

OATT Filing: Generation Imbalance Petition Letter

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19. Schedule 9 and Section 3, Generator Imbalance Service

BPA has omitted schedule 9 and the language in section 3 regarding generator imbalance service. BPA's rate schedule includes generator imbalance service, and BPA has offered this service to all generators located within its control area. However, the extraordinary increase in wind generation locating in BPA's control area – at levels far more than projections BPA made only a few years ago – has fueled a comparable increase in demand for generator imbalance service and placed enormous strain on BPA's reserve capacity. BPA has only recently been able to begin addressing the operational issues caused by this influx of wind. BPA is assessing both the reserve capacity of the Federal Columbia River Power System (FCRPS) and the availability of reserve capacity on the market. It must complete these assessments before it can determine how best to address generator imbalance in its tariff.

In addition, BPA has engaged in a two-year-long public process with its stakeholders to determine the terms and conditions of its new tariff. Because BPA has only recently realized the magnitude of the generation imbalance issue, it has not yet fully engaged its stakeholders on this issue. As a Federal agency we are particularly sensitive to the need for open public processes and must conduct a thorough public airing of the issue before making a final decision regarding generation imbalance. Rather than delay our Order 890 filing, however, we are making our filing without Schedule 9.

The generation imbalance issue has become critical because of the change in the nature of generation imbalance service caused by the increase in wind generation. Historically, generator imbalance service was primarily an energy settlement service: BPA would charge or credit the generator for the monthly deviation between scheduled

energy and delivered energy. Because the deviations were manageable, the service placed little strain on BPA's reserve capacity.

The large increase in wind generation, however, has changed this dynamic. Because of wind's variable output and the associated scheduling errors, deviations have become far more significant and BPA must set aside considerable capacity to ensure it can address imbalances and thereby maintain reliability. BPA is still struggling to determine how to reliably integrate all the new wind generation coming online.

To put the issue in perspective, only ten years ago BPA integrated its first 25-MW wind plant into its system. Today, approximately 1,500 MW of wind generation are interconnected within BPA's control area. BPA expects 2,000 MW to be interconnected by the end of 2008, and more than 4,300 MW by the end of 2011 – almost triple the amount interconnected today. BPA has over 15,000 MW of wind generation in its generation interconnection queue, and as much as 800 – 1,200 MW of wind could interconnect every year through 2015.

To begin to address the within-hour imbalances caused by the influx of wind generation, BPA established a wind integration rate for fiscal year 2009. Based on an assumed 2,880 MW of wind generation in BPA's control area by the end of FY 09, BPA forecast a need for 270 MW of reserve generation capacity for the within-hour variations in wind output.

BPA has begun the process to set rates for fiscal years 2010-2011 (October 1, 2010, to September 30, 2011) and currently estimates a need for 1,700 MW of reserve capacity to support wind generation, a more than six-fold increase from fiscal year 2009. The increase in reserve needs is due not only to the increase in wind capacity but to a

change in methodology intended to more accurately capture the imbalances caused by wind. In the 2009 wind integration rate case BPA did not address generation imbalance and therefore assumed that, over the course of any hour, actual wind generation was the same as scheduled generation. That is, BPA assumed perfect scheduling and based its estimate of reserve capacity needs solely on the projected variation in wind generation during the hour.

For the 2010-11 rate period, however, over 85 percent of BPA's projected generation imbalance reserve needs is for the difference between scheduled and actual generation. Because scheduling errors are such a large component of the need for reserves, BPA has had to abandon its prior simplifying assumption. Until now load balancing requirements have exceeded the balancing requirements for wind. In the 2010-11 rate period the wind fleet is expected to dominate the balancing requirements.

BPA has also taken other steps to address the operational issues raised by the increase in wind generation. The agency has begun to assess the capability of the FCRPS to provide reserves for the increased demands being placed on the system. The variability of the hydroelectric system's fuel supply (rain and snow) and the restrictions on FCRPS operations because of statutorily mandated non-power purposes (for example, flood control, endangered species mitigation, and navigation) complicate the assessment. BPA not only must determine whether it has the physical capability to adjust generation in response to need but must also evaluate, under a range of water conditions and operating circumstances, the risk that providing capacity reserves places on its ability to meet its other obligations. In particular, BPA must determine whether providing large

amounts of reserves would force it to rely excessively on short-term energy markets to serve load.

As to obtaining reserves from the market, BPA has issued a request for information to solicit interest from third parties able to supply reserve capacity. BPA expects to follow up the RFI with a request for proposals. Once that process is complete, BPA will be in a much stronger position to assess its ability to obtain reserve capacity from the market.

BPA understands that Schedule 9 includes language under which the transmission provider may limit its obligation to provide generator imbalance service. Given how much BPA still must learn about its reserve capacity, however, at least at this point BPA is hesitant to rely on this language. For example, BPA is not yet in a position to determine how much generator imbalance it can provide from its own resources and how much it must obtain from the market, and it will be unable to resolve this question quickly. In addition, unlike Schedule 3, under which the transmission provider must offer regulation service to transmission service serving load within the transmission provider's control area, under Schedule 9 the transmission provider must offer generation imbalance service to all generation in its control area, regardless of the location of the load. Because most of the wind generation in BPA's control area serves load in other control areas, BPA is especially concerned about this difference in the transmission provider's obligations.

Once BPA has finished its assessments and its stakeholder process it will file any appropriate OATT modifications. In the meantime BPA will evaluate proposed interconnection agreements to determine whether it can offer generation imbalance

service and if not what alternatives may be available. Within 60 to 90 days of filing this petition BPA also will issue a work plan for resolving the generation imbalance issue with the region. In the interim, BPA believes that its tariff substantially conforms or is superior to the *pro forma* tariff because BPA's rate schedule includes a rate for generator imbalance; because BPA has included generator imbalance service in all interconnection agreements it has entered into to date; because the great influx of wind generation into BPA's control area has created significant operational issues that are not easily resolved (BPA believes it is the only transmission provider that has such a large amount of wind generation proportionate to load and that has adopted the *pro forma* tariff); because, under these circumstances, prudence dictates caution regarding generator imbalance; and because BPA is working diligently with its stakeholders to resolve these issues in the most beneficial way for the region.