BAKER RIVER PROJECT RELICENSE

Aquatic Resources Working Group

February 12, 2004

8:30 a.m. – 3:00 p.m.
U.S. Forest Service
Conference Room A/B (425-775-9702)
21905 64th Avenue West, Mountlake Terrace, WA

AGENDA

1. Review Agenda, Minutes, Schedule	8:30 – 9:00
2. Fish Passage Technical Working Group Report	9:00 – 9:15
3. Lower Baker Turbine Configuration & Meeting Ramping Rate Criteria	9:15 – 10:00
4. Instream Flow Technical Working Group • Revised Summary Comparison Table • Status of New/Revised HYDROPS Runs • Summarize Action/Decision Items *Break at 10:30*	10:00 – 12:00
Lunch (meeting snacks or bring your own)	12:00 – 12:20
5. RESOLVE : Draft Proposed Actions • 3.1.1 Provide Fish Propagation & Enhancement • 3.4.1 Implement Fluvial Geomorphic Management • 3.4.3 Shoreline Erosion Management • 3.4.4 Aquatic Habitat Restoration	12:20 – 2:00
6. Study Updates: • A01a/b/A26b: Reservoir Tributary Study: *Draft Report* • A16: Lower Baker River Alluvial Fan Assessment • A25: Project Influenced Predation Study: *Draft Report* • A26a: Reservoir Production Potential: *Draft Report*	2:00 – 2:55
7. Set Agenda for March 11, 2004 (8:30-3 PSE-Bellevue)	2:55 - 3:00

February 12, 2004

Driving Directions to US Forest Service Office:

1) Driving North from Seattle (or South from Everett) on I-5, take the 220th St. SW exit (exit 179).
2) Turn west (right if from southbound I-5, left if from northbound I-5) onto 220th St. SW.
3) Drive west about a block and turn right onto 64th Ave W.
4) The office building is about ¼ block down the street on the right side of the road.

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AQUATIC RESOURCES/INSTREAM FLOWS/RESOLVE MEETING

February 12, 2004
8:30 a.m. – 3:00 p.m.
USFS Office, Mountlake Terrace

FINAL MEETING NOTES

Team Leader: Arnie Aspelund, PSE

ATTENDEES
Arnie Aspelund, Paul Wetherbee, Cary Feldmann, and Joel Molander, (PSE), Steve Fransen, (NMFS); Scott Schuyler and Doreen Maloney, (Upper Skagit Indian Tribe), Stan Walsh, (Skagit River System Cooperative),Ruth Mathews, (TNC), Arn Thoreen, (SFEG), Irena Netik, by phone (Powel Group), Scott Lentz , Margaret Beilharz and Dean Grover, all by phone (USFS), Jeff McGowan, Lorna Ellestad, and Mike Stansbury (Skagit County Public Works), Steve Jennison (DNR), Bill Reinard (Wildcat Steelhead Club), Gary Sprague (WDFW), Steve Fransen (NMFS), Chuck Ebel (USACE), Phil Hilgert (R2), Brad Caldwell (DOE), Lyn Wiltse, PDSA Consulting Inc. and Dee Endelman, Agreement Dynamics, facilitators, Carl Hadley (Cedarock Consultants) and Michele McGrady (PSE) both afternoon session only.

2004 Baker Aquatic Meetings: January 8, February 12, March 11, April 8, May 13, June 10, July 8, August 12, September 9, October 14, November 11, December 9.

NOTE: THE MARCH AND APRIL MEETINGS WILL BE AT THE PSE OFFICE IN BELLEVUE!

February 12, 2004 Agenda

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2. Fish Passage Technical Working Group Report
3. Lower Baker Turbine Configuration & Meeting Ramping Rate Criteria
4. Instream Flow Technical Working Group

- Revised Summary Comparison Table
- Status of New/Revised HYDROPS Runs
- Summarize Action/Decision Items
- RESOLVE: Draft Proposed Actions

5. 3.4.3 Shoreline Erosion Management
    - 3.1.1 Provide Fish Propagation & Enhancement
    - 3.4.1 Implement Fluvial Geomorphic Management
    - 3.4.4 Aquatic Habitat Restoration
6. Study Updates:
    - A01a/b/A26b: Reservoir Tributary Study: *Draft Report*
    - A16: Lower Baker River Alluvial Fan Assessment
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QUOTABLE QUOTES

"This ain't Burger King. You can't have it your way. This is the key to collaboration." - Steve Fransen

"What's our BATNA?" (Best Alternative to a Negotiated *Agreement*) – Steve Fransen

INTRODUCTIONS

We welcomed Joel Molander, PSE Hydro Asset Manager, who attended at our request to discuss the Lower Baker turbine configuration.

We also welcomed fish biologist, Michelle McGrady (PSE) and Carl Hadley of Cedarock Consulting who gave a report on the A-25 study- unnatural predation.

NEW ACTION ITEMS

- Phil: Have Stuart translate stage change data to inches for Skagit River at first transect (through the Dalles gage) This is in progress.
- Stan - Review Middle Skagit River cross-section profile/LWD locations by the next meeting.
- Phil: Post Level 1, 2 analyses of HYDROPS output on the eRoom by February 13.
- Phil: Complete comparison table, including edits as discussed (description of TNC run, etc.)
- Paul: Coordinate teamlet conference call on Feb. 18 from 2:00 to 3:00 to put together a couple of additional HYDROPS runs for discussion at Feb. 26 Instream Flows Technical Working Group Meeting. Also send out the dial-in number so other interested folks can also participate.
- Arnie: Investigate current Large Woody Debris PME wording and we will discuss this at our next meeting.
- Scott: Re-send comments on Tributary Study Report to Arnie to distribute.
- Stan and Gary: Email 3.1.1 revision proposal to Arnie asap.
- Stan: Develop language between amount and trigger for 3.4.1 and send to Arnie asap.
- Arnie: Check definition of BRCC and see that it includes appropriate "teamlet" reference. Also check "consultation" language.
- ALL: Send comments on 3.4.4 to Arnie by February 20.
- Arnie: Send out electronic version of A25.

- ALL: Send comments on A25 to Arnie by February 28.

FISH PASSAGE TECHNICAL WORKING GROUP REPORT

The Baker Net Replacement Field Schedule for 2004 was stated. The launching of the Net Transition Structure is scheduled for first thing in the morning on February 18. The net will be assembled at the Baker Project, February 23-March 22. Its deployment is scheduled for March 23-26.

This team is continuing to meet two days a month. On the first day they address issues of technical design. On the second day they discuss issues related to settlement (e.g., performance standards and testing methods). Their next meeting will be March 8 and 9th up at the Baker River Lodge.

Phase 1 of the Floating Surface Collector (500 cfs) is scheduled to be complete in early 2007. A design memo on this will be out by the end of the February. Modification of upstream adult passage will begin in 2008.

Stress relief ponds are also part of what is being planned for the downstream passage system.

LOWER BAKER TURBINE CONFIGURATION & MEETING RAMPING RATE CRITERIA

Joel Molander, Hydro Asset Manager for PSE explained that in 1965 there were three units at lower Baker. Two of the units at the Lower Baker Powerhouse, *each unit being fed by two penstocks*, were taken out in the landslide of 1965, and only Unit 3 was returned to service. The other units remain buried to this day. The roof of the new power house is built into the rock wall behind it, extremely sloped and built to withstand several tons of weight (in anticipation of another slide).

There is a similar slide risk downstream of the powerhouse. After careful consideration, potential powerhouse expansion is most feasible to the north. They are also looking at possibly resurrecting the 1920 penstocks daylighted from the original powerhouse.

Unit #3 is a vertical Francis unit. These units come with serious cavitation issues. Other challenges lie with a history of operating with a stepped ramp function, and if that will be allowed going forward, given ramping guidelines. Engineering estimates to expand to two additional units came in at between $40-45 million. These additional limits would allow for *7,100* cfs hydraulic capacity. The current water right at Lower Baker is only 6,000 cfs. Joel reported that there would be no incremental energy benefit *associated with the increased generation capacity*.

PSE is now looking at other options, including making modifications to the existing unit and adding a smaller single unit, at 680-750 cfs. The estimate for doing this is $17 million. The goal is to provide a broader range of operation, while minimizing collateral damage. The option of adding only a single unit carries with it increased costs of maintenance, and also periodic replacement of the unit.

Joel emphasized that these costs are part of what will be necessary in order to meet State Ramping requirements. PSE plans to be able to ramp through 1000-3,000 cfs. This does not mean they will be able to operate at a steady state within this zone.

Folks appreciated Joel's explanation of the possible Lower Baker turbine configurations. We will work to come up with a flow regime that works for all interests.

INSTREAM FLOW TECHNICAL WORKING GROUP
Phil distributed an updated Summary Comparison Table and walked us though the changes.

Revisions were made to PSE.02 making it PSE.02(R) for the PDEA: Removal of terrestrial reservoir levels at Upper and Lower Baker; addition of Forest Service summer recreation reservoir levels; and increased critical flows from 18 to 30,000cfs.

The other revision was to SSC.21 to show the average for all five years updated with new powerhouse configuration to include maximum generation of 7100 cfs. Newly created runs shown were DFW.06 and NMF.02. Lake levels relative to water quality were set at Upper and Lower Baker.

NMF.01 was found to be infeasible due to the maximum cfs capacity during spawning periods and violations of water quality standards.

For NMF.02, Irena relaxed the recreation levels down to water quality level. Level 2 post processing is underway for this run.

Economics - Paul explained the two new rows we added to this section of the table. Note: Row four should read: Annual Dependable Capacity Replacement (x $1million).

Hydrologics - On the Row 2, the volume was added. On the Last Row the average duration in days was added. On the Reservoir Row he added the euphotic zone volume, with numbers expressed as a percentage of the PSE.01 volume numbers.

Ramping - Many of the blanks in the Ramping Rows have been filled in (happy to have Stuart back from vacation).

Spawning - We can keep spawning flows low if we relax many other parameters. If we won't make it, we need to choose whether we want to allow high flows to come through for a short period of time, or allow medium flows to come through over a longer period.

We agreed that we'd like to emulate the natural freshet process as much as possible. We need a spawning /incubation index that all feel comfortable with for comparison purposes. We also agreed that Chinook is a priority species. Luckily, they spawn deeper than other species. We also want to stay in hydrologic control. Challenges we face include how to protect the most fish, over the full range of hydrologic conditions, recognizing that diversity is also important, within. We also have structural limitations.

Summarize Action/Decision Items
We know we want lower spawning flows and incubation flows of at least 1,000 cfs when there is enough water.

The question is: How much can we do with only one additional turbine?

Paul will coordinate a conference call with Steve, Gary, Stan, and Ruth on Feb. 18th from 2:00 to 3:00. He will send out the dial-in number so other interested folks can also participate.

At our February 27, Instream Flow Meeting, we'll discuss:

- -Review revised Suumary Comparison Table
- -Review HYDROPS output for latest runs
- -Take stock of where we are
- -Define where we want to be

RESOLVE: DRAFT PROPOSED ACTIONS

3.1.1 Provide Fish Propagation & Enhancement

Stan and Gary have expressed concern with numbers, schedule, and methodology. Gary is also concerned about reduction of current programs and resident trout. Stan and Gary are working on some revisions to this PME. Steve reminded us of the context – in FERC proceedings, *sometimes people end up requesting mitigation several times for a single impact - which ends up delaying the process as it is sorted out*. What is Puget's responsibility here? We also have a water supply problem. Finally, going beyond a 20,000 pounds instantaneous capacity, the footprint would need to expand. We also need to come to terms with the adult holding space. Doreen also expressed concern re: how FERC would look at this.

3.4.1 Implement Fluvial Geomorphic Management

Stan voiced concerns about the PME lacking a dollar amount and what trigger mechanism would be used. He will work to develop language in these areas. Gary raised concern that PME's all refer to BRCC when it should, in some cases, more specifically refer to Aquatic Resource Working Group. Arnie will review this.

3.4.3 Shoreline Erosion Management

The USFS wants to amend its language on this PME. They also believe the amount of dollars isn't sufficient. The latter is a policy level discussion.

3.4.4 Aquatic Habitat Restoration

The USFS believes that it needs to start negotiations at 20 million dollars. This also needs to be discussed at the policy level.

3.4.1 Large Woody Debris

Stan noted the rationale language is different from what he'd read before. He asked where it came from. Some folks disagree with it as it's currently written. Arnie will investigate this and we will discuss this at our next meeting.

STUDY UPDATES

A01/a/b/A26b: Reservoir Tributary Study: *Draft Report*

This report has been out since November. Arnie will distribute a list of Forest Service concerns to members for discussion at our March ARWG meeting.

A16: Lower Baker River Alluvial Fan Assessment

Stan and Devin provided comments on this assessment January 27. They included also the Little Baker Project. Their question: *Could Baker Project water releases be timed to coincide with high flows in the Skagit River to minimize scour, yet still maintain flood protection*? The hope is this would restore spawning habitat downstream.

A25: Project Influenced Predation Study: Draft Report
Unnatural predation- Carl Hadley of Cedarock Consulting walked us through the scope and findings of the study, as summarized in the draft report, the major predator was Char. There was not much habituation observed. Predation rates seemed comparable to what occurs in natural systems. We'll discuss this at our next meeting.

A26a: Reservoir Production Potential Draft Report
Michele McGrady provided a brief summary of the report findings: 1)Baker Lake does not appear to be nutrient limited at the present stocking densities, 2) fertilization is not recommended, 3) the system is below carrying capacity for sockeye, 4) age distribution is similar to Alaska sockeye systems and independent ADFW scale analysis supports this 5) continued age and water quality/zooplankton monitoring is recommended with some change to sampling protocol suggested, and 6) incremental approach to increasing sockeye fry production is recommended.
The revised draft report was sent out for review. All were asked to get their comments to Arnie by February 28 for discussion at our March 11 meeting.

HANDOUTS
- Meeting notes , Aquatic Resources Working Group, February 12, 2004
- Meeting notes, Aquatic Resources Working Group- Technical Sub-committee on Instream Flows, January 30, 2004
- Draft Tables for Instream Flow Analysis (prepared by Skagit River System Cooperative)
- Draft table of Comparison of Economic, Hydrologic and Environmental effects of Alternative Operational Scenarios for the Baker River Project- (Version February 12, 2004)
- Graphic Design of Option 2-Four Pumps
- Aquatic Appendices – A-1, A-2, A-3, A-4, A-5, A-6, A-7, A-8.
- Memorandum, January 27,2004 To: Baker Aquatics Workgroup, From: Stan Walsh and Devin Smith, Subject: Restoration alternatives for the Lower Baker River alluvial fan.
- Draft 12-11-03, 3.4.4 Implement Aquatic/Riparian Habitat Restoration and Conservation
- 3.4.3 Shoreline Erosion Management
- Draft –Evaluation of Project-Influenced Predation on Juvenile Sockeye Salmon Study A-25
- MWH Baker River Fish Passage
- Draft Tables for Instream Flow Analysis (two pages, Table 1, Table 2)
- Baker River 30-5- Spawning Analyses 021104 DRAFT
- Aquatic Resources Draft Proposed Actions Revision: 02/04/04

MEETING EVALUATION
Things that went well:
- Skipped doing a formal evaluation since we ran late. This was appreciated!
- Loved the food!

Things that need to be changed:

- Ran late.

Tentative Agenda for March 11, 2004 at the PSE Summit Building in Bellevue

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    - A26a: Reservoir Production Potential: *Comments to Revised Draft Report*

7. Set Agenda for April 8, 2004 (8:30-3:00 PSE-Bellevue)