

Power Net Revenue Improvement Sounding Board

Follow-Up Questions, Final version

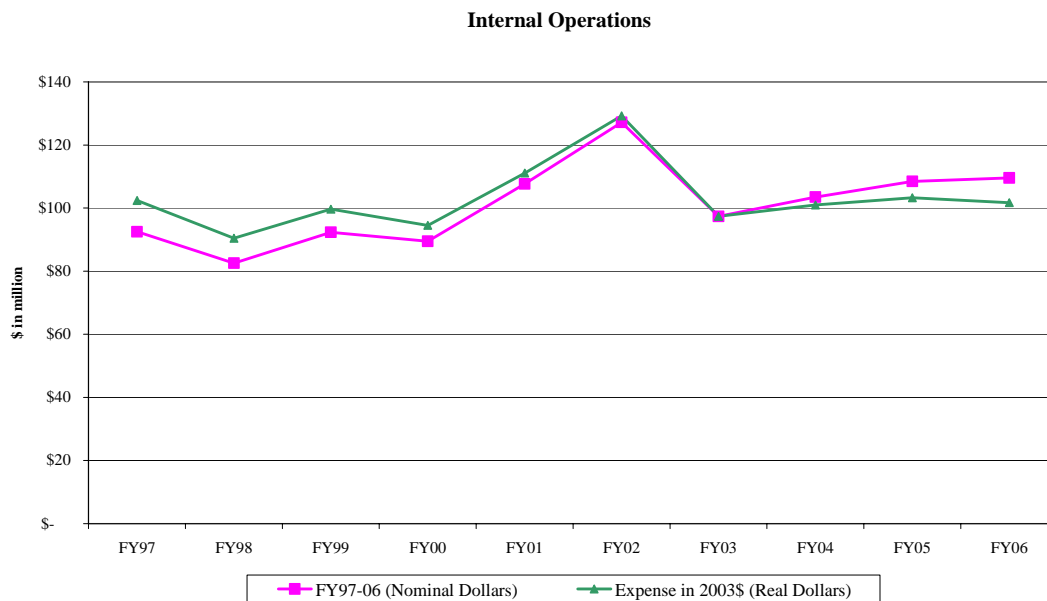
July 13, 2004

January and February Meetings

Internal Operations:

1. What are the forecasted Internal Operations costs in nominal and real dollars?

Response:



2. Is there a timeline for summer spill decisions?

Response: The schedule for spill decisions is currently as follows:

- The federal proposal for a specific summer spill operation will be released in late March
- Commensurate with the proposal release, Federal agencies will conduct briefings for state and tribal executives, and regional stakeholders
- There will be a short written comment period followed by a meeting of state, tribal and federal executives on April 16 for further discussion
- The federal executives will make a decision shortly after the April 16 meeting

Corps of Engineers and Bureau of Reclamation:

1. How do fish protection activities relate to forced and planned outage data?

Response: Forced outages associated with fish are less than 10% of the total forced outages that occur on the system. Fish related outages could be a significant percentage

of planned outages for a project. For example, at Bonneville Dam, the overall plant availability is affected by fish related outages. Plant availability is the percent of time the plant is available to generate and is equal to 100% minus the outages (planned and forced) that occur. An availability of 100% indicates that the plant is or was available to generate 100% of the time for the specified period. At Bonneville Dam, the plant availability without fish related outages during 2002 was 88.68%, and the availability when the fish outages are included drops to 79.27%. During 2003, plant availability without fish outages was 84.62%, and with fish outages included the plant availability drops to 79.43%.

2. What is the breakdown in the Public Affairs and Regulatory category?

Response: Basically, it includes costs from the BPA Direct Fish and Wildlife Program, Lower Snake River Compensation Plan facilities, fish and wildlife operations and maintenance costs within the Corps and Reclamations O&M budgets, and recreation and visitor center costs.

3. What is the historical FTE data for the Corps of Engineers and Bureau of Reclamation?

Response:

**Reclamation/Corps O&M FTE Trend
FTE from Labor and Hour Analysis
FY 1999 - FY 2003**

Bureau of Reclamation (PN Region)

	FY1999	FY2000	FY2001	FY2002	FY2003
Equivalent FTE	296	316	313	302	304
TOTAL LABOR POWER	\$ 21,817,695	\$ 23,810,544	\$ 27,087,669	\$ 26,825,482	\$ 27,316,170
TOTAL HOURS POWER	617,543	660,014	652,834	630,274	634,114

Corps of Engineers (NW Division)

	FY1999	FY2000	FY2001	FY2002	FY2003
Equivalent FTE	778	725	742	748	762
TOTAL LABOR POWER	\$ 45,856,655	\$ 45,329,785	\$ 47,973,361	\$ 50,690,598	\$ 54,759,348
TOTAL HOURS POWER	1,369,679	1,276,077	1,305,097	1,317,177	1,340,865

Note: Analysis does not include FTE associated with in-direct charges

4. What are the irrigation-related costs such as the costs of providing power at lower rates, the costs of foregone generation, and imputed wheeling costs?

Response: ; The lost revenue associated with providing project reserve power for irrigation was approximately \$18.2M for 2002 (see table below). Imputed wheeling costs for FY03 were estimated at \$1.1M according to end of year Reclamation power financial statements. The actual expenses were \$970K, of which Reclamation billed irrigators \$870k in accordance with their contracts. The variance of actual from the accrual will

be trued up in FY04. BPA's contract with Reclamation requires collection of the wheeling services from them without exchange of cash, which is the basis for this historical accounting procedure to record the revenue and expense on Reclamation's power financial statements. BPA is reimbursed by taking a credit against its year-end interest payment to Treasury in the total amount of the wheeling billed to USBR.

REGION	FISCAL YEAR	APPROX. ANNUAL ENERGY (kWh)	POWER RATE (MILLS/kWh)	APPROX. ANNUAL REVENUES	NUMBER OF CONTRACTS	POWER RATE DIFFERENTIAL (MILLS/kWh)*	FOREGONE REVENUE
PN	2002	32,000,000	4.3	\$138,000	3	13.84	\$442,880
		59,500,000	5.35	\$318,000	5	12.79	\$761,005
		7,460,000	5.41	\$40,300	1	12.73	\$94,966
		5,000,000	1	\$5,000	1	17.14	\$85,700
		1,900,000	1.55	\$2,900	1	16.59	\$31,521
		950,000,000	1.144	\$1,050,000	3	16.996	\$16,146,200
		29,100,000	16.1	\$468,500	1	2.04	\$59,364
		130,124,000	15.6	\$915,000	9	2.54	\$330,515
		13,000,000	2.59	\$33,600	1	15.55	\$202,150
Total =							\$18,154,301

*Power Rate Differential calculated as difference between the Dow Jones Mid-C Daily Firm Index flat price during 2002 irrigation season (\$18.14/MWh) and the Power Rate charged.

The average annual loss of revenues caused by irrigation withdrawals (via lost energy production opportunity) to the FCRPS over 50 historical water conditions is about \$180 million.

Renewables:

1. Why are 2003 actual expenses so much different than budgeted amounts?

Response: There are two reasons the 2003 actuals were different than budgeted. 1) The 2003 actual costs are smaller than the budgeted amounts because budgeted purchase costs are based on a forecast of annual wind power generation. Actual generation for FY 2003 at most of the wind projects was well below our forecast. Once we get enough history for these wind projects we may look at adjusting budget forecasts. 2) The termination payment for the Maiden Wind Project has been moved from the 2003 budget to the 2004 budget.

2. Please provide the energy as well as capacity costs in the renewable costs table.

Response: With only one exception (for a very small solar project), BPA-PBL purchases power from each of the renewable projects on a \$/MWh basis, i.e., all costs to BPA-PBL would be considered to be payments for energy. There are no capacity costs or any obligations akin to payments of fixed costs associated with these purchases. Actual energy costs are provided on the attached spreadsheet.

Conservation Action Items:

1. What would be the impact of cutting another \$1 million per year out of the FYs 04-05 conservation budget?

Response: As indicated in the 2/5 Sounding Board presentation, BPA’s EE program has cut its costs substantially over the last couple of years, reducing projected capital costs by \$148 million and expenses by \$44 million over the rate period. It does appear that we will be able to save an addition \$4 million over the FY 04/05 planned expenditures under the C&RD program due to lower-than-expected subscription contract loads from full and partial service customers. Our assessment of the potential for additional 2004-05 reductions on a line item basis follows.

Components of the “Conservation Initiatives” Budget

(in millions of \$)

<u>Program Component</u>	<u>FY04</u>	<u>FY05</u>	<u>Comment</u>
EE Development (Reimbursable)	10.8	9.3	Rate neutral (generates net revenues), therefore a cut would not contribute to the \$100 M goal.
Market Transformation (NEEA)	10.0	10.0	04 committed by signed agreement; extension for the 05-09 period is under review; however, NEEA has been the source for some of the lowest-cost conservation per aMW, so a reduction would risk driving up the cost per aMW of meeting the rate period MW target for conservation.
Low Income Weatherization	4.2	4.0	These funding levels are committed through 2006 under signed agreements with the states and tribes.
Legacy Contracts	4.0	4.0	These contracts give customers some latitude as to how much to accomplish and bill in each year. We cannot unilaterally constrain their activity. So far, invoices are coming in somewhat higher than the budget this year.
Energy Web	0.5	1.0	BPA is partnering with several organizations to design and test technologies that will directly affect the way our customers will be delivering services to their end-users in the future. In several cases, BPA dollars are matching funds or seed money that brings additional funds into the region. Of the \$1.5 million 2-year total, \$1 million is currently committed. Elimination of this modest funding will result in the region being put in

a reactive mode for these emerging technologies and protocols.

Technology Leadership	0.8	0.7	See Q and A # 3 below for more detail. A variety of limited expenses for efforts, such as education, outreach, printing, web site O&M, engineering support for customers, etc. are funded by this line item. In addition, EE's work on Non-Wires Solutions (NWS) to transmission projects is funded in this category. Termination of funding to support NWS would put at risk the opportunity for greater system savings through deferral of transmission investments.
C&RD Rate Program	37.0	37.0	Potential \$2M/year reduction due to lower loads; total savings \$4M (budget = \$35/yr)

We will continue to seek opportunities to reduce costs further in these line items, and to ensure the best value for the funds we spend. Based on the above assessment, we feel that a decision now to further reduce spending in these lines will compromise accomplishment of important goals. There is also a risk that invoices submitted for payment under the Legacy contracts will come in over forecast, absorbing any further cost reductions. We are also concerned that additional cuts on the programs and plans we have put in motion could affect our working relationships with our customers and the other conservation delivery partners. In summary, subject to the additional views of the Sounding Board, we do not feel that additional reductions in these categories should be counted on to contribute to the \$100 million goal.

2. We agreed to show conservation costs in leveled mills/kWh as well as our \$/aMW convention.

Response: *The following table provides a comparison of the different cost metrics for conservation.*

Conservation Cost Metrics		
First Year Cost (\$million/aMW)	10-Year Life Levelized Cost (mills/kWh)	15-Year Life Levelized Cost (mills/kWh)
2.5	38.78	29.38
2.3	35.67	27.03
2.0	31.02	23.51
1.7	26.37	19.98
1.5	23.27	17.63
1.3	20.16	15.28
1.0	15.51	11.75

3. What would be the impact of zeroing out the Technology Leadership budget for FYs 04 – 05 (to include can it be re-established later if it is zeroed out)?

Response: BPA, its customers and the Region benefit from our participation in a variety of technology related initiatives. For example, with the recent transmission infrastructure problems experienced on the east coast, it is recognized that the nation’s transmission grid needs to get bigger and smarter. Our efforts to understand and apply innovative solutions to infrastructure issues include such things as energy efficiency, distributed generation, demand management, direct load control, and smart meters. EE is working in collaboration with TBL to bring the most current and useful information to the PNW for use at the wholesale and retail levels. Further reduction in this limited budget item would have the following impacts:

A. Future partnership efforts would be eliminated. Since 2000, EE depends on external organizations and businesses to take the lead in numerous energy efficiency and technology-related efforts while we serve as supporting partners. With a minimal investment we are able to provide financial support to a broad range of activities. The BPA spending often brings in funding from outside the region. These leveraging successes would end.

B. Future development efforts that will provide direct benefits to customers and their end users through application of new and evolving technologies, including the sunk investments in staff time and funding in the following items, will be lost: Consortium for an Electric Infrastructure in a Digital Society (CEIDS) in which we are in the third year of a 5-year funding oral commitment, innovative developments in the emerging alternative generation technology fields, combined heat & power used for distributed generation, new smart meters and other tools for engineers to use in solving end-use energy problems, power quality service center support, metering technology to support direct application renewables, and demand exchange developments which helped us during the 2000/01 energy crisis and is currently in a maintenance mode for future use should the need arise.

C. BPA loses its ability to participate meaningfully in GridWise, a DOE-PNNL initiative. Our credibility and status as a reliable business partner is reduced to a point where it will be lost all together. Again, customers and their end users will benefit from

BPA's having a place at the table when these new developments are being shaped and tested. Often, we are able to bring demonstrations to the PNW for direct application to our customers' problems and situations. Hands on learning and implementation are the result.

D. Momentum with non-wires solutions to transmission constraints could be curtailed if supporting technologies are not nurtured. Momentum for numerous initiatives supported by Technical Leadership, such as the EE-TBL conference in September and the Industrial Strategy Initiative, would be gone.

E. Understanding the reliability and persistence of our investment in conservation is critical to the design and implementation of our future EE programs. Conservation impact evaluations are an important tool used to analyze our conservation resource and the various energy conservation measures (ECMs). Funds from this line item allow BPA to participate with other regional and national entities to conduct and share these evaluations.

F. Communication is restricted. Utilities frequently ask (several dozen questions each month) EE to serve as a technical expert on conservation issues and to respond to program questions under the C&RD, ConAug, LIWx, Market Transformation, Energy Star, etc. In this role, BPA is often the central communicator within the region and to America regarding the benefits of conservation and the related technical information that supports a wide variety of measures, projects and programs. Web updates would not occur on regular basis.

Finally, it would be very hard to re-establish our role in the Technology Leadership area once our credibility and trust has been compromised. Other players will be very reluctant to partner on such projects with BPA in the future and it would be very hard to get pilot programs and demonstration projects in the PNW once we lost this leadership role.

4. Get the additional NEEA information to SB members.

Response: *The Alliance was founded in 1996 to use the tools of Market Transformation - to change the way the market operates rather than buying kWh one at a time -- to achieve long term energy efficiency savings in the region. It was designed on the premise that markets extend across utility and even state boundaries, and even the region is only part of the national and international market for some things. It was initially funded for three years, and then renewed for another five years at a reduced budget of \$20 million/year. It is co-funded by all of the IOUs/ETO, as well as BPA and seven of the largest public utilities in the PNW. The 26-member board of directors includes all 14 funding utilities, representatives of each of the four governors, NW Energy Efficiency Council, NW Energy Coalition, and two large consumer representatives – and four non-voting representatives from the regulatory commissions in each of the four states.*

The Alliance Strategic Plan, the 2004 – 2008 Business Case, the Alliance Accomplishments and the Executive Summary of the Retrospective Assessment of the impact of the Alliance are attached. The link to the full evaluation document is www.nwalliance.org/resources/reports/120.pdf. The Retrospective Assessment was performed by an independent contractor reporting to a Board and Non-Board committee.

In addition to recognizing that the Alliance has in fact had a major influence in changing markets, it noted that the Alliance has captured energy savings at the levelized cost of less than one cent per kWh.

We need to clarify that these costs and savings resulted after the contractor substantially de-rated the savings tracked by the Alliance. This cost-efficiency resulted despite the fact that:

- *The Alliance was set up to pursue long-term savings, and what happens in the short term are incidental to the goals;*
- *The Alliance only tracks savings from about 40% of the projects that it operates;*
- *Every dollar spent for any purpose over the last 6 years is counted against the savings from limited programs;*
- *Utility rebated savings and baseline trends are removed from the savings estimated; and*
- *The independent contractor made serious reductions to what were potential savings.*

5. Please look into defining a better way to explain the economic/business benefits of conservation to BPA.

Response: *Conservation can be viewed in terms of its hedge value against price volatility.¹ Energy efficiency reduces risk by adding diversity to the resource portfolio. Traditional approaches to price risk management have been physical (build power plants), contractual (long-term contracts), and financial (purchase options and other hedges). These traditional approaches have limitations and carry their own set of risks. Conservation is an additional means of reducing price exposure. Dickerson et. al. point out that:*

- *“Regulators are mandating that utilities hedge (or insure) against such price risk. Hedges, if available, add to the cost of electricity supply, but mitigate the risk of much higher prices in the future. While energy efficiency investments have long been justified based on energy savings and utilities’ direct avoided costs, the hedge value represents an additional benefit of energy efficiency. Energy efficiency can cost-effectively reduce price risk by (1) reducing the volumes that need to be purchased (i.e., reducing the volume subject to price volatility); and (2) reducing the volatility of the unit purchase price.”*
- *Dickerson et. al. examine whether it is possible “to quantify the hedge value of energy efficiency, and if so, whether this value is large enough to warrant further study.” Their answer to both questions is Yes. Their paper presents an initial method for estimating the hedge value of energy efficiency.*
- *Application of this method shows that “energy efficiency can provide a significant hedge against price volatility in California’s wholesale power markets. It appears that the value of the energy efficiency hedge could be as much as 50 percent of wholesale power prices on an annual basis.”*

¹ See “Exploratory Study of the Hedge Value of Energy Efficiency Investments”, by Chris Ann Dickerson (Pacific Gas and Electric Company), John Chamberlin (Quantec LLC), and Don Bennett, Miriam Goldberg, and Julia Larkin (of KEMA-XENERGY Inc.), paper presented at the Association of Energy Services National Conference, December 8-10, 2003.

- *“The methodology can be incorporated into benefit-cost analyses of public benefits programs. Similar approaches can be used in the context of demand-response programs. This exploratory phase lays the groundwork for a more complete approach that will be developed in the next phases of work.”*

Dickerson et. al. conclude that the hedge value of energy efficiency “is potentially very significant.” However, the methodology for quantifying conservation’s hedge value will require further work.

Another paper by Neil et. al. reaches a similar conclusion about the value of energy efficiency.² Higher and possibly more volatile gas prices and related high power prices will positively impact the economics of energy efficiency (EE) and demand response (DR) programs, making these programs more cost-effective. “EE and DR programs can impact price volatility and provide benefits by reducing costs of hedging against high prices; however, current benefit-cost frameworks need to be modified to capture these benefits.” Some of the benefits of EE and/or DR include (but aren’t limited to):

- *Deferred or eliminated generation or T&D capital expenditures; and*
- *Increased system reliability.*

The value of conservation has also been examined internally with the following conclusions:

- *Conservation lowers electricity bills. It's as simple as -- use less, pay less. But unlike curtailment, energy efficiency means you enjoy the same amenity levels. Comfort and convenience are not reduced.*
- *Conservation contributes to a diversified resource portfolio, which in turn contributes to reliability. Investments in conservation stretch the existing resource base further, postponing the need to buy new generation and reducing the need to go to the market.*
- *Conservation helps address peak capacity constraints, both in transmission and generation. Strategic conservation can help utilities manage capacity problems on their existing transmission and/or distribution facilities. Studies after the 1989 cold snap showed that conservation measures contributed the most when loads were highest. Load management techniques have great potential to reduce system costs by managing the shape of the load. Conservation has known load shapes, and, at least in the Northwest, it is more reliable than rain.*
- *Conservation provides a buffer against market volatility. The primary issue that has caused the market volatility we have experienced in the last year in the West is supply-demand imbalance. Long-term investments in energy infrastructure must provide the foundation of our long-term strategy. Investments in energy efficiency, along with investments in generation, transmission and natural gas pipeline capacity and storage, will provide the best shock absorber against future resource uncertainties and market fluctuations.*

² “The Natural Gas Crisis – Implications for Energy Efficiency and Demand Response Cost-Effectiveness Analysis”, by Chris A. Neil, Daniel M. Violette, Ph.D., and Brent Barkett (of Summit Blue Consulting), paper presented at the Association of Energy Services National Conference, December 8-10, 2003.

- Conservation lightens the footprint we leave on our environment. Based on the Northwest Power Planning Council's mix of resources in FY 2000, the pollution savings per average megawatt of conservation each year would equal four tons of SO₂, 10.6 tons of NO_X, and 4,500 tons of CO₂.
- Conservation creates jobs. Curtailment, on the other hand, costs jobs. One study concluded that energy efficiency programs employ approximately 53 people in the Northwest per million dollars spent, compared to 33 people employed in the construction of alternative thermal projects. With our Northwest economy in a weakened state, we need to be looking for actions that will create jobs.
- Conservation stimulates economic development. Funding flows through utilities to pay for work done by local companies in the private sector that install energy efficiency measures in homes and businesses.
- Conservation fits well with new technologies that are opening up significant new opportunities for efficiency and load management. For example, the new generation of meters offers new possibilities for load management and greater customer control of energy consumption.
- Conservation also makes us more secure and self-sufficient. Given recent events, this is something we have to think very seriously about. Conservation is the ultimate distributed generation and does not require additional transmission infrastructure.
- Conservation lowers the level of BPA's cash reserves needed to maintain financial stability against volatile market and water supply conditions. There are 800 aMW of conservation already at work to reduce BPA's exposure to that volatility. BPA will be increasing that protection by 100 aMW every two years of additional conservation.

6. R. Cavanagh suggested looking at the benefits of doubling the NEEA budget.

Response: The budget of the Alliance has been tentatively set at \$20.4 million a year for the next five years in the requests sent to all funding entities for renewal of the Alliance. The Alliance Business Case that is attached in response to Question 4, above, details how this budget was developed. Bonneville believes that while this represents a tight budget, it is reasonable given the variety of initiatives BPA is funding. Given current expense constraints and the benefits of funding a portfolio of program approaches, Bonneville is not in a position to increase contributions at this time.

7. R. Shimshak asked for more information about which measures were most prominent in the ConAug program.

Response: For the ConAug program (as of 2/1/04), the most installed unit measures are:

- 728,866 CFLs/regional coupons
- 234,051 CFLs other programs
- 172,092 lighting under the LSO
- 31,024 general lighting
- 28,340 commercial and school lighting
- 5,920 torchiere regional coupons

total lighting is in excess of 1,200,000 units installed.

- Residential insulation and windows are a significant portion of ConAug, but reporting is inconsistent so there is no way to distinguish between square footage and # of units involved.
- 11,000 (approximate #) Vending Misers
- 5,934 water heaters
- 4,584 weatherization - again is difficult to distinguish actual # of measures.
- 3,725 energy efficient appliances.

8. J. Eisdorfer wanted information about how many houses were completed with our LIWx funding.

Response:

BPA's Low Income Weatherization Information

State Organization	Fiscal Year	Housing Type	Units	Dollars
Oregon Dept. of Energy	2002	Administration	0	\$57,611.97
	2002	Manufactured Home	143	\$143,152.00
	2002	Multi - Family	71	\$35,500.00
	2002	Single Family	112	\$381,312.00
	2003	Administration	0	\$79,357.57
	2003	Manufactured Home	170	\$161,500.00
	2003	Multi - Family	17	\$8,500.00
	2003	Single Family	179	\$462,638.00
State of Idaho, Department of Health & Welfare	2002	Single Family / Multi - Family	63	\$283,164.00
	2003	Single Family / Multi - Family	91	\$246,026.00
State of Montana, Dept. of Health & Human Services	2002	Single Family / Multi - Family	118	\$251,225.00
	2003	Single Family	36	\$104,170.00
	2003	Single Family / Multi - Family	37	\$79,385.61
Washington State DCTED	2002	Manufactured Home	179	\$427,667.00
	2002	Multi - Family	164	\$344,188.00
	2002	Single Family	190	\$512,430.00
	2003	Manufactured Home	256	\$792,537.00
	2003	Multi - Family	183	\$620,590.00
	2003	Single Family	258	\$1,165,536.00

Note: The State of Oregon breaks out the Admin. Dollars in their reports to BPA. The other states include admin dollars in the total dollars reported.

Columbia Generating Station:

1. How do the costs for the Independent Spent Fuel Storage Installation at Columbia Generating Station compare to those at Trojan?

Response: *Portland General Electric (Trojan) loaded thirty-four spent fuel casks in a single non-stop campaign during the period from December 31, 2002 to September 3,*

2003, and completed the transfer of fuel from the spent fuel pool to their Independent Spent Fuel Storage Installation (ISFSI). Energy Northwest (Columbia Generating Station) has loaded seven spent fuel casks to date and plans to load eight more in FY 04. Additional casks will be loaded to support bi-annual refueling activities. The cost to load 24 Trojan (PWR) spent fuel assemblies into a spent fuel cask, weld it shut, dehydrate it and transfer it to the ISFSI was \$234k per cask. The cost to load 68 Columbia (BWR) fuel assemblies into a spent fuel cask, weld it shut, dehydrate it, and transfer it to the ISFSI is currently \$360k per cask. Energy Northwest anticipates the cost can be reduced to \$300k per cask in future campaigns as experienced is gained.

There are design differences between each plant and spent fuel loading campaign strategies that account for the cost differences. The differences include: 1) PGE loaded all spent fuel in one continuous campaign whereas Energy Northwest plans to load their spent fuel as necessary for continued plant operation; 2) The ISFSI at Trojan is located very close to the plant (a few hundred feet); by contrast the ISFSI at Columbia is located approximately one-fourth mile from the plant and uses a different cask transport system resulting in a longer time to transport each cask; 3) Trojan was able to accelerate the time to dehydrate a cask by heating helium prior to injecting it into the cask; Energy Northwest does not use this method; and 4) Less time and labor is used to load one cask at Trojan as only 24 spent fuel assemblies can be loaded into one cask; it takes more time and labor to load a single cask at Columbia as 68 spent fuel assemblies are loaded into a similar size spent fuel cask.

Other Revenue Enhancement Category Questions:

- 1. Ralph Cavanagh stated that he would like to follow-up on comments he made at the last Sounding Board meeting regarding opportunities for revenue enhancements. He indicated that he thought this was a promising time for capacity exchanges and long-term peak system arrangements, since our current contracts have recently expired. Perhaps we need to look at secondary sales in a different, more diverse way. PG&E and SCE are becoming credit worthy again and will be seeking long-term capacity exchange arrangements. With gas prices on the east coast at all-time highs, folks are desperate to hedge. There could be arrangements that would be win-win solutions. Hopefully we can explore this area more at the March meetings.**

Response: *We try to look at our secondary sales in very diverse ways and are continuously looking for ways to optimize our sales of energy and capacity across multiple markets. In fact, we have recently stepped up our activity in the realm of capacity exchanges and reserves sales with parties in the Pacific Northwest. With respect to PG&E, we have considered a number of PG&E-proposed transactions in recent months, but their desired products did not match up well with our generation patterns or preferences for intertie optimization. With respect to SCE, we are engaged in major litigation with them and feel it is not prudent to transact on a longer-term basis until the legal issues are resolved.*

2. **Ralph Cavanagh stated that he wanted to make a request to assign a dollar value to the sale of northwest renewable resources into California. The California Energy Commission has changed its stance so that out-of-state resources are acceptable. This could be a revenue enhancement that BPA should look at. (revised on 7/8/04)**

Response: *As per the presentation material for the 3/16 meeting, we are actively pursuing opportunities to sell green tags into the California market, but we have not pursued physical sales of power generated from any one individual renewable generation resource because BPA markets power on an integrated resource system basis, not an individual resource basis.*

3. **Has BPA had looked into selling the output from Calpine as a Renewable Portfolio Standard resource into California?**

Response: *We have looked at tax credits and have made some calls but haven't seen any interest as yet. Resale to California is unlikely because the energy has to go back to COB before heading south to California; therefore, there are large transmission costs and losses.*

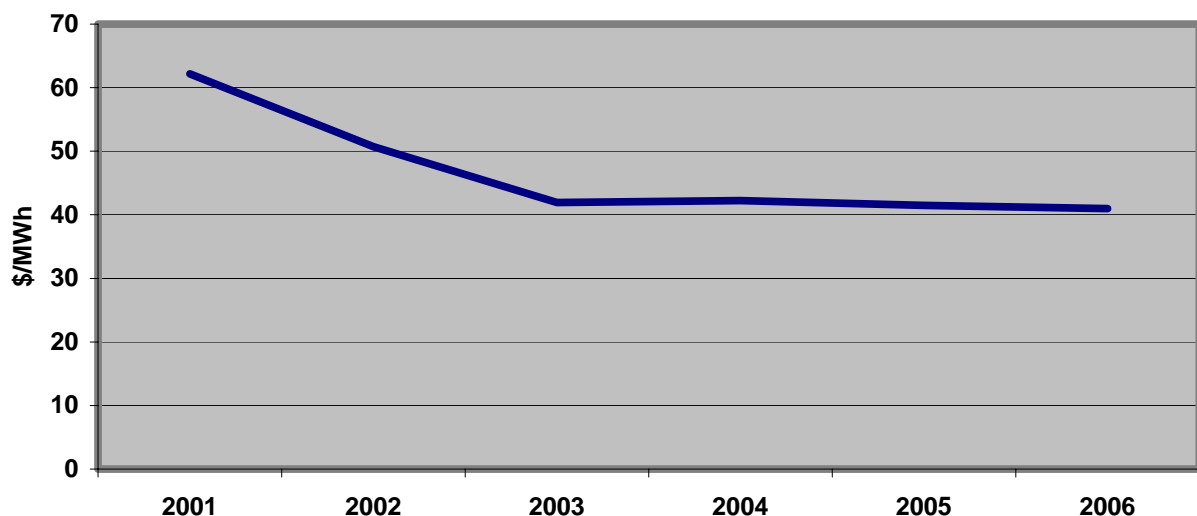
Fish & Wildlife:

No specific questions here

Questions on the renewable program from February 5th Meeting

- 1 . **Please provide energy as well as capacity costs for the renewable projects.**

Response: *BPA purchases power from each of the renewable projects on a \$/MWh basis. All costs to BPA are considered energy, there are no capacity costs or fixed costs associated with these purchases. Average energy cost for BPA's renewable projects is provided below.*



2. **How are renewable expenses and revenues accounted for and budgeted?**

Response: *Net Annual Costs = [Renewables project Generation Costs] + [Incremental Transmission Costs] + [Support Costs] + [Wind Integration/Shaping Costs] – [Value of Power (at Gas CCCT, \$3.00 MMBTU gas)] – [Green Premiums].*

The value of power and green premiums are subtracted from expenses to determine if \$15M has been spent. The value of power from a Gas CCCT @ \$3.00 gas has been used to determine the value of power. EPP and Tag premium revenues are also subtracted.

3. What are the revenues associated with BPA’s Green Premiums?

Response: *FY 2002: \$1,230,891 (\$265,900 of which is Tags)
FY 2003: \$1,772,503 (\$379,194 of which is Tags)
FY 2004 (as of 6/9/04): \$1,685,454 (\$864,673 of which is Tags)*

4. How do green premium revenues and wind shaping revenues add to the Renewables budget?

Response: *Wind shaping sales are not included with the Renewables accounts. Revenue from PBL’s wind shaping sales are credited to other accounts in the Bulk Power and Transmission Acquisition Hub, since the wind shaping services rely on the PBL’s surplus capacity resource.*

- *Green tag, EPP, and ARE premiums aren’t directly ‘added’ to the Renewables budget.*
- *Green premiums add to any “headroom” that PBL has in its \$15 Million account.*
- *They are also factored into the ‘Net Credit’ calculations in the Renewables portion of LB CRAC.*

5. How do net Renewables costs get factored into rates & allocated to Slice customers?

Response 1: *RATES: The construct for net Renewables LB CRAC costs, in its most general terms, is as follows:*

Renewables LB CRAC costs = [Renewables Generation project costs x 77.4%] LESS [Adjusted Net Credit].

The “Adjusted Net Credit” calculation is as follows:

- a. *(\$15+ million in base PF x Non-SLICE %)*
- b. *PLUS 100% of Green Premium Revenues,*
- c. *LESS (Support Costs x Non-SLICE %)*
- d. *LESS (Wind Integration/Shaping costs x Non-SLICE%)*

*The result of “a” through “d” yields the **Adjusted Net Credit** against Renewables generation costs that is introduced into the LB CRAC calculation.*

Response 2: *Slice customers pay ~22.6% of Gross Renewable Generation and Support costs. Opportunity costs of integrating wind projects not charged to Slice Customers.*

6. Is there an opportunity in California for additional sales of renewable energy?

Response: *BPA is actively exploring opportunities to increase sales of green tags to other states in the WECC, including California.*

- *2003 Tag sales into the CA market only amounted to about \$140K. We have only booked \$67K to date in 2004.*
- *Sales have been exclusively to municipal utilities and were primarily small hydro attributes, which qualify as renewable resources in CA. Cost was the primary purchase criterion.*
- *California Energy Commission ruling on attributes: Attributes cannot count towards the RPS unless they are bundled with energy and a source to sink delivery path can be demonstrated.*
- *BPA is actively exploring options to increase our share of the California market.*

Questions from the April 22, 2004 Meeting on Columbia Generating Station

1. What is the percent multiplier on employee salary due to benefits, retirement, etc. for EN employees?

Response: *28%*

2. How do we control upside risk on our variable rate debt in times of rising interest rates?

Response: *We currently have an amount of variable rate debt that on average is matched by an equal amount of short-term investments. This means that as interest rates increase then the income on the short-term investments offsets the cost on the variable rate debt. Obviously they never match exactly but the exposure is minimized.*

3. Look at the case of financing fuel costs one time and what is the impact on costs compared to not financing and what are the long-term affects on cost.

Response: *This is a question that has multiple answers. In normal accrual cost accounting there is no affect on a periods costs from financing. The accrual costs are booked the same in either case. The same is true on our "regional cost of power" method. The financing has an affect on cash flow requirements that flow through to net billing and thus BPA rates. If fuel is financed it reduces current costs and then they come back when the debt is paid off. In addition an interest cost is incurred that would not have been there if not financed. In the case of fuel, it can only be financed for short (approximately 7-year) periods. That means that it would need to be a continuous process to move the affect out to a later period. It would however create the affect of matching the cost more closely to the period in which the benefit of the fuel is received. Like all financing the main reason is to provide cash to cover expenditures either operational or capital that is not available from either the current revenue stream or cash on hand. In true dollars it is always more expensive to finance versus pay out of*

your bank account. One only has to think about financing a house to get this picture. On the other hand most capital-intensive efforts would not occur if they were not financed.

A rough example of a fuel financing would be as follows: Issue \$80 million in bonds at 4 percent interest with maximum maturity of 7 years. \$80 million would go out of year ones cash requirements. It would be paid back over the next 7 years plus about \$17 million of interest.

4. What is the total cost of each year's generation produced by CGS since 1979, reflecting remaining debt service costs and actual debt service costs?

Response: *Annual cost data for CGS, including debt service costs, were supplied to one member of the Sounding Board at his request in the form of an excel spreadsheet. If others would like these data as well, please call Michelle Manary at (503) 230-4284.*

Questions from the June 16, 2004 Meeting on Renewables and Revenue Enhancements

1) Why can't BPA sell resource-specific surplus power into California?

Response: *BPA's statutes direct BPA to market and recover power costs through its rates on a system-wide basis. This means that BPA markets power on a system-wide, integrated resource basis with rates that are established to recover BPA's total system costs. While BPA has the authority to sell surplus power extra-regionally into the California market, it does so only when such power is determined to be surplus on a system-wide basis, not on an individual resource basis. The administrator sells surplus power in accordance with section 5(f) of the Northwest Power Act, the Bonneville Project Act, the 1964 Regional Preference Act, and the 1974 Transmission Act.*

2) What would BPA need to do or change to participate in the CA RPS market as currently structured?

Response: *BPA is a regional power marketing agency that Congress established to serve the power needs of the Pacific Northwest. Surplus power sales and exchanges to utilities in California are made under the administrator's discretionary authority. No express or implied provision of law exists to support the sale of power from specific generating resources marketed by BPA, as contemplated in California's RPS. Consequently, Congress would need to grant BPA the authority to make such sales and establish resource-specific rates. At this time, it is not in either BPA's or its regional customers' interest to pursue new legislation of this type.*

3) What changes could be made to the CEC rules to allow BPA participation in the CA RPS?

Response: *The CEC should allow marketers - not just facilities - to contract with California utilities for wind energy delivery. The CEC should allow Renewable Energy Certificates to be coupled with system power to qualify for the RPS, i.e., remove the requirement to demonstrate source to sink delivery.)*