

Bonneville Power Administration
Power Function Review Technical Workshop
April 6, 2005

BPA Rates Hearing Room, Portland, Oregon
Approximate Attendance: 35

Risk Mitigation

[The handouts for this meeting are available at: www.bpa.gov/power/review.]

Introduction

Michelle Manary (BPA) welcomed participants and reminded them to use the green form in the packet to submit ideas for the May 9 PFR wrap-up workshop. She announced that conservation Q&As are now posted on the website, and Q&As on internal operations and Corps O&M are soon to follow.

Diane Cherry (BPA) said the main purpose of the risk workshop is to solicit input about the ways BPA can deal with “this variable resource we have.” We need to have ways of dealing with risk when anticipated revenues don’t materialize, she explained. We don’t have a proposal yet, but we want to start the conversation about risk mitigation so we can wrap things up by early June and start the runs to get to an initial rate proposal, Cherry said.

BPA is taking a systematic approach to evaluating risk and finding the best way to mitigate it, she continued. The package we have prepared focuses on secondary risk, Cherry said. She noted that there would be rate case workshops in which “to dive into the details” of forecasting assumptions. Right now, our direction is to develop an initial proposal on risk that meets our Treasury payment probability (TPP), Cherry said. She clarified that arguments on the appropriate level for TPP are part of the rate case and that BPA assumes it will not make changes to the current contracts to mitigate risk.

Is the use of TBL reserves to calculate risk a rate case issue? Linc Wolverton (ICNU) asked. Yes, Cherry said, adding the issue would be clarified on the Scoresheet. What about lowering PBL costs and budgets when times are bad, rate case or PFR? he asked. There was some debate among participants about whether the issue was PFR or rate case, and Manary said she would check with Paul Norman for clarification.

Ed Bleifuss (BPA) went through a list of policy questions associated with risk mitigation, explaining terms and pointing out there are choices and tradeoffs among the alternatives. Some contend that BPA would have to do a 7(b)(2) test if rates are adjusted during the rate period, Dave Hoff (PSE) said, noting there is litigation pending on the question. We are gearing up for a full rate case and will do a 7(b)(2) rate test, Cherry said. We can flag the issue you raise, but we consider we will have done the necessary test, she said.

Arnold Wagner (BPA) explained the major drivers of risk modeled in the current analysis: supply variability, market price variability, and IOU benefits. He noted that people have asked BPA at what point it will move beyond the 50-year water record. Our operations people say we need more data and also that new data does not change the spread much, Wagner said.

In your supply variability risk, you list wind project output, Bill Drummond (Western MT G&T) said. How much risk is there associated with wind? he asked. About \$10 million, Wagner answered. The wind risk is related to what we pay for output and what we can sell it for in the market, he added.

We keep hearing about a big problem with capacity that is being used by the wind folks, Kevin Clark (Seattle) commented. I'd like to know more about that problem, he said.

Will you do an analysis with a rank order of risks and how to mitigate them? asked Michael Schilmoeller (NWPCC). We've generally aggregated risk and come up with a total package, Wagner responded. It would be a significant piece of work to that kind of ranking, and I'm not sure how we would do it, he added. There are standard methods within the risk industry that could be used, Schilmoeller replied.

Wolverton asked about getting information on the components of the wind risk. There 's a lot of detail, and we'll have to talk about it, Wagner responded. I'd also like to get information on the variability of the wind supply, Rob Sirvatis (PRM) said. These are estimates – the rate case numbers will be different, Cherry reminded the group. Even if they are preliminary, I'd like to see the figures as soon as possible, Wolverton stated. Sirvatis agreed. I want disaggregated information to the extent possible, he said. There may be offsetting risks, and we want to see the specifics, Sirvatis added.

With regard to the risk related to IOU benefits, there is none in the first year, only in years two and three, Scott Brattebo (PacifiCorp) pointed out.

Clark asked about unexpected expenses in the "other risk" category, labeled in the packet as "Not Modeled" in the current analysis. Will different fish rules or a new BiOp have an effect? he inquired. We don't know yet; we are very early in the rate design process, Wagner stated. We're talking about things "outside the norm," Cherry added. We'll hold a "no surprises" workshop in late August or early September so you will have a heads-up on the initial proposal, she said. That's the latest date we would have a clearer idea about unexpected expenses, Cherry added.

How do the three categories of risk connect in the model? Hoff asked. We have independent distributions and feed the information into AURORA, Wagner said. He explained how the process works, saying "we bring the information together on a game-by-game basis." The final outcome is the net revenue month by month, Wagner stated.

Brattebo asked about the use of a forward price curve. We have to establish a forward price curve for 2008 and 2009, Wagner said. We have to have a way to come up with the IOU benefit, Byrne Lovell (BPA) added. Can you use the AURORA model to come up with a price? Clark asked. We have a separate model for the IOU benefit, Lovell replied. There was more discussion of details of the modeling, including inputs to the forward price curve model.

Wagner went on to explain how BPA calculates planned net revenues for risk (PNRR). It's a very complex calculation, he said, going over the PNRR equation. Wagner also explained tables displaying the level of risk, PNRR needed to meet the TPP at a given level, and the relationship between PNRR and cash reserves. The TPP for the upcoming three-year rate period is 92.6 percent, he pointed out.

In the last rate case, we were able to address the variability with large reserves, but without the reserve, we have nothing to get us to the TPP, and the PNRR is higher, Wagner explained.

Even with a higher market price, there is little gain, Mark Stauffer (NWE) observed of the calculations. That's true, Wagner indicated. As the average market price goes up, you still have risk to deal with, he said. If you have more in cash reserves to absorb the variability, PNRR goes down; but if you don't have reserves, "you feel the bump in PNRR," Wagner responded.

A key element to get buy-in from us on this is a clear understanding of cost recovery, Clark said. There has to be a way to protect against the high and low case, he said.

Lovell moved on to BPA's initial calculation of risk and pointed out that it is based on a traditional three-year flat fixed rate, with the cost of risk represented by a PNRR-based number and no other risk mitigation tools included. BPA estimates the cost of risk to be between \$430 million and \$530 million per year in the next rate period, he said, acknowledging that the number is "extremely high" compared to past rate cases.

Both reserves and PNRR mitigate risk, Lovell continued. If we start with enough reserves, we may not need PNRR, he said. But in the next rate period, it does not look like we will start with a high level of reserves, and that means higher PNRR, he explained. Lovell listed the PNRR drivers, which in addition to low starting reserves, include depleted fish cost contingency funds (FCCF), a higher TPP standard than in the last rate case, reliance on volatile secondary revenues in base rates, and an increase in power liquidity reserves.

Ending PBL reserves for this rate period are expected to be around \$180 million, which is pretty low, he said, adding that BPA does not expect 2006 net revenues to be positive. In one-third of the computer runs, the forecast of starting value of our reserves is about \$50 million, he said.

Is the 92.6 percent TPP standard a final decision? Annick Chaler (PPC) asked. Yes, but you can argue that in the rate case, Lovell said.

Stauffer said he thought the IOU benefits would mitigate volatility rather than pose a risk. Hoff said he also saw the IOU benefits as reducing rather than increasing risk. Lovell said while the IOU benefits are different from other risks, they pose another source of variability. Clark suggested BPA explore the possibility of postponing IOU payments if the secondary revenues forecast didn't materialize. That would require a contract change, and we're assuming we'd operate under terms of the current contract, Cherry reiterated.

Lovell went over a point-by-point explanation of why PNR is so high. Pete Peterson (PGE) said he wasn't convinced of the logic in the model. If you use 3,000 cases of variability, it seems you have already incorporated variability into the model, he said. Lovell said PNR is set on all games. Peterson said he would like to see more detail on the runs.

Clark said he'd like to see documentation on the need for greater liquidity reserves. Our liquidity problem is in the fall, Lovell explained. After we pay Treasury, we still need to have cash to pay our bills – it's a seasonal problem, he said. I'd like to see your cash-flow figures during that period, Clark said. Has there been any thinking about shifting expenses to another period to ease cash-flow problems? he asked.

What would happen if the TPP is left at 80 percent? Sirvatis asked. You can use the model and calculate that yourself, but we have very clear orders about TPP, Lovell said.

The PNR includes both secondary energy revenues and IOU benefits, Geoff Carr (NRU) commented. The full requirements customers will pay the PNR, and we would like to know how much is related to secondary energy revenues and how much is related to IOU benefits, he said. "You need different risk mitigation tools for different problems and different customer classes," Carr stated.

Mike Normandeau (BPA) explained who currently covers BPA's risk: the agency itself through reserves; customers through rate design; Treasury through timing of payments; and third parties through hedging, water derivatives, and insurance. Are you using any of mechanisms in the third-party list? Jon Piliaris (WPAG) asked. The trading floor uses forward purchasing and selling, and we are looking at water derivatives, at least as a due diligence, Bleifuss replied.

In another discussion about risk tools, we heard about a \$250 million short-term note you could exercise, Carr said. Treasury isn't keen on us using it, Lovell responded. It is unlikely we could exercise that option for a liquidity need that is not associated with a capital need, he said. We have not discussed this fully with Treasury or pushed to the point of a decision, but it would not be simple, Lovell stated.

Normandeau went over a list of past and future risk mitigation tools, and he noted that the FCCF available in the past was exhausted in 2003. He also made note of the background information in the packet on risk mitigation strategies used in prior rate cases.

You haven't included one big risk mitigation tool, Hoff said: Slice. If we weren't slicing, the PNRR numbers for 2007-2009 would be bigger, Cherry agreed.

A number of tools are available to manage risk, Normandeau continued. He listed options that include changing water-year modeling assumptions, using rate-adjustment mechanisms, and purchasing weather derivatives. All of the options are on the table, but some are more feasible than others, he said. "There is no silver bullet," and the solution is probably a combination of things, Normandeau added.

You don't have "the budget action" option on the list, Brattebo pointed out. You could cut costs, he said.

Normandeau said BPA has surveyed other utilities to find out about risk mechanisms that are used. A variable rate, fuel adjustment mechanism is common practice among hydro-based utilities, he said. Alex Lennox (BPA) explained how the fuel adjustment mechanism works, adding that some utilities have an automatic adjustment based on changes in fuel prices, or volume of water for hydro-based utilities.

The region is using a cost recovery adjustment clause (CRAC) in this rate period, Normandeau said, acknowledging that customers have found the volatility of the mechanism troublesome and want more stability. He recounted what BPA has learned in using CRACs, pointing out that over the past four years, despite dry conditions and price volatility, the agency has maintained a high credit rating and made every Treasury payment.

Linda Finley (Snohomish) said BPA's statements about its reserves aren't tracking with the cash shown in its bank balances. Our bank balances reflect cash and borrowing, and we have large cash payments to make toward the end of the year, Lovell said. We are talking here about year-end reserves, he said.

But it appears your reserves are growing – we see an increase from \$692 million in December 2003 to \$880 million in December 2004, Lloyd Jordan (Snohomish) said. Net billing arrangements and amortization payments can make a big difference on our cash situation during the year, Lovell said. Our cash picture may not be tracking with our reserve picture, he said. Clark suggested BPA provide clarification on the issue at the managers' meeting by providing a record of reserves for 20 years, broken down into cash and deferred borrowing.

Normandeau went on to a list of issues to consider in evaluating mechanisms for risk mitigation, including available tools; timing, frequency, and complexity; distribution across stakeholders; sensitivities; data sources; and other parameters such as impact on current contracts and staying within the Northwest Power Act. And he and other staff

offered detailed descriptions of several risk mitigation options that have undergone a preliminary analysis: fixed flat rate, fixed shaped rate, secondary revenue rebate, rate adjustment mechanism, and a complex mechanism. The impacts of each on cost of risk (PNRR), initial rate impact, effective rate impact, rate variability, and secondary revenue credit was displayed on a summary table, along with statements of pros and cons.

Option A, Fixed, Flat Rates, relies on PNRR only to mitigate risk, according to Lovell. Chalier asked if staff could provide another column to the table for ending reserves, and he said he would look into it. Wolverson pointed out that there is a dichotomy between what BPA needs in the first year of the rate period and what it needs in the following two years. You would be collecting too much, he said. We are not building reserves – the value of the reserves is tempered by the reality of the variability, Lovell responded. A dividend distribution clause (DDC) is included in the option as a way to mitigate if large reserves accumulate, he explained. Option A could be very expensive, but we think we need to talk about it, Lovell stated.

Option B, Shaped, Fixed Rates addresses the problem we have in 2007, he continued. The shaped rate addresses what we think we will need due to starting the rate period with low reserves, Lovell explained. The option would collect higher PNRR in 2007, with a significant drop in 2008 and 2009, he indicated. Clark suggested the DDC ought to be part of Option B.

Option C, Secondary Revenue Rebate, sets rates based on rebating secondary revenue annually or more frequently, Normandeau explained. There would be a surcharge if secondary revenues fall below a critical threshold, he said. There were numerous questions about the option. “The option makes sense, but the math needs work,” Clark commented. It’s a concept that makes sense, he added.

Option D, Rate Adjustment Mechanism, is similar to the CRAC in current rates, and the mechanism could be triggered prior to August 2007, Lovell said. PNRR could be eliminated altogether with this option, he stated. You’ve assumed you could do this without running the 7(b)(2) test, even though there is a legal challenge, Hoff commented.

Option E, Complex Mechanism, provides a mix and match of tools, Lovell said. We would credit rates with one-half of expected secondary revenues, and there would be a CRAC if we start the year with less than \$400 million in reserves, he explained. If reserves are greater than \$600 million, actual secondary revenues above those assumed in the base rate are returned as a rebate. The rate impacts with this option were estimated using methods different than those used in the other options, Lovell said. We think the complex mechanism could fine-tune risk and reduce rates, but it could be more volatile, he said.

The problem with having BPA keep the secondary revenue is that we need to be sure it’s used for rebates and not spent for other programs, Carr commented. Could BPA continue to agree to confine its spending to certain cost categories and levels? Piliaris asked. You

could pre-empt the skepticism by “walling off the revenues” to assure rebates, Clark suggested. These are good options that we ought to consider, he said.

We have not been assuming we would have a rate adjustment for “controllable costs,” Cherry said. “Steve Wright is clear on that,” she added.

The Joint Customers have a task force focusing on risk, Brattebo said. It would be good if as a team, we could develop a proposal that we all support, he stated. We’ve put aside time to come together every other week to work on this, Cherry responded. By mid June, we need to know what kind of mechanism we’re looking at so we can run the numbers, she said. We absolutely want to work with you on this, Cherry added.

Lyn Williams (PGE) asked about the list of dates at the back of the packet. Those are for rate case workshops, Cherry said. We have a tentative hold on those dates and this room for meetings, she said.

When we started out, we talked about the tradeoffs and choices, Bleifuss said. Are there any thoughts on the policy questions? he asked.

The customers have “a paranoia” about BPA spending, Clark said. The managers need to get an explanation of the concepts and macro options on risk – they need the policy questions that drive the options, he said. Trust with BPA is the problem, Clark continued. We need a more candid discussion about building trust, he said. Risk exists, but “it’s a good news risk,” according to Clark: “it’s a great resource, but when we bank on it and it doesn’t happen, then there is a problem.” All of these tools require trust and that has to be up front in here, he stated.

NRU has 42 members and a lot of those folks are expecting a rate decrease, Carr said. The managers need the math that shows where these options will get us, he stated. “There will be shock,” when people see the effect of these mechanisms, Carr predicted.

There is a rate level limit you have to be aware of – it isn’t an increase, it’s a decrease, Wolverton said.

What about arraying the choices through good and bad years, Clark suggested. If we say that rates have to go down, it guarantees we’ll have a CRAC, he stated. The managers would like to see more numbers – maybe they could be graphically portrayed, Carr said.

The managers won’t understand why reserves are down or why 2007 is so bad, Finley said. They won’t understand why things look like they do with the energy crisis over, she added.

You could transfer more risk via Slice, Sirvatis suggested. That would entail changing contracts, but it may be a viable idea in time, Cherry replied.

The reasons things look like this is that the TPP standard was relaxed and is now going back up, and rates are not recovering costs, Lovell stated. I'd suggest you put that in graphic form, Finley said. You also need to tell managers why you are going to a higher level of TPP, Sirvatis advised.

Chalier listed risk mitigation options the customers have been working on, including: using BPA's total reserves, not just PBL; waiting to 2008 to change the liquidity reserve level; using a lower TPP; instituting "a spending CRAC" and a market CRAC for BPA; and changing the due date for the net-billing payment to Energy Northwest.

Clark pointed out that changing the due date for Slice payments could be worth millions of dollars. He also asked if Energy Northwest needs so much cash in September, and if not, whether another payment arrangement could be made. It would be nice to test some other options, such as \$75 million, for the liquidity reserve, Carr suggested.

Talk "big picture" first with the managers, Clark advised. You need to convey that the volatility is there, then talk about how to work together to resolve it, he said. Basically, you need to move \$500 million, Clark stated. "Yes, it's big," Lovell agreed.

Managers will also want to talk about the snow pack, the possibility of an SN CRAC in 2006, and the range of what you'd enter 2007 with if 2006 is a good or bad water year, Clark said.

We will post a packet for the managers on April 11, Cherry said. Staff could meet with you about the models April 20, so you would have tools to use to explore options, she added. We'll get information out about other rate case workshops as soon as possible, Cherry said.

The meeting adjourned at 2:15 p.m.

Follow-up questions and information requests

Responses to questions and requests for information received throughout this process will be posted on the Power Function Review Web site on an ongoing basis. The Web address is www.bpa.gov/power/review.

1. Provide more information on the big problem with capacity in regards to wind.
2. Provide information on the components of the wind risk and on the variability of the wind supply.
3. Provide documentation on the need for greater liquidity reserves.