BAKER RIVER PROJECT RELICENSE

Economics/Operations Working Group

November 13, 2002

9:00 AM --- 12:30 PM

PSE Office
1700 E. College Way, 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, Bob Barnes (PSE); Jon Vanderheyden (USFS); Bob Helton (citizen); Stan Walsh (Skagit Systems Cooperative); Ken Brettmann (U.S. Corps of Army Engineers); Dave Brookings (Skagit County Public Works Department); Steve Jennison (DNR); Gary Sprague by phone (WA Dept. Fish & Wildlife); Mark Killgore (Louis Berger Group); Bruce Freet (Environmental Agreement); Mary Jean Bullock, note-taker and Lyn Wiltse, facilitator (PDSA Consulting Inc.)

INTRODUCTIONS

We welcomed Dave Brookings of the Skagit County Public Works Administrator.

DATES OF FUTURE MEETING DATES/LOCATION

January 8th, 2003, from 9:00 AM to 1:30 PM *with working lunch by PSE*, at PSE Office, 1700 East College Way, Mount Vernon.

February 12th, from 9:00 AM to 1:30 PM *with working lunch by PSE* at USFS Mt. Baker Ranger District, 810 State Route 20, Sedro Woolley, WA 98284.
Conference call-in = 1-866-280-6429 with a participant code = 144995.

NEW ACTION ITEMS

- Lloyd: Update and distribute Economics Group contact list.
- Bob: Create comparative hydrology graph (contrasting the three candidate years) and post all hydrology graphs on the web.
- Bob: Check to see if there is a correlation between degree of annual wetness of years to reservoir levels.
- Bob: Run flow duration curves for each candidate years.
- Dave: Present update on Avon floodway at our January or February meeting (combine with presentation by Pat Massey on updated flood plain maps)
- Bob will give the hydrology charts and data to the team leaders and also post the graphs on the web.
- ALL: Consider how to approach flood control assumptions.

AGENDA

November 13, at PSE Office, 1700 E. College Way, Mount Vernon
9:00 to 12:00

1. Introductions
2. Review/revise minutes and agenda
3. Action Items
   Economics baseline report, etc.
   Discussion of baseline hydrology years (feedback from Working Groups)
4. Discussion of approach to analyzing flood control and development of options
5. HYDROPS update
6. PMEs: Review issues list and begin to brainstorm possible PMEs
7. Prepare agenda for December 11th meeting
8. Evaluate meeting

REPORT ON OLD ACTION ITEMS

- ALL: For hydrologic baselines: review hydrologic years in the low, medium and high clusters with resource folks (working groups) to determine which particular year(s) within a cluster helps them resolve the differing interests associated with high/medium/low years.
- Bob: For baseline, distributed copies of hydrologic graphs for candidate years in clusters to share with members of all Working Groups.
- Ken distributed the US Senate and House Committee Resolutions (May, 1977) referencing House Document 95-149, which outlines the authorized flood control.
- Don: Provided Lloyd with a copy of draft economic baseline report (August, 2001). It will be updated in the next couple of months.
- Ken: Checked with the Corps folks in Portland (The Power Branch) to see if they are re-evaluating compensation issues. The re-evaluation of the rule curve is under the control of the Seattle District, so Ken will be our contact for this.
- Lloyd: Sent out revised list of all issues (originals) to be resolved by Economics Working Group.
- Lloyd: Posted Ken's presentation on Web.

BASELINE HYDROLOGY TEAMLET
Bob reported that the candidate years being proposed are:

Low: 1952 (exceeded 91.4% of the time)
Med: 1962 (exceeded 50% of the time)
High: 1968 (exceeded 10.34% of the time)

Each year in a cluster is economically neutral.

He pointed out that for the low flow years, 9,600 cfs was never exceeded on a daily basis. For median and high years there are several daily occurrences above the 10K cfs threshold Bob asked for feedback from the group re: using these three years in the HYDROPS model for running various scenarios. We may also need to come up with some standard economic assumptions for the model.

We agreed to run these years by the resource Working Groups. Bob will give the charts and data to the team leaders and also post the graphs on the web.

DISCUSSION OF APPROACH TO ANALYZING FLOOD CONTROL AND DEVELOPMENT OF PROJECT OPTIONS
Dave Brookings of Skagit County PUBLIC Works presented the county's interest in maintaining/ optimizing flood control for Skagit Valley over the term of the next license period. They will complete the Skagit Valley flood study in 2004 at a cost of $8-million. Estimated constructions costs are $250-million with county matching at 35%. These studies assume the continued existence of the current Baker Project Flood control storage. He passed out an August 7, 2001 resolution by the three Skagit County Commissioners that requests no net loss of flood control storage. He also presented the County's testimony on the Baker Relicensing Initial Consultation Document asking for study of additional flood control measures.

Ken Brettmann explained that the U.S. Army Corps of Engineers would maintain the existing flood control levels at 74,000 Acre Feet, (as a floor), leaving open the potential of additional flood storage up to 26,000 Acre Feet. A study to this effect may be justified as part of this relicensing effort.
The focus has been on volume, but there is also the issue of timing. For now, we will assume the timing would also remain the same (making 74,000 Acre Feet available by November 15) with any changes in timing shifting to earlier in the year. (E.g. October). Ken handed out a letter from the COE to the economics group asking the economics group to formalize the existing flood control storage and timing and use this as a basis for further analysis. He also distributed a new draft of Article 32 dealing with flood control in the current license.

Another part of the Army Corps of Engineer's interest is based on minimizing costs to the federal government.

Mark Killgore presented a review of House Document 95-149 (May 7, 1977) which was the basis for the Congressional resolutions in 1977 and the August 2001 Baseline Economics and Skagit River Draft Hydrology Investigations. In 1977 the 100-year flood peak on the Skagit of 237,000 cfs. This was reduced to 222,000 cfs in the 2001 studies. Control analysis in 2001 has no flood control at Lower

Baker, Diablo or Gorge Dams. Control procedure has outflow from Ross and Upper Baker equal to inflow until 8 hours before Skagit River at Concrete is forecast to reach 90,000 cfs. Outflows then are restricted to 5,000 cfs at Upper Baker and at Ross.

The current 74,000 AF was based on 58,000 AF of incremental storage beyond the 16,000 AF of lost valley storage producing a maximum benefit-cost ratio of 2.6 in the 1977 study. The 1977 incremental benefit from Upper Baker flood control for the Skagit was over $1,004,000. The cost of lost energy and capacity in 1977 was estimated as $434,000 based on replacement energy and capacity estimates for new facilities. As of the year 2001, PSE is compensated about $280,000 per year in equivalent power. In 2001 the net incremental benefits of Upper Baker would be $16,000,000, assuming a comparable ratio of Upper Baker flood control benefits to overall flood control benefits from the combination of Upper Baker, Ross and levee system as was determined in 1977. If these costs and benefits specifically attributable to Upper Baker could be borne out by more detailed study, the benefit cost ratio could be over 60:1 using the current level of compensation as a basis for cost. Some key storage and elevation parameters for flood control in Upper Baker include:

126,950 AF elevations: 694 fmsl to 724 fmsl physical limits.
100,000 AF elevations: 701.9 fmsl to 724 fmsl by statute
74,000 AF elevations: 707.8 fmsl to 724 fmsl Memorandum of understanding, 7,000 MWh.

Several questions remain today as to what are the benefits of Upper Baker flood control. Additionally there is interest in how the Corps methodology for flood control assessment and economics might have changed.

Bob Barnes presented a DRAFT working paper "Baker River "No Project" or partial Decommissioning Alternative and Flood Control." Bob pointed out that for single purpose projects "No Project" typically looked at the no-dam scenario where inundated lands would rejuvenate back to former uses. However, Baker Project has evolved into a multi-purpose project.

At the last Economics WG meeting the COE indicated that over the last twenty years Upper Baker has saved over $90,000,000 in flood damage reduction. The average annual cost to the Federal Government is $276,000. Skagit County observed that Upper Baker is the least cost option for flood control available to the county, who is planning on a $275,000,000 flood control project.

The climatic future of the North Cascades indicates a scenario with potential of flooding increasing.

A "non project" may be more operational in nature than physical. That without PSE, an entity like the COE would operate the project to fulfil their flood control mandate and that entity may elect to generate power (it should be noted that the assumed takeover of the Baker Project by the COE is speculative and would require a future act of Congress to implement). Operational priorities for the project would become flood control, fish passage, water conservation/flow augmentation, recreation and power production.

In subsequent discussions, Dave Brookings indicated that current flood studies on the Lower Skagit cost about $8 million and the county bears half the cost. Projects built as a result would likely have a 65% federal – 35% local cost sharing arrangement. The current flood studies should be complete

in 2004 and recommendations could be incorporated in to the 2006 Water Resources Development Act. Groundbreaking for any new flood control measures could occur in 2008 or 2009. A key element is the 5-mile long Avon floodway.

ASSUMPTIONS AROUND FLOOD CONTROL

The Solution Team has asked us to come up with a statement re: assumptions around flood control to share across Working Groups. Lloyd suggested we use Marian Valentine's opening statement in her letter of November 13, 2002: "to formalize the existing flood control as a basis of further work".

Stan felt this would be pre-mature as it might preclude proper evaluation of environmental considerations.

We agreed that Upper Baker would continue to be used for flood control over the term of the new license. We also agreed that the existing baseline condition is the current flood control authorization of 74,000 AF.

Jon suggested we consider a statement assuming the level of flood control to be the existing 74,000 AF plus or minus 20%. This translates into running PME options through the HYDROPS model at the existing level, then again at plus 20% and finally at minus 20%. Another option is to consider that flood control would remain at 74,000 AF and only consider plus or minus 20% if a PME called for that evaluation. Given that the FERC license specifies up to 100,000 AF of flood control, it may be reasonable to consider alternative ranges from 60,000 AF to 120,000 AF.

Ken and Dave expressed concern about a statement coming out of this group that might infer a decrease in existing levels of flood control. Lloyd suggested the "political reality" would not allow us to drop below the existing 74,000 AF.

We also need to take into consideration instream flows and timing. It was also brought up that Lower Baker may be a viable option for augmentation of flows where it is not seen (by COE and PSE) as viable for flood control as built.

It was generally agreed that the issue of including a flood control regime into the three baseline scenarios was a policy call and would be reported to the Solutions Team.

HYDROPS UPDATE

Jon Vanderheyden reported that Stetson Engineering is still in the process of reviewing the HYDROPS model. They have had technical difficulties getting access to the model and are currently visiting Powel in Victoria. We will get their evaluation at our December meeting.

REVIEW ISSUE LIST AND BEGIN TO BRAINSTORM POSSIBLE PMEs

Mark Killgore handed out a "Draft of Economic Considerations in Evaluating Costs of PME Measures." He compiled this list to assist preparation of the preliminary Draft Environmental Assessment. He looks forward to our feedback at our December meeting. In reviewing team members were also asked to take into consideration the initial lists of issues and interests put forth by this group distributed by Lloyd at our last meeting. Bruce cautioned us that many of the items on that list contained issues that are being

addressed by other Working Groups. One of the first things we will do next month is narrow this list by pointing out which issues are being covered elsewhere.

HANDOUTS (BOLDED HANDOUTS WILL BE POSTED ON THE WEBSITE)

- **Working paper: Baker River "No Project" or Partial Decommissioning Alternative**
- **Daily Discharge in CFS (Comparison of Low Flow Years)**
- **Combined Annual Average from 1944 to 1997 (Annual Benefits ($))**
- **U.S. Senate Committee Resolution of the Committee on Environment and Public Works**
- **Letter from the Mentor Law Group, July 18, 2002 re: Skagit County comments on Initial Consultation Document, the Baker River Relicensing**
- **August 14, 2001 letter from Skagit County Public Works Department re: Skagit County Interest Statement.**
- **Nov. 13, 2002 COE letter from Marian Valentine (USACE) re: request to Economics Working Group that the assumption of existing flood control be the basis for further work.**
- **Review of Flood Control Documents for Upper Baker, (PowerPoint Presentation) November 13, 2002**
- **Draft Economic Considerations in Evaluating Costs of Protection, Mitigation and Enhancement Measures by Mark Kilgore (The Louis Berger Group)**
- **Economics/Operations Working Group Issues and Interests (generated previously)**

PARKING LOT

- Forest Service Watershed Analysis
- New Baker EAP Inundation maps are available at end October 2002
- Consider who will be the number cruncher for this team: PSE? Other?
- GANNT chart with due dates, etc.
- Presentations:
  - Wild and scenic river 101
  - Fisheries/Hydraulics 102
- Presentation on updated FEMA flood plain maps and Avon floodway by Pat Massey? (February/March 2003)

EVALUATION OF THE MEETING

Well-Dones:

- Good open discussion re: flood control

Need to Improve:

- Ran over
- Needed more time
- Started late
- Need to establish phone protocol

What's Hot?

- Flood control

TENTATIVE AGENDA FOR NEXT MEETING

January 8th, at PSE Office, 1700 E. College Way, Mount Vernon
9:00 to 1:30 p.m.

1. Introductions
2. Flood Control assumptions
3. PMEs
    a. Narrow issue list (remove issues being addressed by other working groups)
    b. Economic consideration
    c. Role of this Working Group in assisting with PDEA
4. Review/revise minutes and agenda
5. Action Items
6. HYDROPS update
7. Set agenda for February 12th meeting at USFS
8. Evaluate Meeting

DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-2255

REPLY TO
ATTENTION OF

13 November 2002

Economics/Operations Working Group
Baker Relicensing Project

To the Economics/Operations Working Group:

This is a request of the Economics/Operations Working Group (Econ/Ops) to formalize the assumption of existing flood control as a basis of further work.

From 29 to 31 October 2002, representatives from FERC participated in Baker River Project Licensing meetings, including the Solutions Team. FERC assisted the Solutions Team in laying out a schedule of milestones that would meet the license goal of 2006. Milestones included the development of Protection, Mitigation and Enhancement measures (PMEs). Many of the PMEs will involve flow scenarios that depend on water management of Baker Lake. Flood control is a major component that will affect the development of flow scenarios to meet various objectives for aquatic and recreational needs, among others. FERC identified the need for Working Groups to come to an agreement soon on flood control so that they can move on to producing PMEs.

Some of the Working Groups identified the existing flood control plan as a likely assumption of their work. FERC suggested that the Corps request of the Econ/Ops to formalize that assumption. Econ/Ops would then ask the other Working Groups to share this assumption. Econ/Ops would report acceptance to the Solutions Team.

The assumption of existing flood control would include Article 32 of the current license as revised in an enclosure to this letter and the Congressional Authorizations under which the Corps provides this service. The Corps is requesting that the current flood control plan of 74,000 acre-feet available storage be assumed.

The Corps' flood control interest includes minimizing costs to the federal government. Our 20-year agreement with PSE expired in September 2000. As such, we are not asking for an assumption of reimbursement, but only for an assumption of available flood control space. We believe reimbursement remains an issue to resolve.

In 1976, the benefit/cost ratio of this flood control plan was 2.2 to 1. Significant development has greatly increased the benefits. None of these benefits is based on development in the 100-year floodplain.

The Skagit River Valley has experienced some of the worst flooding in Washington. The Corps makes this request for an assumption of the existing flood control plan in the interest of public health and safety.

Please refer any questions or comments to Ken Brettmann, 206-764-6567, kenneth.l.brettmann@usace.army.mil, or to me, 206-764-3543, marian.l.valentine@usace.army.mil.

Regards,

Marian Valentine, P.E.
Action Chief, Hydrology and Hydraulics Section

Enclosure

DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-2255

REPLY TO
ATTENTION OF

13 November 2002

Economics/Operations Working Group
Baker Relicensing Project

To the Economics/Operations Working Group:

This is a request of the Economics/Operations Working Group (Econ/Ops) to formalize the assumption of existing flood control as a basis of further work.

From 29 to 31 October 2002, representatives from FERC participated in Baker River Project Licensing meetings, including the Solutions Team. FERC assisted the Solutions Team in laying out a schedule of milestones that would meet the license goal of 2006. Milestones included the development of Protection, Mitigation and Enhancement measures (PMEs). Many of the PMEs will involve flow scenarios that depend on water management of Baker Lake. Flood control is a major component that will affect the development of flow scenarios to meet various objectives for aquatic and recreational needs, among others. FERC identified the need for Working Groups to come to an agreement soon on flood control so that they can move on to producing PMEs.

Some of the Working Groups identified the existing flood control plan as a likely assumption of their work. FERC suggested that the Corps request of the Econ/Ops to formalize that assumption. Econ/Ops would then ask the other Working Groups to share this assumption. Econ/Ops would report acceptance to the Solutions Team.

The assumption of existing flood control would include Article 32 of the current license as revised in an enclosure to this letter and the Congressional Authorizations under which the Corps provides this service. The Corps is requesting that the current flood control plan of 74,000 acre-feet available storage be assumed.

The Corps' flood control interest includes minimizing costs to the federal government. Our 20-year agreement with PSE expired in September 2000. As such, we are not asking for an assumption of reimbursement, but only for an assumption of available flood control space. We believe reimbursement remains an issue to resolve.

In 1976, the benefit/cost ratio of this flood control plan was 2.2 to 1. Significant development has greatly increased the benefits. None of these benefits is based on development in the 100-year floodplain.

The Skagit River Valley has experienced some of the worst flooding in Washington. The Corps makes this request for an assumption of the existing flood control plan in the interest of public health and safety.

Please refer any questions or comments to Ken Brettmann, 206-764-6567, kenneth.l.brettmann@usace.army.mil, or to me, 206-764-3543, marian.l.valentine@usace.army.mil.

Regards,

Marian Valentine, P.E.
Action Chief, Hydrology and Hydraulics Section

Enclosure

CORPS OF ENGINEERS
DRAFT

Article 32

"The Licensee shall so operate the Upper Baker reservoir as to provide each year 16,000 acre-feet of space for flood regulation between 1 November and 1 March as replacement valley storage eliminated by the development. The Licensee shall also provide an additional 58,000 acre-feet of flood control storage in the Upper Baker reservoir space between 15 November and 1 March. Utilization of this 74,000 acre-feet of storage space shall be as directed by the District Engineer, Corps of Engineers, Seattle, Washington."

In addition to the above-specified 74,000 acre-feet, the Licensee shall provide in the Upper Baker reservoir space for flood control during the storage draw down season (about 1 September to 1 April) up to a maximum of 26,000 acre-feet as may be requested by the District Engineers, provided the reservation of storage is economically justified based upon a comparison of benefits and costs."

Enclosure

DOCKET NO. 201-86

COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C.

RESOLUTION

Resolved by the Committee on Public Works and Transportation of the House of Representatives, United States, That pursuant to the provisions of Section 201 of Public Law 89-298 (79 Stat. 1073), the following project for flood control is hereby approved substantially in accordance with the recommendations of the Secretary of the Army and the Chief of Engineers in House Document Numbered 95-149, an estimated Federal cost of $535,000 (annual):

Name of Project: Upper Baker Project, Skagit River Basin, Washington

May 0, 977

ATTEST:

Chairman

GOVERNMENT PRINTING OFFICE 83-210-b

95th Congress
1st Session

United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

COMMITTEE RESOLUTION

RESOLVED BY THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS OF THE UNITED STATES SENATE,

That pursuant to the provisions of Section 201 of Public Law 298, 89th Congress (79 Stat. 1073), the project for flood control storage on the Baker River, Washington, is hereby approved substantially in accordance with the recommendations of the Secretary of the Army and the Chief of Engineers in House Document numbered 95-149, at an estimated initial Federal cost of $21,000 and subsequent annual costs of $68,000

Jennings Randolph CHAIRMAN

Adopted: May 23, 1977

Robert T. Stafford RANKING MINORITY MEMBER

Draft Economic Considerations in Evaluating Costs of Protection Mitigation and Enhancement Measures
By Mark Killgore, P.E., The Louis Berger Group
November 13, 2002
Economic & Operations Working Group Meeting

1. What are the up-front capital costs associated with the measure? What year of the new license would the measure be constructed and operational? If the measure is temporary – what year would it end?
2. What are the planning (and design) costs for the measure?
3. Are there financing costs associated with the measure or is paid for out of the annual operations and maintenance budget?
4. Will the measure add to the value of project and affect local taxes?
5. Will the measure affect fees paid to FERC or others?
6. If the measure is a future measure – what is the cash flow associated with the measure (year and amount)?
7. What are the annual operations and maintenance costs associated with the measure?
8. Are there special occasional maintenance, upgrade or overhaul costs associated with the measure? When would they occur and how much would they cost?
9. What are the impacts of the measure on average annual energy generation? Are there seasonal effects (i.e. a flood control proposal might shift energy generation from winter to less valuable fall generation)?
10. Does the measure cause a transfer of energy from peak to off-peak or vice-a-versa?
11. What are the impacts of the measure on project dependable capacity?
12. Are there other ancillary benefits affected by the measure?
13. Is the measure the most cost effective way of meeting the performance objective?
14. Are the costs of the measure true incremental costs? For example if someone recommended painting a project feature for aesthetic reasons the next time routine painting was required, the incremental cost would be incremental special material costs associated with the paint or any extra labor involved. The basic painting and maintenance would be assumed covered by current O&M costs.

DISCUSSION PAPER:

Baker River "No Project" or Partial Decommissioning Alternative and Flood Storage Mandate

By Robert Barnes, Program Manager Water Resources, PSE

The task is to develop a realistic "No Project" alternative for PSE's Baker River Project. One conventional approach is to consider a post-Project landscape where the impounding structures have been removed to the extent necessary to allow the full resumption of natural riverine hydrology and processes. Whether such an alternative is arrived at via a "blow and go" operation or by some staged removal of project structures in a more surgical fashion is irrelevant. All formerly inundated lands could presumably be managed to return to some semblance of their former state e.g. agricultural lands, homesteads, or forestlands. Such a scenario may be realistic for the inundated lands associated with a single purpose facility, which, upon termination of its original structural purpose, may legitimately revert to some combination of their former uses. If the facility in question is genuinely multipurpose, however, the situation is not as simple. Regardless of the original intent of the construction, many water projects in general and waterpower projects in particular, have, during their existence, become multipurpose in nature. Even if the original purpose of their construction no longer provides a valid rationale for their continued existence, the combination of their other multipurpose attributes may.

The Baker River Project is, in fact, just such a multipurpose facility. While the impetus for the construction of the Lower Baker development in 1924 was clearly the generation of electricity, by the time that the Upper development occurred in 1956, the licensing of the Project had taken on an increasingly multipurpose perspective. Both flood control and recreation became designated project elements under the 1956 FPA license. While it might be claimed that these elements were merely window dressing, careful examination of the original license and the vulnerability of the lower Skagit River Valley to frequent and devastating floods suggest otherwise. The 1956 license clearly anticipated an evolving role for the Project in providing flood protection to the lower valley.

The license:

- Required 16,000 ac-ft of flood control storage to be provided between November 1 and March 1, to replace the lost valley storage caused by the construction and operation of the project
- Required the licensee to negotiate with the Army Corps of Engineers to provide up to an additional 84,000 ac-ft of storage (100,000 ac-ft total) for downstream flood protection in a manner suitable to the COE who would have operational control over this storage element per the terms of a contract that would also provide appropriate compensation to the utility for this use for lost capacity and energy.

The full terms of this provision in the license were achieved in 1977 when Congress authorized the COE to acquire and manage an additional 58,000 ac-ft of flood control storage at Upper Baker between November 15 and March 1. Compensation was to consist of 7,000a MWh of energy to be provided via the federal system to PSE between during the fall and winter to compensate PSE for lost capacity and energy. (The COE maintains that this compensation provision is unique in the nation and would dearly like to be free of it. It is my understanding that the present power exchange, as cumbersome as it may be, is preferable to a straight cash payment, which would require annual funding authorization.)

At a recent Economic/Operations Work Group meeting the following information was shared by representatives of the COE and the principal flood control beneficiary, Skagit County.

- The estimated flood damage reduction attributed specifically to UB over the last twenty years is in excess of $90,000,000.
- The average annual cost of this benefit to the federal government has been $276,000/yr
- The COE wants to maintain the current flood control operation. When pressed the COE representative agreed that this translated into maintaining at least the same degree of flood hazard reduction downstream as is currently provided even if actual reservoir levels and operations might be somewhat different.
- Skagit County stated that they are considering new flood hazard reduction measures to provide additional protection to downstream communities and that the capital cost of these measures was in the $250 million range.
- Skagit County observed that the flood protection provided by UB is by far the least expensive option available to the county. It was implied that the county would certainly consider asking for more, not less, flood control storage from UB in the future if this was an option.

Other considerations may support the need for at least the same if not more flood control storage space at Upper Baker. During several flood events in the 1990's the water surface elevations of the reservoir repeatedly reached nearly full pool (724.00 ft). After one such event the COE approached PSE for permission to surcharge the storage behind Upper Baker Dam during major flood events. That is to say that they wanted to impound more water behind the dam for relatively short periods of time at higher elevations up to 727.00 ft, well above the normal full pool elevation of 724.00 ft. Taken together these factors suggest that additional flood control benefits may be gained by increasing the flood control storage volumes at Upper Baker. In discussions at the working group meeting it was observed that the Baker River Basin receives much more intense precipitation than does the Ross drainage and that exhausting the available flood control storage at Upper Baker was considerably more likely than at Ross. This

again suggests that increased flood control storage at UB is likely to have much greater value than increasing the same at Ross.

From purely a flood control perspective the benefit to cost ratio as seen by Skagit County for the existing Upper Baker agreement is in excess of 16:1 based on raw numbers. Skagit County has indicated that the most recent hazard reduction figures for the flood plain are even greater than the COE has stated for the Upper Baker facility.

Looking into the climatic future of the North Cascades over the next 3 to 5 decades, we can reasonably anticipate the following, according to the scientists who make such projections:

- warmer, wetter winters coupled with warmer and drier summers,
- the loss of perennial snow fields and glaciers, and the logical consequences,
- reduced volumes of spring runoff and glacial melt
- long and lower natural river flows in the summer and early fall, and
- more frequent and severe winter flood events.

In light of these considerations, there is an overwhelming and pervasive safety and economic interest on the part of the COE and the people of Skagit County to insure that there is no reduction in flood control benefits associated with the operation of the Upper Baker Reservoir. Thus, even if PSE were not to license the Project for some reason, Skagit County and/or the Corps of Engineers or another entity would step in to operate at least the flood control side of the existing project.

In order to provide the existing level of flood protection to the county residents a negotiated 74,000 ac-ft of storage has been provided since 1980. To preserve the effectiveness of this storage volume for flood control in the future, a minimum volume of 74,000 ac-ft[1], completely controllable by spillway gates is necessary. Given that the bottom of the existing spill gates is at elevation 694.00 ft this would translate to a maximum flood control pool elevation of 712.78 ft, about eleven feet lower than the current maximum operating pool. As indicated earlier, there are strong arguments that could be reasonably made to increase this amount, especially on a looking-forward basis.

Operations that provide water to specific downstream benefits such as fish, fish habitat or other beneficial uses are likely to become increasingly important in the future to the extent that the ability to impound water remains. As an example, the current Interim Protection Plan (IPP) stipulates artificial increases in flows between August and October. These flows are being used to encourage later

[1] Because this represents the minimum contractual volume that must be present during the flood control season the actual volume provided is typically somewhat greater, indeed, in some instances much greater than this.

spawning fish to spawn lower down in the varial zone than they might otherwise so that there is less likelihood that subsequent incubation flows will be inadequate to maintain the incubating eggs. Additionally, the greater drawdown volume associated with the IPP (115 kac-ft) may be used to reduce scouring of redds as well as providing an additional element of potential flood control between October 15 and December 31. While currently in the initial stages of their evolution such water management schemes will be refined as water managers better understand the beneficial effects of such alterations. The State of Washington, through its Department of Ecology, has suggested much the same in both its Skagit River Basin instream flow statutes as well as in the Baker Relicensing process.

For the reasons stated, it is unlikely that a realistic "Non-Project" alternative will eliminate the physical impediments to fish passage represented by the dams.

How then would a realistic "Non-Project " alternative differ from the existing conditions? The differences are likely to be more operational in nature than physical. The existing level of flood protection can be provided with a reservoir pool limited to about 714 ft at Upper Baker, however, an elevation of 718 ft, equivalent to the full 100,000 ac-ft of flood control storage would be a more reasonable number based on the need for surcharge storage and bearing in mind that, as currently operated, the UB reservoir is generally below, not at, the minimum flood control storage elevation. From a flood control standpoint the existence of Lower Baker may be inconsequential. Its future value therefore rests more on its reregulation, water storage, and power generation capabilities.

As long as the upper reservoir impoundment structures are necessary in order to fulfill the flood control responsibilities, it is reasonable to assume that any entity operating the facility for flood control in the absence of PSE would still choose to generate electricity in order to underwrite the cost of project operation. Operational priorities would be flood control, fish passage, water conservation/flow augmentation, recreation, and power production. The principal differences being that once the reservoir was filled for fish passage, recreation, low flow augmentation or some combination of these purposes, minor spill events might occur more frequently than they do at present.

Proposed Operation Rule Curve for UB under “Non-project” Alternative:

Date	Upper Baker Hard Maximum	Soft Maximum	Soft Minimum	Hard Minimum
November 1	718	694	690	670
December 1	718	694	690	670
January 1	718	694	690	670
February 1	718	694	690	670
March 1	718	694	690	670
April 1	718	710	700	670
May 1	718	718	710	670
June 1	718	718	716	670
July 1	718	718	716	670
August 1	718	718	716	670
September 1	718	714	712	670
September 15	718	709	707	670
October 1	718	704	702	670
October 15	718	699	697	670
November 1	718	694	690	670

Mentor Law Group PLLC
1100 Market Place Tower • 2025 First Avenue • Seattle, Washington 98121
TEL 206.493.2300 • FAX 206.493.2310

Peter H. Dykstra
direct 206.493.2320
dykstra@mentorlaw.com

July 18, 2002

Puget Sound Energy
Baker River Project Relicense
P.O. Box 97034 OBC-14N
Bellevue, WA 98009-9734

RE: Baker River Project Relicensing
Comments on Initial Consultation Document

Dear Puget Sound Energy:

This letter responds to Puget Sound Energy's request for information in the Initial Consultation Document for the Baker River Project. We write on behalf of our client, Skagit County, Washington. The Baker River Project is located in Skagit County. The Lower Baker Development portion of the Baker River Project is located 0.5 miles upstream of the confluence of the Baker and Skagit Rivers. The purpose of our letter is to identify for PSE Skagit County's ongoing concerns about water availability from the Skagit River for the needs of Skagit County residents.

As you know, the Washington State Department of Ecology recently adopted a regulation that sets instream flows for the Skagit River in Washington Administrative Code Chapter 173-503. The adoption of the Skagit River instream flow regulation has created concerns for Skagit County regarding the availability of water for rural domestic water supply needs and an essential flood control project in the County. The instream flow regulation restricts the amount of water available for future water supply needs of rural Skagit County residents and for the County's efforts to enhance flood control on the Skagit River. Skagit County is currently investigating alternative solutions to the water supply and flood control problems created by Ecology's instream flow regulation.

We wish to make PSE aware of these issues as it begins the relicensing process. We believe this information will assist PSE in its efforts to develop a Baker River Project relicense application that is best adapted to a comprehensive plan for improving the Baker River "for the use or benefit of interstate or foreign commerce, for the improvement and utilization of water-power development, for the adequate protection, mitigation, and enhancement of fish and wildlife

(including related spawning grounds and habitat) and for other beneficial public uses, including irrigation, flood control, water supply, and recreational and other purposes." 16 USC § 803(a)(1). Such a plan should take into account future domestic water needs of the County's rural residents, as well as the need for additional flood control measures to protect the lives and property of County residents in the lower Skagit watershed.

We appreciate the opportunity to provide these comments.

Sincerely,

MENTOR LAW GROUP, PLLC

PETER H. DYKSTRA

CC: Chal Martin, Skagit County Public Works
John Moffat, Skagit County Prosecuting Attorney's Office

SKAGIT COUNTY
PUBLIC WORKS DEPARTMENT
1111 Cleveland Avenue, Mount Vernon, WA 98273-4215 (360) 336-9400 FAX (360) 336-9478

August 14, 2001

AUG 15 2001

WO

Connie Freeland, Licensing Program Manager
Puget Sound Energy, Incorporated
P.O. Box 97034 OBC-14N
Bellevue, WA 98009-9734

RE: Skagit County Interest Statement

Dear Connie:

Per your request, I have asked our Board of Skagit County Commissioners to provide you with a brief summation that explains our local government areas of interest related to the Renewal of the License for the Baker Lake Project. I have attached a copy of Resolution No.18354 that was signed by the Board on August 7th, 2001 that should fulfill your request.

I hope this information assists you, and I would be more than happy to answer any further questions. I can be reached at (360) 336-9400 .

Sincerely,

DAVID BROOKINGS
Public Works Administrator

DB/jjg
Enclosure
cc: Chal Martin, P.E., Director/County Engineer

RESOLUTION NO. 18354

RESOLUTION IN SUPPORT OF THE LICENSE RENEWAL AND CONTINUED OPERATION OF THE BAKER LAKE PROJECT IN SKAGIT AND WHATCOM COUNTIES, WASHINGTON

WHEREAS, the Citizens, Farms, Businesses, Tribes, Natural Resources, and Industry of Skagit County have, and do now benefit from the presence and operation of the Baker Lake Project dams; and,

WHEREAS, the Baker Lake Project, under its U.S. Corps of Engineers flood control plan as set forth in the 1997 "Water Control Plan", must provide 74,000 acre feet of flood control storage at the Upper Dam, and the project must also be operated to provide "optimum flood control regulation for the Skagit River" to protect lives, property, and resources; and,

WHEREAS, the Baker Lake Project was created to, and does produce and distribute clean, economical local and regional hydroelectric energy to more than 51,500 homes and businesses; provides life and property-saving flood protection; provides recreational and environmental benefits to our region; and,

WHEREAS, removal of the dams would greatly increase the risks to life and property throughout the Skagit River Valley,

NOW, THEREFORE, BE IT RESOLVED that Skagit County supports the Relicensing of the Baker Lake Project for operation in a manner that provides for no net loss of flood control storage without downstream flood mitigation, maintains recreational opportunities, protects the ability of downstream users to secure and maintain water rights for residential, commercial, agricultural and salmon restoration uses, and continues to provide affordable and reliable energy.

BE IT FURTHER RESOLVED that the Board of Skagit County Commissioners opposes removal of the Baker Lake Project dams under any circumstances.

WITNESS OUR HANDS and the official seal of our office this 7th day of August, 2001.

SKAGIT COUNTY COMMISSIONERS SEAL COURT STATE OF WASHINGTON

BOARD OF COUNTY COMMISSIONERS
SKAGIT COUNTY, WASHINGTON

Ted W. Anderson, Chairman

Kenneth A. Dahlstedt, Commissioner

Don Munks, Commissioner

ATTEST: Joanne Giesbrecht, Clerk of the Board

cc: P Works