BAKER RIVER PROJECT RELICENSE

Economics/Operations Working Group

June 11, 2003

9:00 AM – 2:00 PM
PSE Office
Mt. Vernon, WA

FINAL MEETING NOTES

The Economics Working Group Mission Statement:

"To ensure that alternative project proposals, operations and emergency plans for the Baker River Project and its components provide for: (1) Public health and safety; and (2) Thorough analysis and evaluation of the economic costs and benefits (including non-market and economic impacts.)"

Team Leader: Lloyd Pernela (PSE), 425-462-3507; lloyd.pernela@pse.com

Note: Please let the team leader know if you are unable to attend a meeting. If something comes up at the last minute, please call Lyn prior to the meeting. Lyn's cell phone is 425-890-3613.

PRESENT

Lloyd Pernela, Cary Feldman, Joel Molander (PSE), Linda Lehman and Keith Brooks (FERC) by phone, Bob Helton (interested citizen), Jerry Louthain (EES for City of Anacortes, Skagit County PUD, and Town Concrete) by phone, Stan Walsh (Skagit Systems Cooperative), Dave Brookings (Skagit County Public Works Department), Steve Babcock, Michael Deering, Ted Perkins (Corps) by phone, Gary Sprague (WA Dept. Fish & Wildlife), Jon Vanderheyden (USFS), Mark Killgore (Louis-Berger Group), Mary Jean Bullock, note-taker, and Lyn Wiltse, facilitator (PDSA Consulting Inc.)

DATES OF FUTURE MEETINGS

*******NOTE: THE JULY 9TH MEETING WAS CANCELLED.*******

August 13, September 10, October 8, November 12, December 10, 2003 at PSE Office, 1700 East College Way, Mt. Vernon.

Note: Starting June 16, 2003, the PSE Energy Production and Storage Department will move across the street and a block east to 10885 NE 4th Street, Bellevue, WA 98004, Mail Stop PSE-09S. All phone numbers remain the same.
Note: All PSE e-mail addresses must now conform to the new format first-name.last-name@PSE.com. *An example is* lloyd.pernela@pse.com. *Make sure an e-mail address buried in a group list conforms.*

AGENDA
June 11, 2003 at PSE Office, Mt. Vernon, WA
9:00 to 2:00 PM

9:00 - 9:05 Introductions
9:05 – 9:10 Review/revise minutes and agenda
9:10 – 9:15 Review Action Items
9:15 – 9:35 HYDROPS and TST Update
9:35 – 9:50 Debrief of May 14th Cross Resource Workshop: Next steps
9:50 – 10:15 Role of this Working Group
10:15 – 10:30 PDEA Update
10:30 – 11:00 Status of PMEs
- Status of 5.01: CZMA, 5.02: Instream Flows and Water Rights, 5.03: Submerged Lands, 5.07 Drought conditions

11:00 – 11:15 Break
11:15 – 11:45 PME 5.06: Flood control (COE proposal and current License article 32)
Update on Corps/Skagit County flood coordination and possible integration into this process
Status of Skagit County Flood Control Study Request
11:45 – 12:15 Review Study Requests:
- R-01 –Low Flow Augmentation from Baker Project – Continuing monitoring developments.
- R-03 –Examination of Spawning and Incubation Flows in the Skagit River below the Baker Confluence during Brood year 2000

12:15 – 12:30 Lunch
12:30 – 12:45 Status of ER03: Spawning and Incubation Flows Study Request
12:45 – 12:50 Set July 9, 2003 agenda (at PSE Office in Mt. Vernon or at the USFS Office in Mountlake.)
12:50 – 1:00 Evaluate Meeting
- What's Hot?
- Studies Report for Baker Solution Team

NEW ACTION ITEMS
- Lloyd: Set up presentations on how PSE operates/traders and planners, etc for July/August time frame.
- Lloyd: Set up a presentation on PSE's Least Cost Plan with planner(s).
- Lloyd: See that phone participants get copies of today's handouts.
- Joel: Convene additional meeting of flood control teamlet to add timeline to flow chart. Keep Econ/Ops members informed along the way.
- Lloyd: Send out revised 5.0 PMEA document to Working Group members ASAP.

- Lyn: Button up with Team Leaders re: how the Economic Working Group relates with the role of the Solution Team.

INTRODUCTIONS
We welcomed Steve Babcock, Michael Deering, and Ted Perkins of the Corps who participated by phone.

REPORT ON OLD ACTION ITEMS
☑ Dave: By May 10 sent to Lloyd a summary of what was decided between the Corps and Skagit County at the May 9th meeting so he can distribute to Working Group members. Also sent, if appropriate, a revised flood control study request for discussion at our June 11th meeting.
☑ ALL: Reviewed PDEA to see that issues had been adequately identified and that the affected environment had been adequately described. Gave feedback to Mark Kilgore prior to our June 11 meeting.
☑ Lloyd: Distribute list of consultants to team members for review.

ISSUE OF FLOOD CONTROL
Lloyd distributed the summary he received from Dave of the May 8th meeting between Skagit County and the Corps. Dave characterized it as a policy-level meeting focused mostly on project management of the existing Skagit River Feasibility Study.

Lloyd distributed a copy of a May 30th letter he received from the Corps in response to PSE's May 1st letter to them requesting information around the potential for implementation of a different level of flood control storage at the Baker Project.

Lloyd distributed a summary of a June 3 meeting with the Skagit County Commissioners along with a copy of a letter from the Upper Skagit Indian Tribe requesting that flood control measures be addressed in discussions directly with the Corps and outside this relicensing process.

Steve Babcock explained that the Corps is obligated through congressional mandate to operate the Baker project for flood control at 74K acre-feet. They don't have the authority to operate the project for additional flood control storage that may be included without their concurrence in a license article. They would have to submit a decision document to receive permission to do so.

Lloyd reported that at a June 3 meeting, the County *Commissioners expressed their valid concern for the flooding of downstream residents of Skagit County. Commissioners* recognized PSE's concerns about PSE not being in a position legally or otherwise to provide flood control. PSE agreed at that meeting to meet with the County to explore how the issue of flood control might be integrated into the relicensing process.

PSE met with representatives of the County on June 9 and reviewed a flow chart of a "Proposed Incremental Flood Control Analysis Process." Joel walked us through the flow chart. The aim is to address this issue in a way that respects the interests of all parties involved. At this point in time, the effects of additional flood control are not known. The question of feasibility associated with additional incremental flood storage is also unknown. PSE's concern is that the analysis of additional flood control should not impact the current work studies in the work groups that are being conducted under the

assumption of the existing 74K acre-feet of flood storage at Upper Baker. They want to protect the momentum of movement toward settlement.

The draft flow chart shows the first step as an assessment of whether additional flood storage passes a standard benefit/cost feasibility analysis. The flow chart shows that if *additional flood storage* passes initial tests, then a concurrent environmental analysis *(i.e. PDEA)* of incremental flood control rule curves would follow. If final feasibility study still shows an acceptable BC ratio and *PDEA* (e.g. no fatal environmental flaws), this would *be introduced* into the *ALP* process. If *ALP process is positive leading to settlement discussions concerning additional flood storage and* completed by the settlement deadline, the change would be included. If not, we would submit the license application with the 74K acre-feet based *PDEA and* settlement agreement with a potential modification caveat. Should it fail the initial feasibility test, the County could address the issue directly with FERC, try to work something else out with the Corps, or drop the issue altogether.

Cary distributed a June 10 paper prepared by Phil Hilgert of R2 on "Potential Effects of Additional Flood Control Storage at the Baker River Project on Aquatic Resources." The paper provided a high-level description of potential positive and negative consequences for fish of additional flood control.

Concern was expressed about the lack of timeline associated with the flow chart. Joel explained that if this group approved, he would convene another meeting of the teamlet that met Monday to add a timeline to the flowchart.

Concern was also expressed about existing relicensing resources may be diverted to analyze the additional flood control issue. PSE assured team members that additional resources outside the current process would be garnered to help with the initial flood control analysis. Some members felt that we would run out of time to do an adequate environmental analysis since the economic analysis would be done first. We acknowledged that we are on an extremely tight timeline and that some of our existing studies might also adversely impact the timeline.

Concern was expressed about handling the issue of increased flood control through a license re-opener, as it would open it up to other additional changes from the settlement that we come up with through the collaborative process. For example, we don't want instream flow measures to be questioned or re-considered after the fact.

Lloyd expressed confidence that we can come up with a PME that meets everyone's interests. Part of this would include wording such as "as directed by the Corps". This would ensure that ESA and other such issues are adequately addressed.

After considerable discussion, team members acknowledged that Skagit County, PSE and the *Corps shall work cooperatively to* conduct the benefit/cost feasibility analysis, i.e., flood control as a separate teamlet of the economic operations work group. As a next step, the teamlet *will review the scope of work as drafted by the Army Corps and* apply a timeline to the flow chart. Joel envisions getting together with this teamlet (the Corps, Skagit County, and consultants) to further flesh out the scope of the initial analysis. He estimates this analysis to take 6-8 weeks. At that point, if it passes the feasibility portion of the analysis, the teamlet would report the results of that study to this group who would then determine next steps.

Dave distributed and walked us through the Scope of Work put together by the Corps.

We deferred discussion of the Skagit County-sponsored Flood Control Study Request until after the results of the initial feasibility analysis.

PDEA UPDATE
Lloyd distributed a draft PM&E of the input PSE is providing to the Louis-Berger Group for analysis and for inclusion in the fall draft PDEA. We made some changes to clarify that the existing assumption that is being used by the working groups for flood control storage is 74K acre-feet and not the 100K acre-feet mentioned in Article 32. Lloyd will send out the modified version of this to working group members prior to our next meeting. A memo accompanied it from Baker Relicensing Program Manager Connie Freeland explaining that much of the detail included was provided by PSE at the request of Louis Berger to facilitate the analysis.

R-E02: LOW FLOW AUGMENTATION
As far as Jerry and his clients are concerned they want to keep this tabled for the next month or two, as they look at various options for providing water during critical low flow periods. We will look at this again once we have the results from the instream flow studies. There had been some delay getting these due to the datum conversion issue.

Lloyd expressed concern about this request since it doesn't currently pass legal muster requiring a change in the DOE regulations. The group's filter first item for study requests "is it legal." Jerry will keep us informed about the status of this.

HYDROPS AND TECHNICAL SCENARIO TEAMLET REPORT
Mark walked us through the soft constraints that are being prioritized by the TST. Taking into consideration the interests of all the resource areas, the TST tentatively established the ranking below.

1. Minimum instream flows was ranked as a 1.
2. Ramping was also ranked as a 1.
3. Minimum reservoir level was ranked as a 3.
4. Maximum reservoir level was ranked as a 2.
5. Minimum powerhouse release was ranked as a 3.

This is our first cut, qualitative evaluation. These rankings will allow the TST to specify preliminary model runs. It is likely that recent historic conditions and the draft preferred operating alternative would have the constraints.

Flood control is currently being handled as total release hard constraints at both dams in the HYDROPS model.

They are trying to get the probabilistic forecast mode operative because this mode is much more appropriate for our analytical needs (to resemble more what happens in real time) than deterministic mode.

Key Economic Assumptions:

- Aurora Power Price Monthly peak/off peak energy prices
- Replacement costs for dependable capacity based on simple cycle Combustion Turbines (capital and fixed O&M costs)
- Unit 3 replacement after 15-20 years
- Corp/BPA flood control compensation agreement continues

Mark explained how he came up with five representative years. Mark got a memo from Phil Hilgert suggesting four representative years to use to cover the range of impacts on aquatic resources. Mark added an additional year to improve the spectral representation for our preliminary evaluation through the hourly HYDROPS model. The energy year used in HYDROPS is August 1 through July 31. Specific time periods analyzed are August; September through November, December through February; and March through May, June through July and of course year-round.

The energy years we are using as 1993 (dry), 1995 (normal), 1996 (very wet), 2001 (very dry), and 2002 (somewhat wet).

DEPENDABLE CAPACITY

Mark has made two tentative comparisons for dependable capacity impacts based on sample UB and LB flows. PSE peak load periods in terms of energy usage are at 6-10 AM and 5-9 PM. Under the recent conditions scenario, Mark showed how considerably more water (and hence generation) would flow through the turbines. Under more severe instream flow and ramp rate constraints, generation could decrease significantly. In the alternative case, the instream flow was almost quadrupled from 80 CFS to 300 CFS at much gentler ramp rates.

ROLE OF THIS WORKING GROUP

- Flood Control
- Review of all economic costs /benefits of proposed PMEs? (Being addressed n PDEA).
- Oversight for TST
  - Have combined meeting to evaluate progress and results
- Evaluate PME actions that will affect project operations (if not addressed by the Working Groups)
- Determine how to derive the maximum economic benefit from the project
- Understand how HYDROPS deals with economic assessment
- Tracking cost of PMEs by looking at the whole
  - Consider whether there may be more cost-efficient ways to proceed.
  - Could some actions be delayed a few years?
- Provide a standard way for all Working Groups to consider economic efficiency (to get the most result out of PMEs for the least dollars).
- Provide feedback to Solution Team.
- Accomplish our mission: *"To ensure that alternative project proposals, operations and emergency plans for the Baker River Project and its components provide for: (1) Public health and safety; and (2) Thorough analysis and evaluation of the economic costs and benefits (including non-market and economic impacts.)"*

REVIEW STUDY REQUESTS

- R-01 – Low Flow Augmentation from Baker Project (Tabled for now- Jerry will keep us informed on the status of this.)
- R-03 – Examination of Spawning and Incubation Flows in the Skagit River below the Baker Confluence during Brood year 2000. This is being addressed through the TST.

HANDOUTS (bolded handouts will be posted on the website)

- R-2 June 10, 2003 Draft of Potential Effects of Additional Flood Control Storage at the Baker River Project on Aquatic Resources
- May 30, 2003 letter from Colonel Ralph H. Graves (Corps) re: Responses to Questions Relating to Implementation of Additional Flood Control Storage at Baker River Hydroelectric Project, FERC No. 2150
- Summary of May 8, 2003 Proceedings of Skagit County Board of Commissioners, Meeting with Corps of Engineers
- Skagit County's Request for Additional Flood Control, County Commissioners, June 3, 2003
- June 2, 2003 letter from Scott Schuyler, Policy Representative Upper Skagit Indian Tribe to the Skagit County Commissioners re: Flood Control Measures
- June 11, 2003, Baker Project Relicensing DRAFT Proposed Incremental Flood Control Analysis Process Flow Chart
- June 11, 2003, Corps of Engineer, Seattle Division SCOPE OF WORK, Skagit River, WA- Skagit River Flood Damage Reduction Feasibility Study- Baker River Flood Damage Reduction Feasibility Study – Baker River Dams Storage Evaluation
- 5.0 Economics and Operations Draft Proposed Actions; 5.1 Maintain Current Levels of Flood Control at Upper Baker with accompanying cover letter from Connie Freeland

PARKING LOT

- New Baker EAP Inundation maps are available at end October 2002
- Consider who will be the number cruncher for this team: PSE? Other?
- Presentations:
- How will we define and share economic analysis (methods, assumptions re: unit costs, etc.) across Working Groups?

EVALUATION OF THE MEETING

Well Done

- Great meeting
- Good attendance
- Great meal – Thanks Lloyd!
- Nice presentation by Mark Killgore.

Change for Next Time

- Room was warm and stuffy

What's Hot?

- Flood control – economic evaluation and how it might (adversely) impact the settlement process and other analysis processes.

Study Report for Solution Team

- Flood Control Study Request was deferred until we see what comes of the initial feasibility analysis.

TENTATIVE AGENDA FOR NEXT MEETING
August 10, 2003 at PSE Office, Mt. Vernon, WA
9:00 to 2:00 PM

9:00 - 9:05 Introductions
9:05 – 9:10 Review/revise minutes and agenda
9:10 – 9:15 Review Action Items
9:15 – 10:00 HYDROPS and TST update (including status of R2 model)
10:00 – 10:45 Review of Least Cost Plan
10:45 – 11:00 BREAK
11:00 – 11:15 FERC Call
11:15 – 12:00 PME 5.06: Flood control (COE proposal and current article 321)
Update on Corps/Skagit County flood coordination and possible integration into this process
Status of Skagit County Flood Control Study Request
Consider inviting Jim Smith of Corps to present his economic model for the Lower Skagit
12:00 – 12:20 LUNCH
12:20 – 12:30 Review Other Study Requests:

- R-01 –Low Flow Augmentation from Baker Project – Continuing discussion
- R-03 –Examination of Spawning and Incubation Flows in the Skagit River below the Baker Confluence during Brood year 2000

12:30 – 12:45 Status of ER03: Spawning and Incubation Flows Study Request
12:45 – 12:50 Set September 10, 2003 agenda (at PSE Office in Mt. Vernon)
12:50 – 1:00 Evaluate Meeting

- What's Hot?
- Studies Report for Baker Solution Team

1:00 – 2:00 HYDROPS Demo.