BAKER RIVER PROJECT RELICENSE

Technical Scenario Teamlet Meeting

June 6, 2003

10:00 a.m. – 2:00 p.m.
Dial in: (866) 280-6429
Guest #: 144995
Louis Berger Office
12011 Bellevue-Redmond Road, Suite 200, Bellevue

AGENDA

1) Welcome, Introductions Review Notes (briefly) and Agenda	10:00 – 10:15
2) Sensitivity Analysis Discussion	10:15 – 11:45
3) Prep for Soft Constraint Ranking Discussion	11:45 – 12:00
4) Lunch: Review Outstanding Action Items	12:00 – 12:20
5) Preliminary Draft Constraint Ranking	12:20 – 1:45
6) Input/Output Format Review	1:45 – 1:50
7) Set Agenda for June 13 teleconference	1:50 – 2:00

June 4, 2003

BAKER RIVER PROJECT RELICENSE

Technical Scenario Teamlet

June 6, 2003
10:00 to 2:00
Louis Berger Office at 12011 Bellevue-Redmond Road, Suite 200
Bellevue, WA

FINAL DRAFT MEETING NOTES

Teamlet Leader: Paul Wetherbee, 425-462-3746, paul.wetherbee@pse.com

PRESENT: Paul Wetherbee, Joel Molander, and Tony Fuchs (PSE), Ruth Mathews (The Nature Conservancy), Margaret Beilharz (USFS), Gary Sprague (WDFW), Mark Killgore, Rob Mohn and Brian Mattax (The Louis Berger Group), Stuart Beck and Phil Hilgert (R2), Stan Walsh on phone (SSC), and Lyn Wiltse, facilitator (PDSA Consulting, Inc.).

INTRODUCTIONS

We welcomed Tony Fuchs, Team Leader for the Terrestrial Working Group. He attended today to represent Terrestrial and Recreation interests.

FUTURE MEETING DATES

Note: The June 13 meeting was cancelled.

June 27 (IN PERSON) from 10:00 to 2:00 at Louis Berger Office at 12011 Bellevue-Redmond Road, Suite 200, Bellevue. Phone: 425-451-7400.

Teleconference meetings: July 11, July 25 from 10:00 to noon at PSE's new Bellevue Office at 10885 NE 4th Street, Bellevue.

Driving directions to Louis Berger Office:

> **Heading SOUTH on 405:** Take Exit #13B and take the NE 8th East ramp, and merge onto NE 8th. Turn left onto Bellevue-Redmond Road. The office is at 12011 Bel-Red Rd. on the south side of the road just beyond Barrier Motors and on the second floor.

Heading NORTH on 405: Take Exit #13B and keep right at the fork in the ramp. Merge onto NE 8th. Turn left onto Bellevue-Redmond Road. The office is at 12011 Bel-Red Rd. on the south side of the road just beyond Barrier Motors and on the second floor.

To attend these meetings by conference call: Dial 1-866-280-6429. Enter participant code 144995#.

DRAFT AGENDA FOR JUNE 6, 2003
10:00 – 2:00 at Louis Berger Office at 12011 Bellevue-Redmond Road, Suite 200, Bellevue
Box lunches will be provided.

10:00 – 10:15	Welcome, Introductions Review Notes (briefly) and Agenda
10:15 – 11:45	Sensitivity Analysis
11:45 – noon	Prep for Discussion of Ranking of Soft Constraints
Noon – 12:20	Lunch: Review Outstanding Action Items
12:20 – 1:45	Play Results Comparison
	Create Preliminary Draft Ranking of Soft Constraints
1:45 – 2:00	Set Agenda for June 13 Meeting
	Confirm additional future meeting dates and times
	Evaluate the meeting

NEW ACTION ITEMS

- Mark: Analyze the four years selected by Phil for their reasonableness in supporting economic analyses. Identify additional periods of analysis if necessary. These years cover the hydrologic variation. Mark needs to ensure they are not biased in terms of high or low flows. He will also be looking for economic neutrality (within a small percentage of the long-term averages).
- Brian: Email post processor request to Phil.
- Phil: Check with Sue re: suite of statistics to use for post processing. Send out draft proposal to teamlet members (Ruth, Margaret, Brian, Mark, Paul). Incorporate their feedback into revised proposal to send out by June 23 to all team members. We will discuss this at our June 27 meeting.

REPORT ON OLD ACTION ITEMS

- Paul: Made sure we have input/representation from Terrestrial, Cultural, and Recreation resource interests for ranking session on June 6 by inviting Tony Fuchs to attend. Tony buttoned up with Andy Hatfield to make sure he could represent Recreation as well as Terrestrial interest at out meeting today. Aquatics interests are already well represented.
- Paul: Integrated Ruth's comments into 5/21 draft minutes and sent out as final.
- Paul: Sent out sensitivity analysis of soft constraint ranking on example flow regime in preparation for the June 6 meeting.
- All: Checked email on Wednesday for email from Paul. Reviewed these in preparation for the June 6 meeting.

- Phil: Generated new time series for unregulated flows for the Baker River. Included updated area-volume curves for both reservoirs and historic hydrologic data including flows and reservoir elevations. Made these data available on CD for those interested.
- Phil: Prepared memo outlining when SCL fisheries settlement was actually implemented. Reviewed and revised if necessary the rankings of the biologically-based ratios for selection of periods of analysis.
- Lloyd: Talked with Gary about why power prices jump around so much in 2006 and 2007 (according to Appendix K).
- Paul: Sent out list of all HYDROPS technical information available on the website.
- Paul: Checked back with Powel to see when they could update and distribute HYDROPS demonstration PowerPoint slides.
- Paul: Analyzed sensitivity of spawning/incubation flow calculation method, prepared short brief and presented to TST at next meeting.
- Paul: Completed example model run request form using Margaret's changes, distribute to group, and discuss at the next meeting.

FLOOD CONTROL

PSE is talking with Skagit County about how we might integrate an assessment of the adequacy of existing levels of flood control into the relicensing process. They will be meeting to discuss this on June 9 and they will give an update at the Economics Working Group meeting. The important thing to consider is that if there is a formal request to include any additional flood control in the new license, it will be incremental and not embedded. This means that this will not change any of our analyses that are based on the 74K acre-feet that PSE is obligated to provide (by congressional mandate). For now, we will assume that this will not change.

INSTREAM FLOWS TECHNICAL WORKING GROUP UPDATE

Phil reported that the June 3 Instream Flow Technical Working Group meeting was moved to June 30. Most of the hydrology has been updated. They are looking at putting together a follow-up memo looking at spawning and incubation flows under unregulated conditions at the Baker River Gage. They are analyzing different ways of calculating statistics for different time periods. This memo will be out next week and will be discussed at the June 30 meeting.

R2 MODEL(S) UPDATE

They are also working on the habitat models. They have been developing stage discharge relationship curves for each of the 24 transects. They are also looking at a critical flow with regard to Ramping in the Skagit River.

They are developing two models:

- Hourly routing: Doing this first. They hope to have it complete mid July
- Daily physical habitat simulation model: Hope to have that complete thereafter.

HYDROPS STATUS REPORT

Paul reported that he and Mark are continuing to test the model, especially for forecasting. We expect to be able to report that the model is tried and true by our June 27 meeting.

SENSITIVITY ANALYSIS
Mark walked us through the draft PowerPoint presentation he put together comparing two runs with different rankings so we could get an idea of how sensitive the model was to these differences. The years were defined at August 1 through July 31. Note: If constraints must be violated to ensure feasible operations, the HYDROPS model will violate them in reverse rank. It is possible to give two constraints the same ranking, as he demonstrated in Run 40. In this case, HYDROPS looks to optimize the run from an economic standpoint. You can also turn soft constraints off by not giving them any ranking.

After you do a run, you can call up a HYDROPS Sensitivity Constraint Report to get a summary table of the total number of hours of constraint violations for each soft constraint. For example, 47 violations of minimum levels at Baker Lake translated to nearly two days.

Mark reported that since they are still fine tuning/debugging the forecasting capabilities of the model, the runs illustrated in his presentation were made in the deterministic mode. He also noted that in these examples, lake levels were generally met. It is possible to override minimum flow allocations for the short term if they are ranked low enough. The model is being updated to support an enhanced ramping function.

A more standardized price schedule is also being developed by PSE as has been discussed at the Economics/Operations Working Group meetings.

PREP FOR DISCUSSION OF RANKING OF SOFT CONSTRAINTS
We are trying to come up with a standardized comparative analysis. We have chosen four energy years to evaluate. We will have defined our year as from August 1 to July 31. The constraints we generally vary per run include reservoir levels, ramping rates, minimum instream flows, and powerhouse releases. We will be changing the physical magnitude of these constraints as we conduct different runs using default ranking of soft constraints. This will give us the ability to compare runs. Ultimately the preferred alternative may have different constraint rankings than the recent conditions.

PRELIMINARY DRAFT RANKING OF SOFT CONSTRAINTS
We started by acknowledging the interests of the Terrestrial and Recreation Working Groups. We called these out specifically since the majority of the members of this team represent aquatics interests.

Recreation: They are concerned with keeping reservoir levels high from late May (Memorial Day weekend) through early September (Labor Day weekend). They would like to see full pool for this time period. Unless they modify boat ramps, a reservoir level of 715 feet is required for the ramps to be operational.

Terrestrial: For Baker Lake, they are concerned with keeping the reservoir level below 710 feet during certain seasons. For Lake Shannon, they want the reservoir level to be below 425 feet. Note: They also cautioned that short-term water levels the upper 10 feet of the reservoir can provide falsely suitable habitat for amphibian breeding, resulting in stranding, etc. In the fall,

terrestrials are concerned with forage availability. Therefore, they want to see the reservoir level no higher than 715 feet.

We best guessed the following ranking of soft constraints, taking into consideration the interests of each of the resource areas. Then we came up with a suggested overall ranking considering which violations we would want PSE to try hardest to avoid. See table below.

SOFT CONSTRAINT	ECON/ OPS	CULT/ HIST	REC/ AESTHETIC	TERRES.	AQUATIC	OVERALL
Min. Instr. Flow	0	0	0	5	35	1 (30)
Ramping	0	0	0	0	35	1 (30)
Min. Res. Level	10	50	100	0	25 (20?)	3 (10)
Max. Res. Level	40	50	0	95	5 (10?)	2 (25)
Min. Pwr Hse Rel	50	0	0	0	0	3 (5)

We clarified the following soft constraints:

- Minimum Instream Flow is the target instream flow set up for fish that will ultimately be in the Settlement Agreement
- The Maximum Reservoir Level included flood control and spill considerations.
- The Minimum Powerhouse Release is only critical in drought years, and also for peak hour operations.

INPUT/OUTPUT FORMAT REVIEW

This was tabled for discussion at our next meeting, June 27.

DRAFT AGENDA FOR JUNE 27, 2003

10:00 – 2:00 at Louis Berger Office at 12011 Bellevue-Redmond Road, Suite 200, Bellevue
Box lunches will be provided.

10:00 – 10:10	Introductions, Review Notes (briefly) and Agenda
10:10 – 10:15	Action Items
10:15 – 11:00	Discuss Suggested Input/Output Format
11:00 – 11:45	Perform Comparison Runs using the Preliminary Draft Ranking of Soft Constraints we developed at June 6 meeting
11:45 to 12:15	Lunch
12:15 – 1:00	Continue Comparison Runs
1:00 – 1:45	Begin to address other issues
1:45 – 1:50	Set up August TST meeting dates
1:50 – 2:00	Set Agenda for July 11 Meeting (at PSE's new Bellevue Office at 10885 NE 4th Street, Bellevue) and evaluate the meeting

MEETING EVALUATION

Well Dones:

- Nice to meet face-to-face!
- Appreciate Louis Berger hosting us!
- We are providing a necessary forum for analysis and interpretation
- We have come up with a preliminary draft ranking for soft constraints

Do Differently:

- Got out late.

FUTURE ISSUES TO ADDRESS

- Standard Outputs
- Dependable Capacity
- Fisheries Definition: Tie to R2 outputs format (flow sections from A24)

PARKING LOT

- The Capability to construct artificial periods by selecting seasons within selected/different years for analysis purposes.