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Submitted via: <http://www.nwcouncil.org/energy/powerplan/6/comment.asp>

Northwest Requirement Utilities (NRU) offers the following comments on the Northwest Power and Conservation Council's (Council) Draft of the 6th Power Plan (Draft Plan). NRU is a trade association representing the interests of 51 of BPA's load following customers. NRU's members currently rely almost totally upon the Bonneville Power Administration (BPA) for power supply and transmission services. In addition, NRU's membership makes use of BPA's conservation programs to meet the region's energy efficiency objectives. In Fiscal Year (FY) 2012 these utilities will be moving into a new era under the Regional Dialogue contracts. In the future, BPA will provide service for load growth beyond FY 2010 at the cost of that service. Utilities will also be able to provide for their own load growth service. Our interests are in maintaining the existing low cost and non-carbon emitting federal power supply base, developing incremental power supply options that meet our load growth needs and ensuring that the transmission system will meet our needs for getting power to load. We are also very interested in the availability of energy efficiency programs that will work for utilities that are smaller, rural, and have largely residential customer bases. NRU staff participated in the development of the PPC comments and NRU supports those comments.

In general the Draft Plan is a well thought out guidepost towards a workable energy future. Key elements of the Draft Plan that we believe are essential and must be retained in the final Plan include:

- The recognition of the high value of the existing Federal power system, especially in a time of growing concern about climate change.
- The recognition of energy efficiency as the first resource of choice, although as we describe in our comments, utilities such as those represented by NRU face challenges as they work to implement energy efficiency programs in their service territories.
- The willingness to consider a wide array of resources to meet future power supply needs.
- Fostering demand response and smart grid initiatives.
- Providing for a flexible menu among an array of generating resources and conservation measures for utilities to meet their load growth needs.

While we are in accord with the overall thrust of the Draft Plan, there are areas of concern that we hope to see addressed in the final Plan. These include:

- Though we appreciate the recognition of the challenges of meeting conservation goals for smaller and rural utilities, it is important that the Council's goals for energy efficiency be based on realistic assumptions regarding product readiness and deployment.
- We believe that the cost of electric power under the scenarios described in the Draft Plan may be understated. We have not had the opportunity to fully review these costs, but our expectation is that moving away from the resources that have provided service to existing load to resources that will serve load growth with renewable resources will be expensive. It is important that electric power consumers be aware of the cost of the decisions and policies that are being made. Simply assessing these costs over all of the region's rate-payers dilutes the costs of measures such as coal plant removal, dam breaching and carbon regulation. We also ask the Council to use caution when including estimates of future carbon costs in its models, given the substantial uncertainty related to both pricing and timing of implementation.
- The cost of fish and wildlife enhancement programs, including increased flows for fish, is understated. The replacement cost of resources for lost generation is not the embedded cost of the power system.
- We are concerned that the implications of the heavy reliance on wind generation in this Draft Plan have not been fully analyzed and discussed.
- While the Council appropriately places high value on the existing hydroelectric system, more emphasis should be placed on developing new hydro and pumped storage, and enhancing output from existing hydroelectric facilities.
- We oppose any DSI service that imposes costs on BPA's other customers.

Conservation

NRU's members value conservation as the least cost, least risk resource and they strive to achieve all cost-effective conservation in their service territories. NRU's members place an emphasis on acquiring conservation savings to minimize their above high water mark load exposure, to comply with state mandates, and to meet consumers' desire for energy efficiency. In general, we acknowledge the work Council staff puts into developing conservation supply curves and analyzing conservation savings potential. However, we are concerned about the assumptions that went into developing the conservation target and the magnitude of the target.

Conservation Target

We appreciate the Council's recognition of the inherent uncertainty that is involved with estimating conservation potential in the future. This is both described in the Plan and portrayed by establishing a range of targets rather than one specific target for the first five years. However, we are concerned that the lower bound of the range does not adequately account for all the uncertainties the region faces. Many of the measures included in the Council's conservation target range are relatively new technologies. This

means there are many unknown factors regarding product availability and distribution, consumer willingness to adopt new measures and the ramp rates for those measures. Further, BPA and its utility customers need to develop programs to deploy these new measures. Compounding these factors is the current recession and uncertainty about the speed at which the regional economy will recover. Public power and BPA conservation staffs have invested many hours in analyzing Council staff's assumptions and ramp rates, and identifying program readiness to deploy new measures. Their analysis shows that with aggressive conservation, 1,000 aMW is a realistic level of conservation savings in the first five years. See the appendix to PPC's comments for a summary of our analysis. Consequently, we urge the Council to adopt a conservation savings target range from 1,000 aMW to 1,400 aMW, as opposed to the range of 1,100 aMW to 1,400 aMW currently included in the draft Plan.

Action Plan

Through our participation in the Conservation Resource Advisory Committee, we raised a number of concerns, several of which we are pleased to see addressed specifically in the Action Plan. We particularly commend the Council for including the following items in the Action Plan. In recognizing the unique circumstances and special barriers faced by smaller and/or rural utilities in achieving conservation and the implementation of conservation programs, CONS-17 helps address some of the challenges facing NRU members. By allowing savings from CFLs to count toward the conservation target until the federal standards take effect in 2012, CONS-14 recognizes the lack of saturation of CFLs in certain areas and the need to transition from primarily CFL programs to other conservation measures. In further recognition of the uncertainty facing the region and with such a large number of relatively new measures, CONS-16 calls for a biennial assessment of progress towards meeting the conservation range and allows for potential modification of the range.

BPA Conservation Program

As the Council knows, BPA, its public power customers and stakeholders are currently engaged in a collaborative process to determine the design of BPA's conservation program in the tiered rates world. Therefore, it seems premature for the Council to discuss how BPA should fund conservation (Action Item BPA-2, sub-bullet (a) states "The Council supports Bonneville's regional dialogue policy to fund conservation primarily as a Tier 1 obligation of the Federal Base System"). We ask that the Plan remain silent on how BPA conservation is funded, and instead direct BPA to continue working with its customers and stakeholders to develop a program and funding mechanism that works in the tiered rates world.

Rate Implications are Misstated

In Appendix P, the Council attempts to calculate the effect on retail rates of the choices described in the Draft Plan. This attempt at rate impact comparison should be removed from the Final Plan. What this approach does is to take a regional revenue requirement (the summed revenue requirement of all of the utilities in the region), and then calculates the estimated change in retail rates and residential rates that would follow from carrying out each scenario (carbon taxes, retiring coal plants, dam removal, high conservation, low conservation, etc.). The Council notes that this analysis is a gross simplification of the rate setting process but goes on to say that the "rates should, however be valid for comparison across scenarios." We disagree that this is a valid comparison across scenarios. For example, the removal of

coal plants and dams will affect certain utilities far more than other utilities. Also, carbon taxes will affect those utilities with a higher carbon profile much more significantly than those utilities with a lower carbon profile. To say, for example, that one scenario leads to rates that are one mill per kWh higher than another across the region may miss the point that one part of the region or group of ratepayers will see higher rates relative to others.

We are also concerned that by spreading these costs over the entire region the rate impacts of these choices are minimized. This gives a false impression of the rate impacts of these choices. For example the Council finds that as result of lower Snake River dam removal the “[a]nnual cost of the power system increases in 2020 by about \$550 million dollars and remains higher.” Page 9-19. This is a power system impact that is levied on the BPA ratepayer. By spreading this over all residential ratepayers, the rate impact of this choice is significantly diluted.

Cost of Carbon Policies

We ask the Council to use caution when including estimates of future carbon costs in its models. There are substantial unknowns related to future carbon regulation, including type of regulation, financial impact and when the regulation will take effect. It is possible that carbon regulation and costs may not even occur until the 7th Power Plan is drafted. Including relatively high costs that may or may not transpire skews the models and analyses across the Draft Plan. At the very least the Final Plan should include a sensitivity analysis of how likely a carbon regulated world will occur in the next five years.

Fish and Wildlife Costs are Understated

Attachment M of the Draft Plan is an attempt to explain the interaction between the Fish and Wildlife program and the power system. There it is stated that “the cost of fish and wildlife operations to the power system can be approximated. Using a long-term amortized replacement resource cost, the fish and wildlife program cost to the power system is on the order of \$300 million per year.” Page M-2. If we accept that “[o]n average, hydroelectric generation is reduced by about 1,170 average megawatts, relative to an operation without any constraints for fish and wildlife” and accepting the value of \$300 million cited above, then this would mean that the long term amortized replacement cost to the power system is 29.3 mills per kWh, which is equivalent to the priority firm rate. However, this method of calculating replacement cost is incorrect. It bases replacement cost on the embedded cost of the existing FCRPS. Most of these assets were built and financed decades ago. In financial terms, “replacement cost” has a specific meaning. Replacement cost is defined as the amount it would cost to replace an asset at current prices before the consideration of the effect of depreciation. The value of the forgone output of the system is one that needs to be examined on the margin since the output of the system that is surplus to the firm power needs of BPA’s customer base is sold at market prices. A more accurate way to do this would be to look at BPA’s recent analysis of pricing for its Tier 2 load growth rate which will provide for load growth service over the long term. BPA has provided indicative pricing for this product of 64 mills per kWh. Using this value, the cost of providing 1,170 aMW of power (the amount lost due to fish and wildlife programs) would be about \$656 million per year.

Generating Resources

The Plan provides a fairly robust analysis and discussion of generating resources.

Diversification of Generating Resource Types

We believe it is essential, as the Draft Plan states, for the region to “not concentrate on any one potential future solution to its power supply, [but instead] diversify its exploration of potential sources of future energy generation and conservation.” Page 2. The Draft Plan supports this goal in a number of ways.

First, a long list of potential resources is included, ranging from maturing renewable technologies to advanced nuclear generation to demand response and smart grid application. Given the many unknowns related to technology advancement, costs and complexities associated with building new transmission, the challenges associated with integrating intermittent resources and carbon regulation and pricing, it is prudent to consider all types of resources, as the Draft Plan does.

Second, the Draft Plan calls for the cost-effective development of small-scale, dispersed renewable generation alternatives that are local and site specific. We agree that smaller, local resources should be developed where available, given their benefits in local areas where transmission capacity is limited, positive impacts on the local economy, and general usefulness of layering in resources as loads grow.

Third, the Draft Plan articulates that while the region as a whole is unlikely to need new generation beyond that required for renewable portfolio standards, individual utilities may need additional generation and/or capacity additions. This is an appropriate and useful clarification.

Fourth, the Draft Plan provides an informative discussion of smart grid and demand response technologies and their potential role in the region, both in integrating variable-output resources and reducing regional energy and capacity demands.

Fifth, the Draft Plan explicitly advises the region to “consider the costs that may be associated with the potential need to develop complementary carbon fueled resources to firm and shape variable-output non-carbon fueled generation, as well as the costs to the environment and region to develop necessary transmission facilities to integrate such resources” (AP-10). It is important that the region recognizes these complexities and actively develops strategies to overcome them, particularly well in advance of affecting the reliability and cost-effective operation of the power system.

We are concerned with the Draft Plan’s heavy reliance on wind generation to meet load growth. There is substantial risk relying on one primary type of generation, particularly given the complexities of integrating wind and the current lack of geographic diversity. The concentration of wind in one location (the east part of the Columbia River Gorge) means that generation from the wind fleet tends to increase and decrease in the same fashion. This exacerbates within-hour integration issues. Further, as the Draft Plan itself notes, there “may be an inverse relationship between wind generation and extreme temperatures, both in winter and summer” in this eastern Columbia River Gorge wind fleet. Page 11-3. This means that not only does the wind fleet tend to have similar generation patterns, but also that the wind fleet tends to not produce when energy is most needed during extreme temperature peaks. One possible mitigation option is to geographically diversify new wind generation. However, this will add substantial costs to build new transmission. We are concerned that the Plan’s analysis does not sufficiently account for the increased integration costs, increased transmission costs, lack of capacity, non-dispatchability, and the variable generation patterns associated with wind. Further, the Draft Plan

should include a sensitivity analysis of the risks of relying primarily on one type of generation (particularly given wind's generation characteristics and need for transmission) for meeting load growth.

We ask the Council to reconcile its assertion that wind resources can be used to help meet summer demand growth (page L-10) with its earlier statement that the current wind fleet tends to not generate during extreme temperatures (page 11-3).

The Value of the Hydroelectric System

NRU supports the Draft Plan's objective of protecting and enhancing the renewable, non-carbon emitting hydropower system. Maintaining and enhancing the capability of the hydropower system will reduce the region's production of greenhouse gases while also allowing the integration of increasing amounts of variable output renewable resources like wind power. This should make preserving and enhancing the non-carbon emitting hydropower the highest priority.

As the Council notes, "[h]ydroelectric power is by far the most important generating resource in the Pacific Northwest, providing about two-thirds of the generating capacity and about three quarters of electric energy on average." Page 6-14. The flexibility of the system allows integration of intermittent resources like wind, another carbon-free, renewable resource. The Draft Plan illustrates how dam removal would both increase carbon emissions and increase the costs of the power system, consequences which are in direct opposition to the regional and national objectives of reliable, low cost, carbon free electric supply. The Draft Plan further describes how mitigating for fish and wildlife losses has depleted the capabilities of the hydroelectric system over time. The Draft Plan goes on to warn the region to "carefully consider future fish and wildlife operations because loss of hydroelectric capability will increase carbon emissions." Page 10-2. We commend the Council for elucidating how a wide variety of regionally important issues interact with the hydroelectric system. It is important that those who are interested in regional energy issues understand the day-to-day operations of the power system and the important role of the hydro system as we plan for the future.

Looking ahead, we support Action Item GEN-2 which calls for development of smaller scale opportunities such as geothermal, hydropower upgrades and new hydropower projects. In addition Action Item GEN-7 notes the value of pumped storage as a flexibility augmentation option.

We note that in several areas including Chapter 6 the value of hydro is recognized, but not brought forward to the Action Items. For example, page 6-17 says "The Council recommends that a comprehensive assessment of new hydropower potential be undertaken to gain a clear understanding of the cost and potential of this resource." In addition, "The Council recommends that a comprehensive assessment of hydropower upgrade potential be undertaken to gain a clear understanding of the cost and potential of this resource." The Council provides a good description of the value of pumped storage on page 6-39, but no attendant recommendation. We suggest that a comprehensive assessment of the cost and availability of this resource would be appropriate. All of the above recommendations should be brought forward as Action Items.

On the other side of the coin, some regional participants have stated that they believe it is possible to remove the four Lower Snake dams and replace these resources with wind generation and energy efficiency. Such a statement fails to consider a number of important facts, including: significantly

increased costs from replacing low-cost existing resources with new wind generation and increased energy efficiency; the dams' contributions to energy and capacity cannot be replicated by intermittent, non-dispatchable wind generation; and that the dams produce carbon-free electricity, a basic tenet of the region's current energy policy for combating climate change. We caution that the minor rate impacts they claim, their understatement of the energy and capacity value of these resources and their non-recognition of the carbon-free output of these resources has no place in thoughtful power planning.

BPA

Chapter 12, BPA's Obligations, describes BPA's obligations and the new world we are entering under tiered rates. To the list of "additional resources [Bonneville may need] for several reasons," we suggest the Council include "providing Resource Support Services" to the list. BPA has offered a number of Resource Support Services to allow customers to use non-federal resources to serve their load growth, and it is important the Plan allows BPA to acquire energy or capacity resources, if necessary, to provide these essential power support services.

Further, we recommend the Council also add that BPA may need to acquire generating resources near customers that are on the other side of transmission constraints. For example, in light of the constrained LaGrande path providing service to its Idaho customers, BPA may decide one solution is to acquire a generating resource near the Idaho load to circumvent the constraint. If such a resource is needed for reliability purposes we encourage the Council to expedite its review process under Section 6(c) of the Northwest Power Act.

Action Plan

We appreciate that Action Item BPA-3 provides BPA with a range of options to tackle the challenges of integrating variable-output resources by calling for BPA to pursue institutional changes and also recognizing that, despite work to make institutional changes, BPA may still need to acquire flexibility or capacity resources.

DSI Service

The Action Plan states:

BPA-9. Conditions if considering service to the DSIs. If the Administrator decides to consider service to the DSIs, such service should:

- have the lowest impact possible on other customers' rates;
- provide, so far as possible, ancillary services;
- provide the reserves required under the Northwest Power Act; and
- be offered at rates that will allow the DSIs a reasonable opportunity for operations in the region.

As we have stated in numerous comments provided in BPA's public processes on DSI service, NRU is opposed to any preference customer subsidization of DSI service. We recommend that *any* reference to DSI service be stricken from the Final Plan. We do not believe it is the Council's role to tell BPA how to subsidize one of its customer classes at the expense of another customer class. If the Final Plan does address DSI service, the Final Plan would need to clearly say that any service to DSIs shall have **no**

impact on other customers' rates. Furthermore, the Final Plan would need to describe and discuss the recent Court cases that have remanded BPA's decisions to serve DSIs. In particular, the Court has stressed that BPA must provide a sound business case for DSI service. To date, BPA has failed to provide a sound business case and additionally BPA's analysis does not show significant long-term job impacts.

Action Items on Council's Analytic Capability

We support the Council continuing to enhance and further develop its analytical skills, particularly in light of the changing characteristics of the power system. This was nicely addressed in ANLYS-1 where it says "The review will focus on changing regional power system conditions such as capacity constraints, integration of intermittent resources and transmission limitations because these currently pressing issues will need to be more formally addressed in future Power Plans."

Appendices

The Appendices to the Plan are intended to provide the data and detailed analyses that were used to support the policy decisions and directives included in the Plan. It is important that the Appendices are thoroughly vetted by Council members. Furthermore, it is imperative that the Appendices are sufficiently comprehensive so the region can accurately trace the Plan's methodologies and assumptions. In a similar vein, we ask the Council staff to develop transparent models and documentation as they begin to develop the 7th Power Plan so the region and future Council staff can reenact the labors of current staff who have years of experience and expertise.

Responses to Specific Issues Raised by the Council

Our comments above have touched on several aspects of the issues for comment posed by the Council. Below we address the questions more explicitly where needed.

- 1. Rising prices of electricity over the next 20 years and ways that utilities can help to reduce the effect on their customers' monthly bills, including development of conservation, renewable resources, and demand-response programs;*
We believe that in the future electricity prices will increase at a more rapid pace than in the past. The fact is low cost resources have been tapped out and now the power industry is moving on to higher cost and more intermittent resources. This will lead to the need to develop conservation, renewable resources and demand response programs as well as enhancing existing hydro resources. BPA's public power customers will face significantly increased charges for both energy and demand growth as their loads grow beyond Tier 1. For these customers, conservation and demand response programs will have heightened value.
- 2. Load-growth projections for the region - short-term (2010-2015), medium-term (2010-2020) and long-term (2020-2030) – and the extent to which the Council's economic forecasts adequately incorporate uncertainty;*
While load forecasting is not within our purview, the Council's load growth forecasts appear to be reasonable and appear to incorporate uncertainty. Whether they adequately incorporate uncertainty will be for the future to tell.

3. *Conservation targets, the feasibility of achieving those targets, and major sources of uncertainty in achieving them;*

As we explained in our extensive comments on conservation earlier, BPA and public power conservation staff performed an extensive analysis of conservation potential, particularly in the first five years. General concerns about the target range include assumed ramp rates (in many cases, the Draft Plan assumed higher ramp rates than conservation staff thinks is realistic); availability and reliability of technology (particularly given that a number of conservation measures use new technologies); and program lead times (given the number of new conservation measures, BPA and utilities need time to develop and implement programs to achieve these savings). Based on our analysis, we determined that an aggressive, yet achievable five year target is 1,000 aMW. Therefore, we recommend that the Council adopt a conservation range of 1,000 aMW to 1,400 aMW for the five year target. For details on the analysis performed by BPA and public power conservation staffs, please see the appendix to PPC's comments.

Once again, thank you for the opportunity to participate in this very important process.

Sincerely,



John D. Saven, CEO