery'; 'brock.applegate@dfw.wa.gov'; 'Maynard, Chris (ECY)'; 'Loren Everest - USFS'; 'Tim_Romanski@fws.gov'; 'Leonetti, Frank'; 'Steven Fransen'; 'mick.matheson@ci.sultan.wa.us'; 'Jim Miller'; 'Thomas O'Keefe'
Cc: Binkley, Keith; Moore, Kim
Subject: ARC - Article 405 - SCE Ramp Rate Eval Plan for your review and comment
Attachments: Article 405 Ramping Rate Evaluation Plan.docx

Dear ARC,

Since not all ARC members agreed to delete the requirement for a side channel enhancement ramp rate evaluation (based on emails to/from Keith), attached is the Plan per License Article 405. Please take the next 30 days to review and provide your comments back to me (cc: Keith) by December 28. (It's very concise so it should not take much time for your review.) If you have no comments on the Plan, an email stating so would still be appreciated. Thanks!

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: Jim Miller <JMiller@ci.everett.wa.us>
Sent: Tuesday, November 27, 2012 1:44 PM
To: Presler, Dawn
Subject: RE: ARC - Article 405 - SCE Ramp Rate Eval Plan for your review and comment

OK by me.
Jim Miller

From: Presler, Dawn [<mailto:DJPresler@SNOPUD.com>]
Sent: Tuesday, November 27, 2012 1:41 PM
To: 'Anne Savery'; 'brock.applegate@dfw.wa.gov'; 'Maynard, Chris (ECY)'; 'Loren Everest - USFS'; 'Tim_Romanski@fws.gov'; 'Leonetti, Frank'; 'Steven Fransen'; 'mick.matheson@ci.sultan.wa.us'; Jim Miller; 'Thomas O'Keefe'
Cc: Binkley, Keith; Moore, Kim
Subject: ARC - Article 405 - SCE Ramp Rate Eval Plan for your review and comment

Dear ARC,
Since not all ARC members agreed to delete the requirement for a side channel enhancement ramp rate evaluation (based on emails to/from Keith), attached is the Plan per License Article 405. Please take the next 30 days to review and provide your comments back to me (cc: Keith) by December 28. (It's very concise so it should not take much time for your review.) If you have no comments on the Plan, an email stating so would still be appreciated. Thanks!

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: Steven Fransen - NOAA Federal <steven.m.fransen@noaa.gov>
Sent: Tuesday, November 27, 2012 1:55 PM
To: Presler, Dawn
Subject: Re: ARC - Article 405 - SCE Ramp Rate Eval Plan for your review and comment

Dawn,

I reviewed the article 405 ramping rate evaluation plan for side channels. NMFS approves the plan.

SF

On Tue, Nov 27, 2012 at 1:41 PM, Presler, Dawn <DJPresler@snopud.com> wrote:

Dear ARC,

Since not all ARC members agreed to delete the requirement for a side channel enhancement ramp rate evaluation (based on emails to/from Keith), attached is the Plan per License Article 405. Please take the next 30 days to review and provide your comments back to me (cc: Keith) by December 28. (It's very concise so it should not take much time for your review.) If you have no comments on the Plan, an email stating so would still be appreciated. Thanks!

Happy Holidays!

Dawn Presler

Sr. Environmental Coordinator

Generation Resources

[\(425\) 783-1709](tel:(425)783-1709)

PUD No. 1 of Snohomish County

PO Box 1107

Everett, WA 98206-1107

Presler, Dawn

From: Mick Matheson <mick.matheson@ci.sultan.wa.us>
Sent: Thursday, November 29, 2012 10:51 AM
To: Presler, Dawn
Subject: RE: ARC - Article 405 - SCE Ramp Rate Eval Plan for your review and comment

Dawn,

I have reviewed the plan and have no comments.

Thanks,

Mick Matheson, P.E.

City of Sultan
Director of Public Works/City Engineer
Tel: (360) 793-2231
Fax: (360) 793-3344
Direct: (360) 793-2262
Cell: (425) 583-6528
mick.matheson@ci.sultan.wa.us

From: Presler, Dawn [<mailto:DJPresler@SNOPUD.com>]
Sent: Tuesday, November 27, 2012 1:41 PM
To: 'Anne Savery'; 'brock.applegate@dfw.wa.gov'; 'Maynard, Chris (ECY)'; 'Loren Everest - USFS'; 'Tim_Romanski@fws.gov'; 'Leonetti, Frank'; 'Steven Fransen'; 'mick.matheson@ci.sultan.wa.us'; 'Jim Miller'; 'Thomas O'Keefe'
Cc: Binkley, Keith; Moore, Kim
Subject: ARC - Article 405 - SCE Ramp Rate Eval Plan for your review and comment

Dear ARC,

Since not all ARC members agreed to delete the requirement for a side channel enhancement ramp rate evaluation (based on emails to/from Keith), attached is the Plan per License Article 405. Please take the next 30 days to review and provide your comments back to me (cc: Keith) by December 28. (It's very concise so it should not take much time for your review.) If you have no comments on the Plan, an email stating so would still be appreciated. Thanks!

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: Anne Savery <asavery@tulaliptribes-nsn.gov>
Sent: Thursday, December 20, 2012 12:03 PM
To: Presler, Dawn; 'Thomas O'Keefe' (okeefe@americanwhitewater.org); 'Jim Miller' (JMiller@ci.everett.wa.us); 'mick.matheson@ci.sultan.wa.us' (mick.matheson@ci.sultan.wa.us); 'Steven Fransen' (steven.m.fransen@noaa.gov); 'Leonetti, Frank' (frank.leonetti@snoco.org); 'Tim_Romanski@fws.gov' (Tim_Romanski@fws.gov); 'Loren Everest - USFS' (leverest@fs.fed.us); 'Maynard, Chris (ECY)' (cmay461@ecy.wa.gov); 'brock.applegate@dfw.wa.gov' (brock.applegate@dfw.wa.gov)
Cc: Binkley, Keith; Moore, Kim
Subject: SCE
Attachments: Article 405 Ramping Rate Evaluation Plan_TTT_Comments.doc

Attached are my comments on the Ramping Rate Evaluation summary

Summary of comments

1. We should evaluate the full range of minimum instream flows released at the Powerhouse. Minimum instream flow schedule drops to 200 cfs at the Powerhouse when Spada Lake reaches elevation 1420. Should downramping be established within that flow schedule?
2. Side channels should be evaluated in more places than the upstream and downstream ends for stage/discharge relationship. There may be places within the sidechannels that dewater earlier - we should know where those areas are.

Anne

2. METHODS AND SCHEDULE

The District proposes to evaluate patterns of flow behavior in four distinct side channels in the lower Sultan River. These side channels: SC1, SC2, SC3, and SC4 each underwent restoration in summer 2012 are highlighted in Figure 1. With the exception of SC1, all side channels have one inlet and one outlet. SC1 has two inlets and two outlets.

Consistent with other monitoring efforts, side channel habitats will be monitored seasonally to qualitatively assess functionality over the full range of flow conditions with focused quantitative surveys conducted when mainstem flows drop below 600 cfs, as measured at United States Geological Survey (USGS) Streamflow Gage No. 12138160. The flow range below 600 cfs was selected for this evaluation to be consistent with prior survey efforts (CH2MHill 1990). Table 1 depicts the applicable downramping schedule in Reach 1 when the flow range is between 600 and 300 cfs (minimum instream flow), as measured at USGS Streamflow Gage No. 12138160.

Table 1. Downramping Rate Schedule, 600 to 300 cfs flow range, Reach 1, Lower Sultan River.

Season	Day Rate	Night Rate
January 1 to May 31	2 inches per hour	4 inches per hour
June 1 to September 15	2 inches per hour	1 inch per hour
September 16 to October 31	2 inches per hour	2 inches per hour
November 1 to December 31	4 inches per hour	4 inches per hour

Qualitative surveys will rely on field observations and photo documentation. Quantitative surveys will document flow volume at the inlets and outlets of each of the four side channels. Benchmarks for horizontal and vertical control will be established near the inlet and outlet to each side channel. Bed elevation, water depth / stage, and velocity will be collected along an established transect during each site visit in the target flow range between 600 and 300 cfs. No less than three site visits will be made to bracket this flow range. This information will define flow connectivity and the relationship between mainstem and side channel flow.

Site visits will be scheduled to occur during summer 2013, as flow conditions allow, with a draft report provided to the ARC by August 31, 2013, for a 30-day review and comment period. A final report will be filed with the FERC by October 31, 2013.

Comment [AS1]: Although the minimum flow is estimated to be 300 cfs, we don't know what happens in the side channels in case flows go below 300. I would like to know what happens in the side channels when the minimum instream flows are lower, when Spada Lake is below 1420.

Comment [AS2]: We need to know the water levels throughout the side channels, to understand if there are areas where fish can get trapped within the sidechannels. Connectivity at the upstream and downstream end is important, however if fish are trapped in the sidechannel and can't leave, we should know where those areas are.

Appendix 2

Response to Comments Regarding Draft Plan

Number	ARC Comment	District Response
1	<p>Tulalip Tribes, Email dated 12/20/2012 Section 2 Methods and Schedule:</p> <p>Although the minimum flow is estimated to be 300 cfs, we don't know what happens in the side channels in case flows go below 300. I would like to know what happens in the side channels when the minimum flows are lower, when Spada Lake is below 1420.</p>	<p>The District discussed these comments with the ARC on 1/16/2013. Discussion points included:</p> <p>In the event of a declared drought warranting reductions in minimum flows below 300 cfs, the District will adopt a conservative ramping rate as it makes this transition. The District will also conduct focused qualitative surveys during this flow reduction.</p> <p>The Tulalip Tribes indicated agreement with this approach at the 1/16/2013 ARC meeting.</p>
2	<p>Tulalip Tribes, Email dated 12/20/2012 Section 2 Methods and Schedule:</p> <p>We need to know the water levels throughout the side channels, to understand if there are areas where fish can get trapped within the sidechannels. Connectivity at the upstream and downstream end is important, however if fish are trapped in the sidechannel and can't leave, we should know where those areas are.</p>	<p>The District discussed these comments with the ARC on 1/16/2013. Discussion points included:</p> <p>The connectivity information collected under this plan will supplement the qualitative surveys of functionality and physical habitat measurements described in the SCE Plan. This combined information will describe the potential for stranding in side channel habitats.</p> <p>The Tulalip Tribes indicated agreement with this approach at the 1/16/2013 ARC meeting.</p>