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Issues '98

June 1998

Fact Sheet #3: Power Markets, Revenues, and Subscription

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We are inviting you to participate in Issues '98. This is a public process designed to give you an overview of and a context for major policy issues surrounding BPA's future. Your input will help BPA develop planning assumptions for our power and transmission rate cases. With the exception of cost cutting recommendations, Issues '98 will not be a decision-making process by BPA. Instead, your comments will help inform decisions made in other forums, both within the region and by Congress. This fact sheet focuses on just one set of the broad issues that will be considered. To learn more about how to participate in Issues '98 or for more information on other issues, call (800) 622-4519.

Background

The wholesale electricity market in 1998 presents a different world from what it was barely six years ago. Passage of the Energy Policy Act of 1992 created a situation that promoted deregulation and open competition in the wholesale electricity market in the United States. While arguably that is one of the biggest single changes to affect the Bonneville Power Administration (BPA) in the last ten years, it is not the only one. In the early '90s a slow-down in the California economy helped to bring about a surplus of generating capacity on the West Coast. Simply put, a greater supply of wholesale electricity was competing to serve lower demands. Then improvements in technology coupled with historically low prices for natural gas resulted in sharply lower prices for alternative power sources, particularly combustion turbine generation. Finally, the appearance of numerous new power marketers on the scene brought greater choice to customers and greater competition for BPA.

Customers that traditionally comprised a stable market base for BPA now can choose among a variety of power suppliers. Inevitably, this means that BPA's rates must be competitive, and ends the agency's ability to simply raise rates to cover any cost. Because of the increasingly competitive environment, BPA faces a challenge to its financial integrity. BPA must manage its costs carefully and market its products smartly to help ensure its revenues are adequate to maintain sound operations upon which customers can rely, and to meet all its other obligations. BPA's Power Business Line (PBL) also has emphasized building customer relationships and maximizing revenues from surplus power sales as key components of its marketing.

The 1996 rate case signaled BPA's determination to meet the challenge presented to it. We reduced rates 13 percent, cut costs, downsized our workforce and took other measures such as a full scale re-engineering of the organization to become more responsive to the needs of our customers and to make our products more competitive. Prior to this rate case, we already had taken over \$600 million per year out of budgets for the 1997-2001¹ rate period, and since then we have further reduced our costs by another \$85 million per year for the period. The recent Cost Review recommended changes that would cut another \$146 million out of PBL budgets for the next rate period (2002-2006²). (See the [Cost Management Fact Sheet](#)) Current BPA cost baselines assume full attainment of the Cost Review savings, even though our currently projected total PBL expenses are higher than the Cost Review final total because of several offsetting cost increases. The increases are mainly the cost of buying transmission, including the costs of the General Transfer Agreements (GTAs) and some inter-business-line transactions.

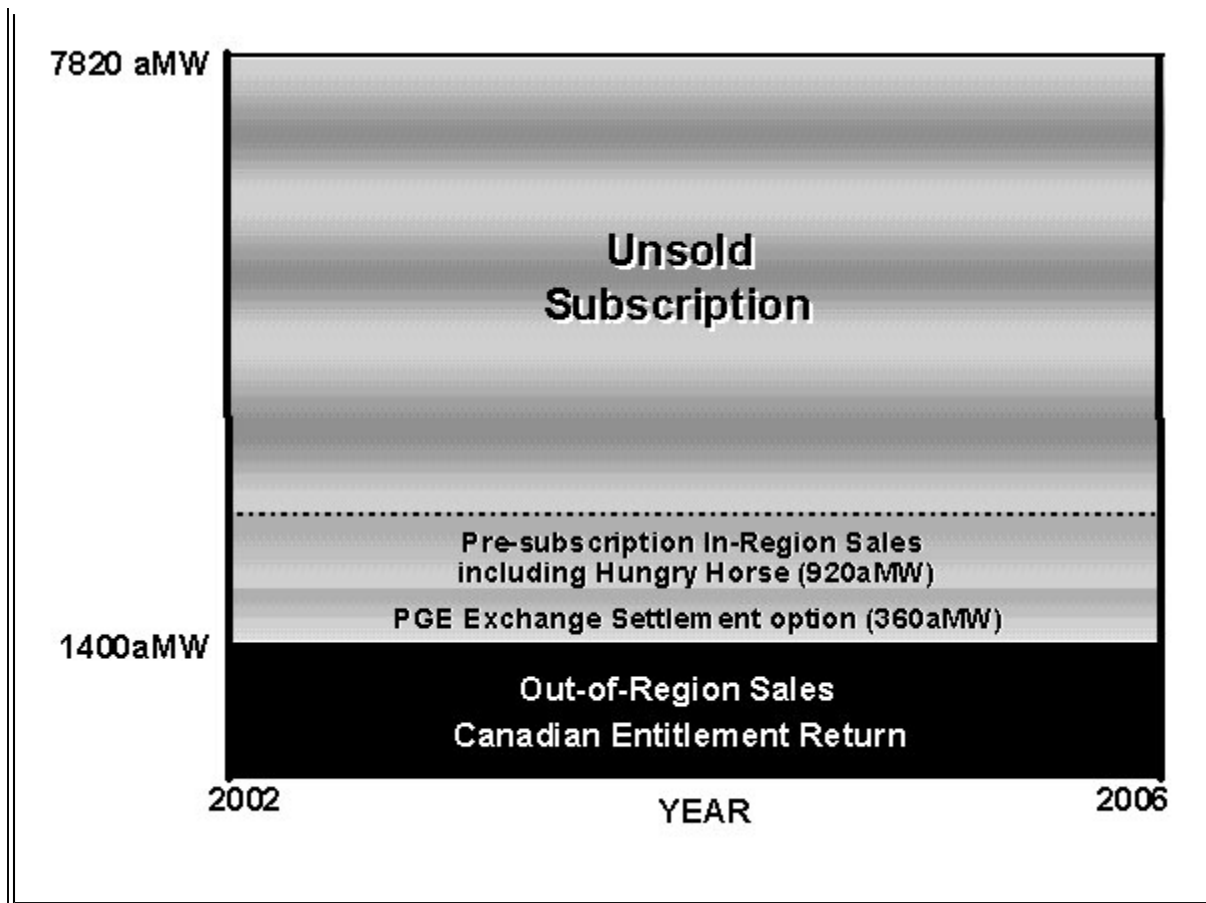
PBL Revenues

The annual revenues that the PBL can generate is the single most important variable determining its success in meeting statutory and strategic financial objectives of overall cost recovery, commercially successful power operations to pay for public responsibilities, and assurance of a high probability of BPA's repaying the Treasury in full and on time. The amount of PBL's revenues depends upon the quantity of power it has available for sale (the inventory), the products it sells from that inventory, the prices it can obtain for those products, and the amount of other types of revenues it receives. Each of these factors is summarized below:

Inventory

As indicated above, a major determinant of our revenues is how much power we have to sell: our inventory. Our total inventory includes power available for all sales. BPA estimates its firm energy inventory in average megawatts (aMW) for the five-year period 2002 – 2006 is slightly above 7,800 aMW, based on critical water. This inventory is less than the 1996 Rate Case of 8,100 aMW primarily because of reductions due to planned operations for fish, including the recent draft Biological Opinion related to steelhead. After deducting for previous firm commitments, our inventory for subscription is about 6,400 aMW. In addition, we expect to have about 2,100 aMW of nonfirm power to sell under average water conditions.

Power Sales Inventory



Subscription

BPA supplies about 40 percent of the Northwest's electricity. BPA sells power at the wholesale level to a large number of utilities, both in the region and other parts of the West Costs markets, as well as to a few "direct service" industries (DSIs) and Federal agencies.

For the post-2001 period, BPA will sell much of its power through a "subscription process." This process, laid out by the Comprehensive Review, defines how and to whom the region's federal power should be sold. The Comprehensive Review, which convened in 1996 and involved a broad cross-section of regional interests, recommended that BPA deliver the benefits of the federal hydropower system to Northwest consumers. BPA will do this by offering subscription contracts for deliveries beginning in 2001.

The Comprehensive Review recommended that BPA allocate its firm inventory according to its customer base in phases. Public preference customers would have the first opportunity (phase one), next would come DSIs and the IOU residential loads (phase two), and then would come other regional load and out-of-region load (phases three and four).

Last fall, the Regional Subscription Work Group developed a subscription implementation approach that would allow all customers a simultaneous opportunity to buy from BPA. The approach would allow preference loads buying early to exceed their phase one limits, reserved some amount of power for IOU Exchange loads, and gave BPA the flexibility to sell inventory into other markets during the subscription window if subscription sales were lagging. This approach was predicated on there being enough inventory to meet all demands of the first two phases.

BPA now believes it is likely that requests from public agency preference loads, direct service industries, and investor owned utility exchange loads (which theoretically could reach a total of about 9,700 aMW) may exceed the firm inventory we have. As a result, BPA and the Subscription Work Group currently are discussing whether the implementation approach developed earlier still seems appropriate. Options that might be considered include:

- Stay with the implementation approach developed last fall;
- Develop an approach that has more of an allocation tone. The firm inventory would be allocated among individual customers and they would be given an opportunity to buy their share; or
- BPA could add to the amount of firm inventory that it has available for subscription. It could do so by purchasing power so that some inventory that is not firm could be firm up and made available for subscription. BPA also could acquire additional resources to add to its firm inventory. However, the Comprehensive Review recommended BPA not acquire additional resources unless parties making the incremental demand were willing to bear the full incremental cost of adding enough resources.

BPA intends to follow the recommendations of the Comprehensive Review to keep both prices and costs low and to subscribe as much of its federal power to the region as possible. BPA plans to develop a number of posted-rate subscription products for basic energy and capacity. Additional product flexibilities can be negotiated and added to the posted-rate products.

In exploring the last option, above, PBL is discussing with customers the tiering of its rates. Under this option, the initial inventory would be sold at one price, while additional inventory would be sold at a different, (presumably higher) price that would reflect the cost of purchasing power to serve that additional load. This option will be discussed with the region in the Subscription process and, if pursued, in Rate Case workshops.

Non-Subscription Sales

PBL expects to obtain about 55 percent of its revenues from sales of firm power through long-term subscription contracts. Another 15 percent would come from other, existing long-term contracts, 15-20 percent would come from shorter-term surplus power sales, and the remaining 10-15 percent would come from other forms of revenue, including sales of the generation inputs to transmission reliability and ancillary services. The revenues obtained from surplus firm and nonfirm power sales are very uncertain, depending upon variations in streamflows and market prices.

BPA does not face a single homogeneous power market, but instead actually faces several different market “strata”, each of which have different price structures. Of the three primary market strata faced by BPA (long-term bilateral firm sales, monthly “commodity” sales, and daily spot sales), the long-term bilateral firm sales have held the highest prices, and the daily spot sales the lowest. A key function of the PBL’s “trading floor” is to maximize net revenues from sales of inventory other than the PBL’s cost-based subscription products by optimizing the timing of sales and balancing short-term delivery commitments with resource operations and purchases.

Revenues from the products that support transmission service are a result of deregulation of the electric power industry generally, and specific provisions of FERC’s orders establishing the rules for how the newly competitive power markets are to operate. Prior to BPA’s 1996 Rate Case, these kinds of revenue were virtually nonexistent. Now they are expected to become an even more important source of revenue

in the 2002-2006 period than they are in the current rate period. While many of these services are sold to BPA's transmission business line (TBL), which in turn sells them to transmission customers consistent with FERC rules, in the future more of these services will likely be sold to other transmission owners and operators.

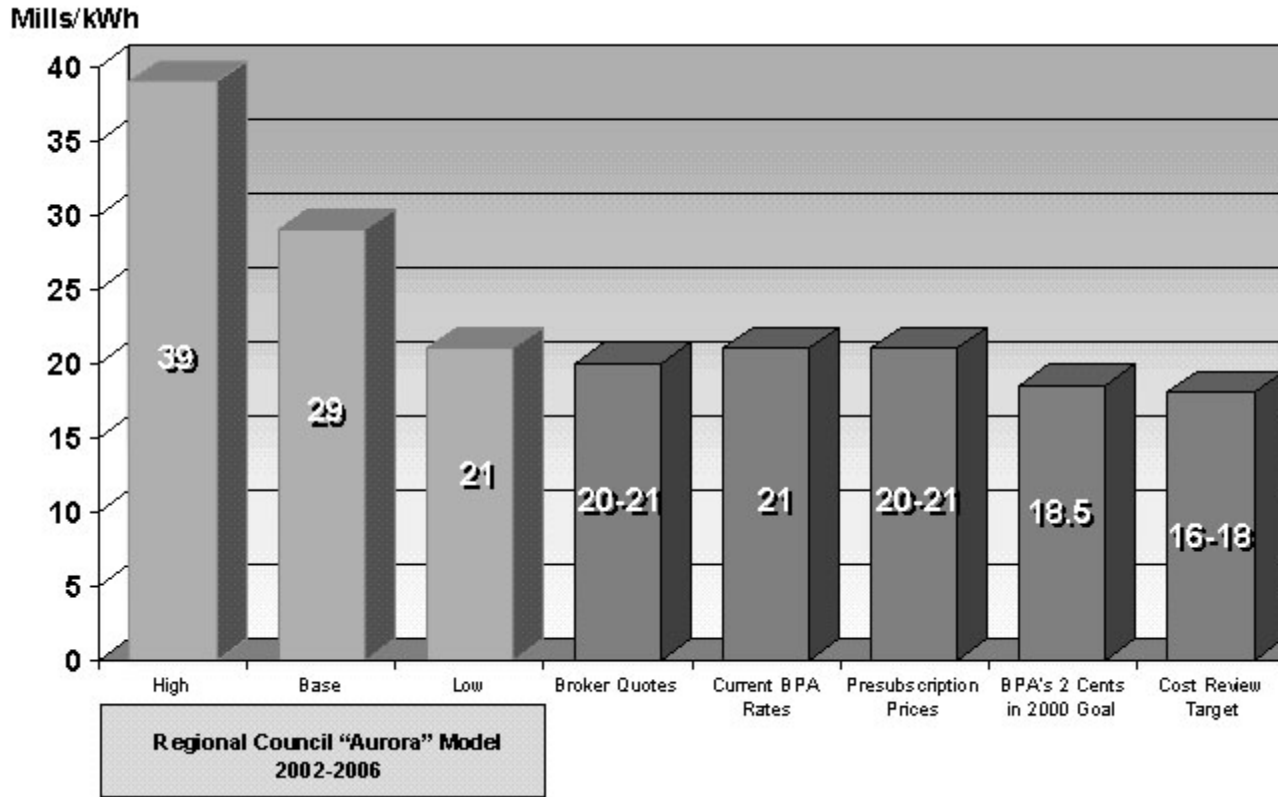
Market Prices and Range in Revenues from Sales

BPA sells long-term power at cost; nevertheless, the prices that we can charge are limited by the market. Market forecasts show a wide band of possible prices in the period 2002-2006 – from around 20 mills per kilowatt-hour to almost 40 for a 100 percent load factor (“flat”) product without transmission. The higher side of the range is driven largely by projections of tightening load/resource balances on the West Coast and the effect of increasing gas prices on marginal generating units. BPA's recent experience in the market, both in our “pre-subscription” offerings and in our obtaining “broker quotes” for post-2001 deliveries, indicates that customer and supplier expectations for the post-2001 period are in the 20 to 21 mills/kWh area. The Northwest Power Planning Council recently has completed an analysis³ of potential BPA “stranded costs” indicating a range of potential market prices from as low as BPA's current experience to almost twice that high. There is significant uncertainty concerning what actual market prices will be within this wide range, and BPA believes there is a distinct probability that prices could remain low rather than move up as many currently believe.

BPA is examining a fairly wide range of revenue scenarios that reflect a range in potential market prices and subscription rates. The subscription rates considered include BPA's “2 cents in 2000” target (which translates to 18.6 mills/kWh for a flat undelivered product), a rate 2 mills/kWh lower than that to reflect Cost Review expectations, and a rate 2 mills/kWh higher to reflect the potential need to recover higher costs. The last rate is close to BPA's current Priority Firm power rate.

The market prices BPA is considering in its revenue analysis include the Low and Medium scenarios from the Power Planning Council's analysis, plus three other scenarios to reflect the range of prices BPA believes it is prudent to consider in its financial planning and risk management. One of the additional market price scenarios is somewhat below the Council's low scenario, reflecting BPA's experience of the past several years. Actual market prices have been far below what many regional analysts and analytic models were projecting. The other two additional scenarios fall between the Council's low and medium scenarios.

<h2>Market Price Comparison</h2>
<p>All without Transmission, 100% Load Factor (All 2002-2006 Average, Except Current BPA Rate)</p>

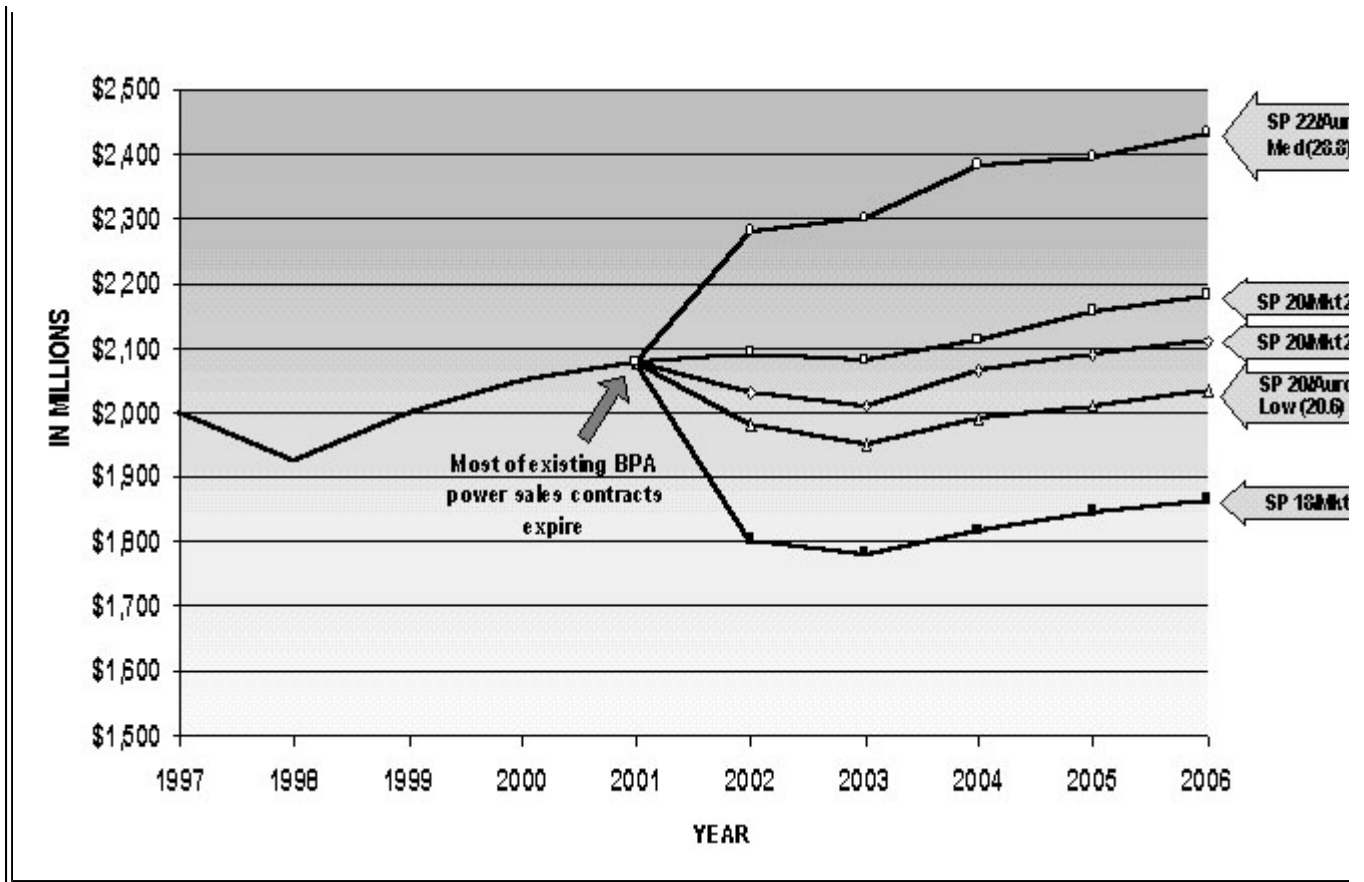


With the total inventory described above and with average water, PBL average annual revenues over the 2002-2006 period could be less than \$1,900 million or more than \$2,300 million, depending upon market prices and subscription rates. Revenues from subscription are a function of both the quantity subscribed and the rate established. the rate will obviously influence the subscription quantity. In addition, PBL is exploring the option of offering indexed prices for part of its inventory. While this may be advantageous in order to take advantage of possible higher market prices in the future, it increases the amount of uncertainty in our revenue projections and exposes us to lower than expected outcomes, too.

Revenues from non-subscription sales will vary significantly due to market price, water conditions, and the amount of (unsubscribed) firm power available to sell in the surplus markets.

BPA is confident that it can develop products, rates, and contracts that effectively deal with these uncertainties using a variety of pricing and other mechanisms. A more detailed discussion of risk management tools that BPA may employ is included in the Risk Management Fact Sheet.

Comparison of Potential Power Revenue by Market & Subscription Price Scenario



- (1) This refers to the Federal fiscal years 1997-2001 ([return to story](#))
- (2) This refers to the Federal fiscal years 2002-2006 ([return to story](#))
- (3) "Analysis of the Bonneville Power Administration's Potential Future Costs and Revenues" ([return to story](#))

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