Department of Energy

Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

EXECUTIVE OFFICE

In reply refer to: DR-7C

Mark Walker, Public Affairs Director
Northwest Power and Conservation Council
851 SW Sixth Avenue, Suite 1100
Portland, OR 97204

Dear Mr. Walker:

Thank you for the opportunity to comment on the Northwest Power and Conservation Council's (Council) draft Fifth Power Plan (draft plan.) The draft plan is an important guidepost for the Bonneville Power Administration (BPA) and the region's utilities as we work to provide a reliable and economic power supply in the Pacific Northwest. We commend the Council for the high quality of the analysis and the comprehensive coverage of key issues in the draft plan.

We are in general agreement with the Council that there are substantial opportunities for the development of conservation and renewable resources in the region. We are also in general agreement with the Council regarding the future role for BPA in acquiring resources.

Our comments are organized into two major parts. In the first part, we call out four concerns that we feel encompass the majority of our technical and policy comments on the draft plan. Of these, resource adequacy deserves a separate billing as perhaps the fundamental concern we have about future regional energy planning. If BPA is to assume a more limited role in power supply in the region, it is critically important that as individual utilities take on increased responsibility for meeting their own load growth that it is done in a coordinated fashion that ensures an adequate supply for the region as a whole. Without this piece, the Pacific Northwest could easily confront another West Coast energy crisis. BPA would like to see the Council take a leadership role in establishing resource adequacy standards for the Pacific Northwest.

The other three concerns that we feel encompass the sense of many of our more detailed comments are: the draft plan appears to downplay the risks of not acquiring and/or having available certain resources it identifies; in conservation, the "backstop" role the draft plan identifies for BPA and a need to emphasize a least-cost-utility approach to conservation acquisition; and the draft plan's call for Council oversight of BPA.

In the second section of our comments, we provide our specific comments, which are primarily technical, on each chapter of the draft plan. We have tried not to repeat ourselves here. For instance, our technical comments on Chapter 3, Conservation, do not reiterate our concerns about

BPA backstop role that the draft plan suggests, because these are covered in the overview issues. However, those comments are still assumed to apply.

I hope that these comments are helpful to you as you work to finalize the Council's Fifth Power Plan. This is truly an important effort to the region, and I look forward to working with the Council, the Council staff, and the region to make the plan a reality.

Sincerely,

Stephen J. Wright
Administrator and Chief Executive Officer

[redacted]

BPA Comments on the Council's draft Fifth Power Plan

Resource Adequacy and the Pacific Northwest's Energy Future

The Northwest Power and Conservation Council (Council's) draft Fifth Power Plan (draft plan) focuses on avoiding another energy crisis like the one that the Pacific Northwest survived in 2000-2001. Bonneville Power Administration (BPA) is fully in support of the Council's goal.

We feel very strongly that this is the time – when the region isn't in a crisis – to work out the tough agreements and create the institutional framework that will provide the assurance that needed infrastructure will be built. Circumstances can change quickly and in ways our modeling tools don't always predict. Already this past summer, California was again setting new peak demand records, well in excess of California Independent System Operator forecasts.

Industry restructuring has brought huge changes since the Northwest Power Act (Act) created the Council. The Act envisioned more of a "one utility" concept, with BPA taking on significant responsibility for regional load growth. Today, the region doesn't operate as one utility, and taking on responsibility for regional load growth has triggered a financial crisis from which BPA is still recovering. Today, in fact, the region is coming together around a proposal to limit BPA's role in providing for the region's load growth. If BPA is to take on a more limited power supply role, it can no longer be a "backstop" to provide insurance for inadequate utility resource planning.

The Council's Fifth Power Plan must operate effectively in the context of multiple decisionmakers acquiring resources, maintaining an inventory of ready-to-develop projects, and paying for cost-effective conservation. The way to do this is through resource adequacy standards. We also believe there is value in having the resource adequacy standards being tied to a regional resource development plan.

BPA has stated on a number of occasions that a resource adequacy standard is critically important to ensuring the region a reliable, economic, and adequate power system now that BPA is proposing to limit its power supply role. Such a standard will provide clarity to all the load serving entities in the Northwest regarding their load serving obligations.

BPA agrees with the analytical approach the draft plan proposes both for the physical and economic adequacy metrics. As we discuss in our detailed comments, we believe the draft plan should go further, to propose specific targets for both of these metrics and invite feedback from the region. Most important, the critical evaluation that is lacking is that of the institutional framework needed to translate the most likely action plan or one of the alternative plans into reality.

The Council is the ideal entity to champion an effort to establish the institutional framework for regional resource adequacy. BPA recognizes that resource adequacy initiatives are progressing at the national level through the North American Electric

Reliability Council (NERC) and at the Western Interconnection (WI) level through the Western Electricity Coordination Council (WECC). We should not defer a Northwest regional resource adequacy initiative, however, while we wait for the national and WI efforts to work their course. BPA strongly advocates that the Council continue its Power Supply Adequacy Forum concurrently with the NERC and WECC efforts in order to:

- Gain consensus on an appropriate resource adequacy metric and target for the Northwest;
- Identify a number of different mechanisms to implement such a metric and target;
- Evaluate various types of enforceable and voluntary resource adequacy mechanisms including the pros and cons associated with each mechanism;
- Propose a resource adequacy mechanism that offers the maximum probability for the region to be resource adequate, takes into account the significant and unique role that hydropower plays in the region's electric power supply, and thus ensures a reliable, economic and adequate power system for the Northwest – within the framework established by the NERC and WECC resource adequacy processes.

We understand that the Council does not have the jurisdictional authority to implement resource adequacy measures for the region and we are not advocating such a role for the Council. What the Council has done effectively in the past – in re-opening the Future of Bonneville discussion, for instance – is to encourage key regional entities to agree on a direction. We would like to see the Council similarly champion development of a workable resource adequacy institutional framework in the final Fifth Power Plan. The entities involved in the actual implementation of resource adequacy measures are likely to include both the public and investor-owned utilities, and the state public utility commissions. This is the time to take the specific steps that will ensure that adequate resources are developed in a timely manner for the Northwest.

Overview Issues

1. **The draft plan risk scenarios may need to be more robust.**

As the draft plan appropriately points out, the utility operating environment is more uncertain today than it was when the Council wrote its last plan five years ago. The Council's plan must be flexible enough to adapt to a wide range of outcomes and conservative in its baseline assumptions as they affect risk.

In this vein, we suggest some assumptions be modified and/or their uncertainty explicitly addressed. We suggest a number of sensitivity analyses to assess variables such as load changes, the inability to acquire the Council's conservation targets, water depletion changes (i.e., agriculture), and additional biological requirements. This could provide insightful judgments on the robustness of the draft plan.

Independent Power Producers (IPP): BPA's own assessment (in our 2003 Regional Loads and Resources Study) assumes that approximately 3,400-megawatt (MW) of IPP generation "are contracted or sold to regional entities to serve Pacific Northwest regional loads." However, the current regional IPP surpluses may overstate their potential availability during periods of price volatility. During times of utility shortages in both the Pacific Northwest and the Pacific Southwest, there will likely be a bidding war on this generation with corresponding price spikes. In these situations these resources would fail the Council's test of economic adequacy. Until these resources are committed contractually to serve regional loads, there is a high likelihood that the owners of these resources would be able to capture the price spikes seen in volatile energy markets.

The draft plan's assertion that IPP resources would be captive to the Pacific Northwest due to transmission constraints appears to be based upon the lack of availability of incremental transmission rights, rather than the physical limitation of interties being fully loaded. If this is the case, it does not represent a strong enough barrier to make these resources captive to the region. While the owners of the IPP resources may well face this barrier, the same would not apply to those who hold the existing long-term intertie rights. To the extent the prices outside the region exceed those in the PNW, the owners of these rights will have a strong incentive to acquire the IPP output and send them out of the region, forcing prices in the Pacific Northwest to rise.

Hydropower: BPA is concerned about the potential risk for declining hydro system generation. While we do not believe it is time to make changes to historical water assumptions, we are beginning to consider the potential for more low water years for risk assessment purposes. We would suggest using a string of poor water years (1930-1933 second lowest, 1938-1941 lowest, and 2000-2004 third lowest) to model this particular scenario. This approach in the risk analysis would provide a more robust 'worst case scenario' as compared to the draft plan modeling using the 60-year record of historical water.

The draft plan should also consider the effect of potential water withdrawals from the hydro system for municipal or irrigation purposes. The availability of existing resources will also be affected by Federal Energy Regulatory Commission hydro relicensing activities for both major and minor hydroelectric resources in the region. We list these and related considerations in our detailed comments on Chapter 5, attached.

Demand response: BPA is in support of the Council's proposed action for developing a demand response capability. Demand response can be an effective short-term tool to dampen high market prices. However, demand response itself is not a resource; it does not fall within the meaning of "resource" as defined in section 3(19) of the Northwest Power Act. Demand response is more properly considered a "reserve" function; it provides reliability to the system based on contract rights to interrupt, curtail, or otherwise withdraw the supply of electricity to end-use consumer load.

BPA's own Demand Exchange (DEMX) program gives a retail customer of a utility served by BPA the ability to curtail its load during system emergencies and volatile market condition. Similarly, BPA has initiated a Non-Wires Alternative project as a means to work with end-use consumers (through their local utility) to reduce their demand for electricity when transmission difficulties reduce the loading capacity for sections of the transmission system. These programs help to maintain system reliability by providing reserves to the system. These are short-term actions, however, and do not provide long-term load reduction in the manner that conservation provides as a resource.

The draft plan also is probably too optimistic about the demand response available in the residential sector. While more real-time pricing may be effective in the commercial and/or industrial sector for some end uses, most consumers don't spend enough of their income on electricity for real time pricing to be effective.

We discuss our comments on the Council's analysis of demand response in our detailed comments on Chapter 4 of the draft plan.

Risk analysis: The risk analysis, particularly the gas probability distribution, downplays important risks. For instance, the general scope and scale of the draft plan's conservation goals are aggressive, but the risk assessment for conservation does not appear to be commensurate with that for other resources in the plan. We would suggest the draft plan clearly discuss the likelihood of conservation over- or under-performance.

Similarly, the draft plan contemplates achieving a significant amount of wind energy. BPA supports cost-effective renewable resources, and we have several initiatives in place or underway to support wind. However, our ability to shape and firm wind output using the flexibility in the region's other resources and the FCRPS capability is limited. The draft plan appears to rely on wind without taking these limitations into account. Five thousand MW of wind in the region may be impossible to integrate without other firm capacity resources to ensure reliability. Overall, there is a real need to study the operational, environmental and reliability impact of large amounts of wind on the federal transmission and generation system.

Finally, the draft plan gives far too little credence to the low end of the gas price range. It assigns virtually no chance of gas prices returning to $3 – a level that was considered robust just a few years ago. Minimally, the Council should perform sensitivity analyses on how the plan would be affected by allowing for a significant chance that gas prices would return to levels slightly above past historic levels.

BPA's additional technical comments on the risk analysis are included in our detailed comments on Chapter 6.

2. **We are in general agreement that there are substantial amounts of cost-effective conservation in the region that should be developed. We do have concerns that the draft plan (1) suggests BPA serve as a backstop for regional conservation acquisition and (2) needs to put much more emphasis on finding the least utility cost means of achieving the cost-effective conservation potential.**

BPA believes that conservation should be a significant part of a least cost regional plan at any specified level of risk. We have made a strategic choice to develop our share of the region's cost-effective conservation based on the loads we serve. We intend to use the Council's plan to guide our targets for conservation savings for the agency to achieve. We are currently engaged in regional workshops to get a handle on the best approaches for BPA and its partners in accomplishing the regional conservation in the Council's five-year action plan. We look forward to working with Council staff to develop a strategic regional approach that will result in the lowest cost approach to achieving the regional targets.

In this light, we encourage the Council to help the region be clearer on the projected role for BPA leadership in achieving the region's conservation potential. The draft plan suggests that a lot of conservation acquisition responsibility be handled by individual utilities, yet cautions that BPA may need to "backstop" the savings. We do not view a "backstop" role for BPA as consistent with the Council's, and our own, views as to the future role of BPA in resource acquisition.

We should also be realistic about the current utility environment. Many utilities are already charging higher utility rates when compared to the historical average. The regional economy has not fully recovered. It is very important that the Council continue to emphasize that conservation is not only the least cost option for the region, but that conservation should be acquired at the lowest cost to the utility system.

There are several ways the Council can garner support from the region for its aggressive conservation goals, and we are confident the Council will continue to work toward this end. In this vein, it is very important that the Council completes its analysis and provides an estimate of the naturally occurring conservation that makes up a portion of the regionally available and achievable conservation. Accounting for the naturally occurring conservation may reduce the utility system targets in the five-year action plan.

3. **We are concerned about the draft plan's description of a Council oversight role of BPA.**

BPA is concerned with statements in the Council's chapter entitled "Implementation of the Council's Power Plan." This new chapter begins with the broad assertion that "all actions by Bonneville with respect to resources and resource acquisitions must be consistent with the plan unless the act specifically directs Bonneville otherwise." The Northwest Power Act actually states, "all actions of the Administrator *pursuant to section 6 of this Act* shall be consistent with the plan . . .." Section 4(d)(2); 16 U.S.C. § 839b(d)(2) (emphasis added). Section 6 of the Northwest Power Act deals with conservation and resource acquisition, not "all actions with respect to resources." The reason this distinction is important is because in this new implementation chapter, the Council clarifies its broad assertion by stating that it "intends to be vigorous in its oversight of Bonneville's actions" with a "regular and systematic review" which includes "associated issues of load service, contracts, rates, and other matter addressed in this power plan." BPA believes the Council has assumed authority in the draft Plan broader than that given by Congress.

The Council performs a valuable function in developing the power plan. BPA then uses it to guide the agency in the exercise of its acquisition authorities under section 6 of the Northwest Power Act. But the Act provides no basis, express or implied, to include as part of the Council's plan steps to "oversee" implementation of the plan by reviewing whether or not all BPA actions are consistent with the Power Plan.

We are very open to working with the Council on an informal basis in this area. We are currently in the process of enhancing our policies, practices, and procedures for financial transparency, and how and when to seek public input on discretionary decisions. We already release expense and revenue forecasts for the current year on a quarterly basis. Within the Regional Dialogue proposal, we are weighing approaches to using Customer and Constituent Collaboratives to enhance BPA's cost control. In addition, BPA is always open to briefing the Council on significant financial matters as they arise. BPA recommends that the Council either make changes to its draft plan that respond to the above comments or simply delete this proposed new chapter to the plan.

Finally, the emphasis on Council oversight of BPA is inconsistent given the Council's call for a significantly reduced BPA role in resource development.

Detailed Comments on Individual Sections of the Plan

Comments included in our overview issues that apply to the specific chapters, below, are assumed to apply and generally not repeated here.

Executive Summary and Action Plan

Page I-3 – "What Caused the Western Electricity Crisis?" – The draft plan identifies five of the main factors that contributed to the 2000-2001 Pacific Northwest electricity crisis: 1) poor hydro conditions; 2) faith in "the market"; 3) fear of retail competition and stranded costs; 4) uncertainty regarding the role of BPA; and 5) failure of planning. BPA notes that, without a strong regional approach to resource adequacy, the action plan will not address the first three factors, even if (or perhaps especially if) the responsibility for addressing these factors is shifted away from BPA to the region's utilities.

Page ES-13, Table ES-2 Resource Supply Curve, Row 27, The Goldendale CCCT went on-line in September 2004. Analysis should treat this plant as being completed.

Page ES-14, Table ES-2, footnote number 6 - The production tax credit for wind should be $15/MWh, not the $1.5/MWh that is listed.

Pages ES-13 and 14, Table ES-2 - additional detailed comments on the numbers in this table:

(1) Please define and distinguish between "aggregate utility system investment" and "utility costs". The former seems to include BPA, utilities, market transformation and regional coordination and acquisition activities. The latter term seems to exclude $40 million year, according to footnote 3.
(2) Footnote 3 should be revised to read "$1.4 to $1.9 million" instead of "$1.9 million".
(3) The $1.4 to $1.9 million/aMW numbers are different from the figures implied by page ES-18 in the Executive Summary. The Executive Summary states "total utility system investments of $1.2 to $1.35 billion" over the 5-year period, which translates into $1.7 to $1.9 million/aMW. The difference raises questions: Is the term "total utility system investment" the same as the term "aggregate utility system investment"?
(4) Footnote 3 in the Action Plan states "utility system costs" are $240 to $300 million per year. This sums to $1.2 to $1.5 billion for the 5-year period, which again differs from the numbers in the Executive Summary.
(5) Footnote 3's "utility system costs" of $240-$300 million/year also imply $1.7 to $2.1 million/aMW.

In conclusion, all these numbers seem inconsistent and contradictory. To the extent that there's a cost range, please explain the factors affecting that range.

ES-20 – Discusses the need to develop a policy framework for the development of resources. If BPA doesn't have the resource development responsibility, who should do this, and how does it get applied?

Page AP-2 - The conservation numbers don't add up correctly and are inconsistently used throughout the plan. Action CNSV-1 calls for 70 aMW per year of lost-opportunity conservation by the 12th year of the plan. On page AP-3, Action CNSV-2 calls for 120 aMW per year of discretionary (non-lost opportunity) conservation. Together, these two actions sum to 190 aMW per year of conservation (discretionary plus lost opportunities) by the 12th year. This amount greatly exceeds the overall goal of achieving an average of 140 aMW/year over the 20-year period. One possible fix for the inconsistency would be to revise Action CNSV-2 so that the 120-aMW target for discretionary conservation declines by 5 aMW/year beginning with the 6th year until it reaches 70 aMW in the 12th year. Then from the 12th year forward, discretionary and lost-opportunity acquisitions would each be 70 aMW/year, summing to 140 aMW/year and aligned with the 20-year target of 2,800 aMW.

Page AP-4 - The Plan needs comparative numbers to gauge the reasonableness of the Plan's goals. Action CNSV-4 mentions that BPA and utilities invested over $200 million in 2002. Please state how much conservation savings this achieved. BPA would suggest that the numbers for 2001-2003 be presented in a table. In the table, please include the expenditures and acquisitions by the Alliance and SBC administrators for the years 2001-2003, provide a total column for the years 2001-2003, followed by three columns for the years 2007, 2012, and 2017 that outline the projected annual dollar amounts of the Council's goals along with the aMW/year targets for those years. This table would put the Plan's targets in perspective.

Page AP-4, Action CNSV-4 – The draft plan calls for an aggregate utility system annual investment of between $200 and $260 million to acquire 700 aMW over the next five years. This implies a cost ranging from $1.4 to $1.9 million per aMW. This could be interpreted as setting individual utility conservation budget targets/costs to be expended to achieve a utility's share of the plan. While we appreciate any intent to be helpful in gauging the comparative magnitude of the effort, we are concerned that the Council's role does not extend to telling entities how much they should pay/budget for resources, whether they are conservation, gas, or coal.

Page AP-4, Action CNSV-5 states, "the Council's conservation analysis indicates there are additional candidates for new or expanded market transformation ventures." Please provide greater detail about these additional market transformation opportunities.

Page AP-5, Action CNSV-7 states "The options to be considered include using BPA, expanding the mission and budget of the Alliance, creating another mechanism to target actions best administered regionally…" Starting up a new organization or greatly expanding the mission and infrastructure of an existing organization, like the Alliance, would add conservation costs to the region, while requiring a start-up time of several years to achieve full capability. BPA is proud of its tradition of providing leadership in conservation and coordinating conservation programs in the region for the last 25 years. BPA looks forward to working with the Council and Council staff to ensure that coordination efforts achieve the Plan's objectives.

Page AP-6, Action CNSV-8 calls for the establishment of a mechanism and funding for reporting and tracking conservation. How much are the annual expenditures for the purpose of providing this reporting and tracking? Has the cost of this funding been included in the Total Resource Cost or is it considered part of the 20 percent administrative cost generally assumed for conservation?

Page AP-7 - BPA would suggest adding an additional action item, Action CNSV-15, which would address conservation infrastructure efforts, e.g., education, outreach, etc.

Page AP-9, Action Gen-6 - BPA would suggest the following changes: the maximum nameplate output for net-metered projects should be increased in reasonable steps to 500kw by 2007, and to 2.0 MW by 2011. In addition, net metering eligibility for projects up to 100KW should be extended to all retail customers in the region by 2007.

AP-11 - It appears that the Council intended these pilot projects to be part of a regional RD&D effort – more than simply independently operated commercial pilot projects. If this is the case, the Council should stress the need for collaboration and information sharing. These will be essential in order to fully develop the region's wind potential.

Page AP-11, Action Gen-9 - BPA would recommend that regional entities exchange information regarding their costs associated with integrating renewables and wind so that the region can benefit from the best mix of service providers.

Page AP-11, Action Gen-9 - Firming and shaping services need to be identified and separated into two categories. First, regional transmission providers need to coordinate development of ancillary service products and services that do not penalize renewables and wind generators. These services provide the within-hour firming necessary to establish and maintain a transmission schedule. Second, regional power providers need to coordinate development of storage and shaping products that allow wind and renewable projects to effectively store and shape their hourly output schedules into more marketable and valuable blocks. Regional coordination and standardization will ultimately be imperative under any new regional transmission entity, and it will give developers and operators of renewable projects the ability to minimize plant integration and transmission costs. Standardization will require coordination between state regulators, federal agencies and regional transmission managers.

Page AP-12, Action TX-1 - Transmission planning needs to specifically address the needs of renewable and wind resource development. This action should extend to examining preferred locations for renewable development. Renewable resource sites should be rank ordered, with sites with the best combination of output and proximity to transmission receiving higher rankings. (We note that there is not much available transmission anywhere that is currently of interest.)

Page AP-14, Action Gen-15 - Storage systems should be evaluated based on their distribution voltage capabilities for demand and energy charge reductions, as well as transmission voltage applications, based on ancillary service tariffs. The application of

storage technology should be evaluated with regard to round-trip efficiency and the impact on system reliability.

Page AP-14, Demonstration of Renewable and High Efficiency Generation with Northwest Potential - Please include wave energy generation in the list of possible demonstration projects. Several utilities and state entities, along with EPRI, have begun feasibility studies for several demonstration projects within the region.

Page AP-18, Action BPA-3 - specifies acquisition mechanisms (C&RD). We believe the plan should limit itself to indicating the measures/resources to be acquired, and allow BPA and the utilities to determine how best to acquire them.

Page AP-20 – The draft plan states that resource acquisitions are to be consistent with the Council's power plan and that it is the responsibility of the Council to "ensure" that they are. The Council appears to have certain objectives, which fall outside the scope of the Council's authority. Given the Council's statutory role, BPA is concerned that the proposed draft power plan includes statements and actions that seek to enlarge the Council's role vis-à-vis BPA. While the Council may have authority to review the Administrator's resource acquisition actions to determine whether such actions are consistent with the plan, and the extent to which the plan is being implemented, the Council is neither obligated nor authorized to "ensure" that those actions are consistent.

Comments on Chapter 1 – Introduction to the Fifth Power Plan

BPA has no specific comments on this chapter.

Comments on Chapter 2 - Current Status and Future Assumptions

PGE broke ground in October 2004 on the 400MW Port Westward project. It is scheduled for completion in 2007. This project should be included in the load/resource balance analysis.

Congress has passed a biomass tax credit that was not factored into the draft plan.

Comments on Chapter 3 – Conservation Resources

Pages 3-40 and 3-41 - Conservation targets may require further analysis before the region can commit to specific measures and targets. Specific measures that are not included or may have been uncharacteristically conservative include utility system upgrades, CVR, indirect evaporative cooling and industrial conservation in general. On the other hand, several proposed measures have little empirical bases for projections of high levels of achievable conservation, including low-pressure ventilation, rooftop HVAC tune-ups, and hot water heat pumps. The combination of some overstated and some understated savings may not change the overall 20- or even 5-year targets from the perspective of the least risk – least cost plan. However, better analysis could prevent the misapplication of

resources in the near-term to the detriment of cost-effectiveness, cost-efficiency, and attainment of the targets.

Page 3-35 - California standards for reach-in refrigerators and freezers have been found to be outdated as a baseline according to the RTF.

Comments on Chapter 4 – Demand Response

BPA's own experience has shown that if the contractual structures are properly designed, demand response can be counted on. The draft plan's target of 2,000 MW of demand response capability by 2020 is very ambitious. Given the lack of established infrastructure, a ramp-up to the Council's target would be extremely challenging. If BPA serves 40% of the regional load in 2020, our share of the demand response target would be approximately 800 aMW. At the wholesale level of our load following customers, BPA currently has approximately 100 to 200 MW of potential long-term buy downs. Without the aluminum smelter loads and the desire of local utilities to minimize the impacts on rural economies, we do not expect substantially greater quantities of buy downs to be available in the short-term. Over the longer term, the region would need to be successful in developing infrastructures to support demand response programs.

Tiered wholesale rates and open access markets can provide the stimulus for retail price signals that could change the level/sensitivity of demand to changes in electricity prices. The draft plan should address the impact of these fundamental structural issues.

In general, a more complete discussion of the benefits of demand response for all parties will enhance the chance for its acceptance. In addition to stabilizing the price of power at the wholesale level, demand response programs provide a benefit to local utilities in minimizing BPA demand charges and in reducing line losses in times of system stress, thus deferring the need to make expensive distribution system upgrades.

Page 4-1 - states that a major reason behind the lack of demand response to changes in wholesale prices is the lag time between wholesale price changes and changes in the retail rates utilities charge consumers. This discussion appears to be more geared towards private utilities and the difficulty in getting rates changed through their public utility commissions. BPA's public utility customers and their local boards, on the other hand, have been adjusting their rates over the last several years in response to BPA's wholesale rate adjustments through the cost recovery adjustment mechanisms. The data on how consumption may have been affected by publics reflecting such price changes in their rates is probably very difficult to come by.

Page 4-7 - states that a payment up to the avoided cost could be made to reduce demand and also reduce system cost. There will be no reduction in system cost if the payments equals avoided cost.

Page 4-9 - The discussion of affecting demand response through reflecting fluctuations in wholesale prices in retail rates should also consider the range of other options that could

be adopted through commission approval. Automatic adjustment mechanisms would adjust retail rates for fluctuations in wholesale electric prices, wholesale gas prices, weather, and similar factors that can be objectively quantified – with no infrastructure investment required. These simpler actions may provide a basis for getting additional load control programs accepted, with a hope for greater demand reduction in the future.

Such a system of adjustments would have some degree of lag in them. However, they would be established in a rate proceeding and once established, they could then be implemented without further commission action. These kinds of tools can take many different forms. They are adjustments to the "base-line" assumptions that made up the "base rates." These automatic adjustments could be employed with a "dead-band range" where the change in assumptions was not significant to warrant a change in rates. While the issue of revenue over- or under-collection would have to be addressed, these tools could actually decrease the potential for over or under collection by allowing retail rates to respond to changes in wholesale costs that the utility experiences.

- Research done for BPA in 2001 indicated that much of what could be accomplished through expensive time of day pricing could be accomplished by seasonal pricing. All utility sectors (residential, commercial, and industrial) will be able to respond to a price signal that affects all retail rates.

- The Council's focus on real time pricing in the residential sector may not be realistic. Electricity prices do not make up a large enough share of residential household spending to provide for a downward adjustment in demand. Equipment investments (time-of-day metering and the related infrastructure) would not be cost effective. (One exception to this may be the very short-run reaction to a spike in rates.) In addition, it appears that many consumers expect their utility to help smooth out real time price fluctuations – especially when markets are as volatile as they have been in the recent past.

Comments on Chapter 5 – Generating Resources

BPA suggests that the draft plan consider changes in the availability of existing Pacific Northwest resources, including:

- The region is facing the re-licensing of a number of major and minor hydroelectric resources. A good example is the re-licensing of Grant PUD's Priest Rapids and Wanapum dams. In essence, FERC has directed Grant PUD to sell 30 percent of these resources in an auction that is not restricted to PNW utilities, meaning that 180aMW of firm energy and 54aMW of non-firm energy that is currently serving regional load could be lost from the region.
- A number of hydro resources are being decommissioned because the cost of meeting fish and wildlife requirements make the resources uneconomic.
- BPA, together with the Corps and Bureau, have instituted a significant program to upgrade the reliability of the FBS hydro resources so that the resources are operational for a greater amount of time during the year. Other utilities could also be spending money to improve the reliability of the resources that they own.

- The Centralia Coal plant has been purchased by Trans-Alta and is no longer dedicated to serve the load of a number of public and private utilities in the PNW.

Also consider potential changes to the capability of FCRPS as a result of irrigation-related initiatives, including:

- Washington State's Columbia River Initiative
- USBR's Yakima Basin Water Storage Feasibility Study (particularly the Black Rock Proposal)
- The NRDC paper (Energy Down the Drain), which proposes to have plans in place for dry years to pay farmers to leave land fallow and leave water in the river.

Wind energy:

- We commend the Council staff for a very through analysis of the underlying costs of wind generation.
- We urge the Council to ensure that the analysis in the plan considers reliability issues and the total cost of integrating large amounts of wind power.
- Page 5-19 - The draft plan assumes that 2,500 MW of wind can be shaped for $4 per MWh with a second block of 2500 MW shaped at $8 per MWh. BPA is concerned that the $8/MWh shaping and storage assumption used in the Council's long-term forecast could be too low. BPA used 1,000 MW to calculate the cost of our shaping and storage product. Our product price ranges from $4-$6 per MWh. As wind is built, and regional loads grow, capacity will become more expensive and system use factors will increase. It is highly likely that non-BPA entities will charge more for this service than the $4-$8/MWh assumed in the draft plan. This will increase the opportunity cost of providing storage and shaping for wind resources. (The wind is on the east; load is west.) If, during the next 5 years, new information becomes available or if the policy changes (if Slice is expanded, for example) the Council should consider revaluating the long-term forecast's $8/MWh storage and shaping charge.
- Are the draft plan's recommended 50-100MW/year of diversely located wind projects beginning in 2005 incremental to those projects currently planned by the IOUs and IPPs? (PPM is looking at 200MW-plus in the region by the end of CY2005.)
- BPA encourages the Council to recommend that developers/owners share real time wind and generation data with an independent research entity (to protect confidentiality) that could impartially aggregate and disseminate the information as a regional research effort. Data from new commercial scale projects, combined with data from existing facilities studied, will give the region valuable insights into the development potential in the NW, next hour and within hour variability, and the effect of locational diversity on dampening swings associated with wind resources.
- It has been BPA's experience that bids above $4.50/MWh for new wind tags are rare, regardless of the vintage. We agree with ramping down the value of tags over time, as other regulatory mechanisms take over for the unregulated tag

market. In the absence of state Renewable Portfolio Standards, it's likely that unbundled tags in the WECC will remain depressed.

Biomass:

- BPA was encouraged by the opportunities that the Council saw for biomass resources.

Transmission:

- We understand the Council's need to pick one transmission cost value, and we agree that $15/kWm is appropriate. However, the draft plan should recognize that additional transmission costs might be placed on generation. (In many cases two or three transmission wheels may be necessary to bring energy to load rather than the one wheel contemplated in the draft plan.)
- BPA recognizes the difficulty in designating preferred resources in a regional power plan when transmission is not planned using the same considerations. The current business model of first come, first served and developer financing of transmission upgrades makes integrated least cost planning near impossible.

Comments on Chapter 6 – Risk Assessment and Management

BPA is concerned about how the region will finance the conservation contemplated in the draft plan. The draft plan needs to take into account BPA's and the region's concern about existing high utility rates and the potential effect on BPA's risk profile. In addition, the Council should be aware that:

- Depending on BPA's access to capital, BPA may need to revenue finance a significant portion of conservation investments due to constraints on its Treasury borrowing authority. Third party borrowing opportunities will depend largely on BPA's utility customers willingness to issue debt, whose debt service would be paid by BPA (FASB 71 – Regulated Assets). Other non-utility third parties would normally require a loan backed by a physical asset. The interest costs associated with non-public (state, county, city and utility districts) issued debt could be higher than Treasury borrowing. This would increase total conservation resource costs.
- If BPA is to finance additional transmission construction to support the amount of wind called for in the draft plan, the cost will increase BPA's need to borrow from the Treasury and/or third parties, as well as BPA's fixed costs.

The fact that many Appendices were not available for review did not allow for an adequate assessment of the draft plan's ability to accommodate a wide range of operating futures.

Comments on Chapter 7 – Portfolio Analysis & Recommended Plan

The draft plan needs to be more explicit on the assumptions used on how the system would be run during a dry year. BPA, the Corps, and the Bureau have adopted a "Dry

Year Strategy." The draft plan should assume that the Dry Year Strategy would be followed.

Page 7-22 - A 2000 MW DC intertie to the oil sands of Alberta is not likely and should not be assumed in a cost comparison of resource plans for the Pacific Northwest.

Page 7-4 - The next-to-last paragraph states "30 average megawatts per quarter" for conservation. This number translates into 120 aMW/year; 600 aMW over 5 years; 2,460 aMW over 20 years. These numbers are in error. The correct number is 35 aMW/quarter, translating into figures used elsewhere throughout the Plan (140 aMW/year; 700 aMW over 5 years; 2,800 aMW over 20 years).

Comments on Chapter 8 – Resource Adequacy

BPA believes the draft plan should propose specific targets for both physical and economic adequacy metrics and invite feedback from the region. For example, in the Northwest Resource Adequacy Metric Workgroup, which was established as an outgrowth of the Council's Power Supply Adequacy Forum, BPA and Council staff performed analyses, which indicated that a reasonable physical adequacy target is an annual energy load/resource balance with adverse hydro defined as the amount of hydrogeneration that is exceeded 85% of the time. A similar analysis should be performed to define a proposed economic adequacy target.

The draft plan's inclusion of the economic adequacy concept in assessing the reliability of individual resources and the combined portfolio of resources identified in the draft plan is an important contribution in discussing the issue of resource adequacy.

Page 8-5 - It would be helpful to reference the problems of aging power plants and the renewable portfolio standards that are outlined in two California draft white papers issued by the California Energy Commission, "Resource, Reliability and Environmental Concerns of Aging Power Plant Operations and Retirements" and "Accelerated Renewable Energy Development". The first paper states that the biggest concern with the supply of aging power plants are those without Ready-Must-Run contracts [that receive capacity payments] or those that are not rate based which represent approximately 50 percent of the 18,000 MW of older steam generation. The second paper indicates that a Renewable Energy Standard of 20 percent would add 3,400 megawatts of renewable generation to the state of California depending on when the standard became mandated.

Comment on Chapter 9 – Transmission

Council members and staff provided BPA staff and managers an informative briefing on the draft plan on October 5, 2004. That briefing made it clear that the draft plan primarily evaluates potential new Northwest resources based on the existing transmission system. Although BPA recognizes the difficulty of integrated transmission and resource planning, BPA nevertheless believes that the Region is best served by an integrated analysis. BPA suggests that Council staff work with the Seams Steering Group-Western

Interconnection (SSG-WI) Planning Work Group and the Northwest Transmission Assessment Committee (NTAC) on an iterative effort to develop an optimum generation and transmission plan scenario for the Northwest.

At the Council's Power Four meeting on November 16, 2004, it appeared that the Council might wish to include a new transmission planning initiative in the Fifth Power Plan, given its status as an "independent entity." BPA believes the Council should not establish duplicative forums for transmission planning or for developing transmission adequacy standards; rather, BPA encourages the Council to actively participate in the existing processes.

However, the Council may wish to evaluate options for better integrating resource and transmission adequacy planning as an element of its forum on regional resource adequacy, if it accepts this leadership role.

Comments on Chapter 10 – Power Planning and Fish and Wildlife Program Development

We believe the draft plan should more directly address the need for better integration of power and fish needs. The ESA does not address economic consequences of actions taken to recover endangered species. On the other hand, the Power Act does obligate the Council and BPA to assure the region of an "adequate, efficient, economical and reliable power supply."

We suggest this could be facilitated by doing the following:

- Provide broader guidance from policymakers for regional biologists and power operations planners regarding the application of economic data to operational measures. This could help to relieve some of the frustration they face with how to weigh biological data, power data, and economic data. Identifying and resolving key policy questions or defining appropriate sideboards could facilitate smoother consideration and application of various data in pre-season planning as well as in-season operations management.

- Work toward better integration of the power planning function with discussion and resolution of issues confronting the Columbia Basin Fish and Wildlife Program.

- Develop a structured and principled RM&E agenda. The draft plan should reconsider and more fully elaborate the means by which research and monitoring results and analysis are incorporated into operational decision-making in a consistent and timely fashion. This should also be helpful in integrating actions required under the ESA so that they are consistent with the Council's Program.

We generally agree with the Council's premise that operational "measures that are most costly and have large uncertainties surrounding their biological benefits would make the

best candidates for research money." (p. 10-5). However, this premise needs to be considered in the broader context of biological objectives and priorities. As an example, in the case of summer spill operations, the region first needs to determine biological objectives (e.g., recovery goals, escapement targets, etc.) and priorities for achieving those objectives, including operational measures, then determine the appropriate evaluation plan.

We endorse the Council's emphasis on the need to address longer-term planning by breaking away from the more narrow considerations of near-term in-season management issues and disputes. We believe clearer policy guidance and greater clarity of biological objectives as a basis for management decisions is needed to improve the Regional Forum. In addition, the Forum must improve the integration of research and monitoring results into its decision-making processes.

Comments on Chapter 11 – The Future Role of the Bonneville Power Administration in Power Supply

In May 2004 the Council issued its final recommendations on the "Future Role of the Bonneville Power Administration in Regional Power Supply." The recommendations made in that document compared to what is now in the draft plan have not changed. In a letter dated June 4, 2004, from Paul Norman to the Council, BPA thanked the Council for its recommendations on the future role of BPA and indicated BPA looks forward to the Council's continued involvement in engaging the region in both the long and short-term Regional Dialogue issues.

Page 11-6 – Under the section – Fulfilling Responsibilities for Conservation and Renewables, BPA disagrees with the concept of BPA serving as a "backstop" for the underachievement of savings in public utility service territories.

Comments on Chapter 12 – Implementation of the Council's Power Plan

The plan references section 6(b)(1) of the Act as the basis for the statement that all actions by BPA "with respect to resources and resource acquisitions must be consistent with the plan . . .." Section 6(b)(1) provides that all actions of the Administrator taken under section 6 are to be consistent with the plan *as determined by the Administrator*. 16 U.S.C. § 839d(b)(1). Congress did not grant the Council, through the power plan, oversight authority over BPA. The authority granted to the Council under section 4(i) to review BPA actions is couched in terms of discretion, "the Council *may* from time to time" review BPA actions. It is not a direction by Congress that the Council conduct "regular and systematic review as to whether BPA is acting consistent with plan," as the draft plan states at 12-4. Rather, section 4(i) provides the Council a means to see if the plan is being carried out. While the section allows the Council to review BPA's actions to determine consistency and the extent to which the plan is being implemented, it does not provide the Council a basis to carry out "vigorous" oversight of BPA action. Such proposed action by the Council oversteps its authority. Congress retained oversight over

BPA, particularly BPA's use of its acquisition authority. *See* H. Rept. No 96-976, Part I, 96th Cong., 2d Sess., (May 15, 1980) at 38.

The draft plan at 12-3 identifies certain BPA power market and rate setting activities the Council would like to review. The Act does not grant the Council authority to engage in planning and/or review of BPA rates, contracts, or power marketing activities. BPA's federal power marketing function is not shared with the Council. It is an improper exercise of the Council's authority to use the power plan to include matters not properly within the scope of its authority to review, in particular BPA's power sales contracts, wholesale rates, and short-term power marketing activities.

Appendix A - Demand Forecast

BPA finds the Council's Non-DSI forecast to be reasonable and supportable.
A comparison of the Council's forecast with BPA's 2003 White Book shows that the difference over the 10 years of the study is -2.3 percent. This difference is considered minor and is mainly due to variations in modeling methods and the vintage of the data used in the two forecasts.

The Council's forecast of regional aluminum loads falling between 0 to 1,500 MW, with a medium case of 958 MW, is a reasonable forecast. PNW aluminum industry recovery to 1,500 MW may be a reasonable load level to forecast at some time during the next 10 years. However, one should probably use caution forecasting significant increases or amounts of PNW smelter loads without a high likelihood of either a long-term reasonably priced power supply or more robust aluminum prices. For PNW smelter load levels to recover to 1,500 MW, US and world economies would need to recover such that aluminum consumption increased; aluminum prices would need to increase to levels that would allow less efficient PNW smelters to operate economically; and power costs in the PNW would need to drop low enough to provide an economic power supply to these less efficient smelters.

Appendix B – Fuel Price Forecasts

The Council, like BPA, expects gas prices to decline over the planning period. Since, however, they could go either way, the Council should run an adequate number of scenarios using both higher and lower gas prices to test the ability of the draft plan to adapt to both outcomes. There are a number of credible arguments for gas prices increasing:

- While natural gas futures contracts are backward dated, this does not mean that actual realized cash prices for delivery will decline.
- Supplies within the United States continue to be short and the productivity of new wells is less than former wells.

- New wells are being drilled in areas that are more expensive (deep water wells) to drill. The cost of drilling equipment and supplies is more expensive than in the past.
- LNG supply is limited by available tanker capacity and by a lack of infrastructure to process the liquid gas and deliver it into the nation's distribution system. There is a current shortage of world spot supply due to existing long-term supply contracts with Asian and European countries.
- The Council's models do not adequately reflect the seasonality of gas prices in high demand periods (primarily December-February and August) regardless of the average prices for the year.

Appendix C – Wholesale Electricity Price Forecast

BPA understands the Projected Wholesale Electric Price forecast has not yet been updated to include a significant update in natural gas price input. BPA will provide detailed comments on the Electric Price Forecast when this important input has been incorporated in the Electric Price forecast. BPA has reviewed a summary of the updated natural gas price forecast from August 2004. In general, the Council's natural gas price forecast follows the same overall trend as BPA's medium forecast. The pattern of both BPA's and the Council's natural gas price forecast has gas prices declining until about 2010. After 2010, gas prices are forecast to increase by about 2 percent to 3 percent per year. The prices forecast by the Council are from $0.50 to $0.60 per MMBtu higher than BPA's medium forecast for 2005 to 2015. BPA believes this is in the reasonable range of forecast error.

Appendix D – Conservation Acquisition Strategies

Page 6-7 - The draft plan should explicitly state the substantial amount of naturally occurring conservation included in the targets. Awareness of the amount of naturally occurring conservation available could focus attention on the difficulty of achieving a particular conservation measure and redirect efforts to more fruitful measures, while also reducing utility expenditures. The Council has freely estimated other parameters throughout the draft plan, and it should be capable of providing this information.

Appendices E through M were not available in time to review