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May 12, 2006

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Re: PPC Comments on BPA's White Paper, *Challenge for the Northwest: Protecting and managing increasingly congested transmission system* (Apr. 2006).

Dear Ms. VanZandt:

Last month, BPA published a white paper on transmission system congestion management titled "Challenge for the Northwest: Protecting and managing an increasingly congested transmission system" (Apr. 2006) (White Paper). BPA has requested comments by May 12 from interested parties regarding the principles and criteria used to evaluate potential congestion management tools and regarding the approaches that BPA might take to congestion management.

Overall, PPC agrees that BPA has identified a significant problem and has set forth the general types of actions that may resolve the problem. A number of factors broaden this issue beyond the federal transmission system. These include the presence of federal and non-federal generation, the variety of transactions that contribute to congestion, and the existence of parallel federal and non-federal transmission facilities in the region. Any solution adopted by BPA will, of course, need to garner a significant level of consensus from the region's transmission customers and operators.

PPC appreciates the opportunity to comment and participate in BPA's development and evaluation of congestion management solutions. System congestion issues are increasingly important to PPC and its members as they begin to evaluate future power supply options. PPC's specific comments address BPA's

proposed principles and criteria for evaluating potential solutions, the process for undertaking that evaluation, and the approaches that BPA and the region might adopt.

BPA's Proposed Principles

The White Paper proposes three principles for evaluating the acceptability of congestion management solutions:

> A solution must provide for
>
> 1. Keeping the system safe. This means operating the system reliably at the least cost to consumers. This principle is the overarching priority.
>
> 2. Maintaining consistency with tariffs and with North American Electric Reliability Council and Western Electricity Coordinating Council requirements and operating criteria.
>
> 3. Ensuring a commercially adequate transmission system at the least cost to consumers.

White Paper, p. 4.

PPC agrees that the three proposed principles state important requirements for any solution or set of solutions. PPC suggests clarification of the first and third principles, however, in regard to the concept of "least cost" as the appropriate metric. The goal of the power system should be reliable and commercially adequate to provide consumers with the "lowest reasonable delivered power cost." "Least cost" is non-specific and overly broad. PPC suggests that the first and third principles be revised as follows:

- "Keeping the system safe. This means operating the system reliably at the ~~least~~ <u>lowest reasonable delivered power</u> cost to consumers. This principle is the overarching priority."

- "Ensuring a commercially adequate transmission system at the ~~least~~ <u>lowest reasonable delivered power</u> cost to consumers."

In addition, PPC believes that two further principles would be appropriate:

- "Ensuring the transmission system is adequate to fulfill its historic role of serving Northwest native load."

- "Treating transmission system customers equitably."

These two principles elaborate on the second proposed principle of consistency with statutes and tariffs. Although the new principles do not articulate BPA's only statutory and tariff obligations, they are overarching obligations that deserve to be called out specifically.

Criteria

BPA proposes eight "potential design criteria" for acceptable congestion management solutions:

- Enabling posting of ATC values for the network hourly markets.

- Limit awards of transmission service when network capacity is limited.

- Identify transactions contributing to the loading of network flowgates.

- Address network constraints prior to the operating hour (real time).

- Curtail interchange transactions affecting the network via E-tags.

- Curtail transactions affecting the network in a tariff-compliant manner.

- Implement a conditional firm product on the network.

- Implement federal and nonfederal dispatch protocols.

White Paper, p. 22. Each criterion, however, is a solution and not a measurement or requirement that defines desirability. Each prejudges the nature and content of the solution.

PPC proposes that BPA remove all of these criteria and replace them with the following. The new criteria derive more directly from the principles than do the proposed criteria. Among solutions that are effective to manage and react to transmission system congestion, BPA should prefer solutions and sets of solutions that:

- Are cost-effective for both transmission customers and BPA;

- Are commercially acceptable to interconnected transmission systems and BPA should be able to implement each solution if those systems do not cooperate;

- Make a significant contribution to system safety;

- Provide BPA with adequate proactive and reactive tools to permit system operators to maintain system integrity, provided that proactive tools are generally to be preferred over reactive tools;

- Provide BPA and the region with adequate operational and commercial information for the purposes of scheduling transmission and managing the system consistent with statutory, tariff and rate obligations;

- Are least disruptive of current operations;

- Are flexible and adaptable to change over time;

- Fairly compensate those parties who participate in providing a solution (*e.g.*, redispatch);

- Fairly impose costs and responsibilities on transmission customers and classes of customers who benefit from implementation of solutions;

- Recognize that different transmission products are priced to reflect different levels of risk accepted by the customers purchasing those products; and

- Accommodate the integration of renewable energy sources.

These criteria are not listed by priority or other consideration. They may also compete with each other, and BPA and its customers will need to balance them in some cases.

For purposes of facilitating an economic evaluation of the potential solutions, PPC would support the suggestion that the economic consequences of cascading outages be set off from the debate. Although a West-wide outage would indisputably have significant economic costs, we are unlikely to reach agreement on the size and the probability of those costs. Instead, BPA and the customers should focus on solutions that permit BPA to meet specific reliability criteria and

ask how each criterion can be met in the most cost-effective manner. Each solution that meets a specific reliability criterion may be assumed to produce an equal benefit, defined by the reliability criterion itself, and the parties may then focus on an assessment of costs.

Application of the criteria and the principles to proposed solutions requires information about both the competing solutions and the problem each addresses. Without information we cannot make decisions that will have integrity. PPC strongly encourages BPA to gather and preserve as much relevant operational and economic data as it can over the course of this summer so that we can apply that information to mid- and long-term issues. BPA will be most effective if it works with customers to identify what data it and its customers should gather in this effort.

Proposed Approaches to Congestion Management

BPA sets out five types of approaches and acknowledges that combinations of these approaches may be required to create a feasible and effective congestion management scheme:

- Approach 1 is titled "Curtailment with enhancements." White Paper, p. 18. It takes the current system of curtailments to manage overloads on a path and adds additional tools, such as curtailment calculators, dynamic nomograms, and other flow-gate specific tools. This would permit BPA to continue to accept all non-firm transmission schedules but would "continue[ ] to leave the system vulnerable when contingencies occur." White Paper, p. 19.

- Approach 2 is "Commercial redispatch." White Paper, p. 19. BPA suggests that the costs of redispatch "typically are recovered from scheduling parties that do not have [firm] transmission rights across the congested path, that is, nonfirm users of the system." *Id*. BPA contends that this approach is difficult and, essentially, reactive, but it would permit BPA to continue to accept all non-firm schedules.

- Approach 3 is "Minimizing congestion proactively" and includes those solutions that would adjust projected generation dispatch patterns prior to real time. White Paper, p. 20. This includes Constraint Schedule Management, and proposals like it that also require transmission customers to submit detailed generation and transmission information. It also includes improved forecasting of generation and loads to permit better predictions of

transmission system use. This approach does not supplant the need for better tools that react to congestion during real time.

- Approach 4 is "Infrastructure building," which would entail the construction of transmission facilities sufficient to avoid congestion altogether, absent an extraordinary event. White Paper, p. 21.

- The final approach, number 5, is "Applying non-wires solutions." White Paper, p. 22. BPA characterizes this as a "leading edge application for non-wires that should be viewed as exploratory." *Id*.

PPC agrees that the categories of solutions set out as approaches are generally the categories that BPA and its customers need to evaluate. With regard to Approach 1, curtailment of service should be considered a short-term solution that does not replace the need for planning and building increased capacity to relieve flowgates as appropriate. Other solutions that resolve congestion in the mid- and long-term should be considered preferable if they produce a lower reasonable delivered power cost.

In evaluating Approach 2, commercial redispatch, BPA notes that commercial redispatch is complex. PPC concurs: redispatch is both difficult and contentious. This means, however, that BPA should begin to discuss and develop commercial redispatch now and not put it off as a tool to be considered later. PPC recommends a stepwise approach that first focuses on and is limited to the flowgate(s) known to the be the most congested. BPA and its customers should work together to determine the most likely constraint scenarios that could happen at those flowgates and how to solve them using redispatch options.

Regarding Approach 3, PPC recognizes BPA's need to know what a generator is doing both before and during real time. BPA's ability to gather that information will depend largely on the agreement of the generators and transmission customers. BPA should promote an incremental progression toward the provision of greater information based on the degree of consensus that is obtained for those steps going forward.

BPA should consider other improvements, not specifically set out in the five approaches, including without limitation:

- Review and evaluate the 13 solutions considered during development of the PSANI Agreement as a step toward development of pre-established actions that would be taken if specified circumstances occur;

- Open the transmission planning process and capital additions process to more participation by customers and BPA operations staff so that BPA, its customers and generation developers can make informed decisions that recognize constraints on the transmission system prior to BPA's internal decision-making and review of those decisions in Programs in Review;

- Improve queue management;

- Replace the current method of making non-firm transmission sales with a method based on an analysis that determines how much non-firm should be sold.

Time-Frames and Forum for Evaluation Using Principles and Criteria

In meetings BPA has identified three time frames: short-term (summer 2006), mid-term (summer 2007), and long-term. The proposed principles and criteria would be applied to solutions considered for use in any time frame. BPA and its customers, however, will want to implement different solutions in different time frames, and ideally, solutions implemented in earlier time frames should be useful in, or at least not conflict with, later solutions.

As a starting point, BPA and the customers should develop a matrix with all feasible solutions for each timeframe and include in that matrix a more complete definition of each solution and its costs. This will provide everyone with a global look at the available solutions. Even though the matrix is unlikely to be used to develop solutions in the short-term time frame, solutions used or to be used this summer should be included and evaluated; they will contribute to the identification and characterization of longer-term solutions.

The identification, development and evaluation of solutions for the long-term, and perhaps the mid-term, should be accomplished through or at least in close coordination with the ColumbiaGrid process. For example, ColumbiaGrid is developing a real-time "reliability redispatch" protocol that is intended to include federal and non-federal generators, and federal and non-federal transmission service providers. It would be inefficient and far less effective for BPA to address congestion management or redispatch independently. Flows across cutplanes within BPA's system originate in federal and non-federal generation and many cutplanes involve parallel federal and non-federal transmission systems.

In the long-term, infrastructure improvements and demand-side management should be intensively explored and the trade-offs evaluated. The region should not build transmission facilities where effective alternatives obviate

or delay the need for transmission construction. Demand-side management can play a role in avoiding or delaying construction. There are likely, however, to be problems for which transmission construction is the most cost-effective solution over the long-term. Again, the evaluation of infra-structure and demand-side management must involve both federal and non-federal transmission providers and generators, as well as loads who may be interested in being paid to curtail.

Clarification Questions

Specific statements in the White Paper raise questions for PPC. We believe that BPA's answers to these questions would help advance the discussion between BPA and its customers. For convenience we have set those out in a separate letter that we will send to Robert King at BPA.

Conclusion

PPC appreciates the opportunity to comment on the White Paper. It is critical that BPA and other system operators have the appropriate tools to manage congestion prior to and during real time. We are committed to assisting BPA and the region successfully to acquire and implement solutions to this problem.

Sincerely,

Marilyn Showalter
Executive Director