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**Prepared Comments
FERC Technical Conference on Integrating Renewable Resources
into the Wholesale Electric Grid**

**Panel on Operational Challenges and Innovative Solutions to
Integrating Renewable Resources into Wholesale Electric Markets
While Maintaining Bulk Power System Reliability**

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Introduction

Thank you for the opportunity to address you today. I hope I can assist your inquiry into strategies and tools for more effectively managing variable generation.

The Northwest & Intermountain Power Producers Coalition (NIPPC) represents thermal and renewable independent power producers operating and developing power projects in Oregon, Washington, Idaho and Utah. Our members own and operate approximately 4300 megawatts of capacity the vast majority of which is located in BPA's balancing authority.

We have Solutions but Leadership is Needed to Implement Solutions

To begin, the Commission's decisions in Orders 890, 890-A and 890-B provide a sound basis for enabling effective and reliable integration of wind generation and other intermittent resources. The Bonneville Power Administration ("Bonneville" or "BPA") offers examples of what happens when the Commission does not enforce its Orders. As NIPPC has suggested on prior occasions, the Commission could exercise greater jurisdiction over BPA in the Pacific Northwest.¹

In recent years, the Bonneville Power Administration has seen a dramatic increase in wind power development within its balancing authority.² However, the concentration of wind development in Bonneville's balancing area; coupled with Bonneville's status as a federal power marketing agency ("PMA") places it in a

¹ In testimony submitted in Docket No. RM05-25-000 NIPPC commented that "Section 211A(f) provides a ready made procedural structure for exercise of the Commission's new jurisdiction by incorporating Sections 205(c) and 205(d) of the Federal Power Act into the process of regulating the transmission rates and tariffs of unregulated transmitting utilities." Exercise of this authority should not be required to resolve problems identified here.

² BPA reported that as of December 2008 it had 1500 megawatts (MW) of wind power within its balancing authority and 2700 megawatts with Large Generator Interconnection Agreements (LGIA) ready for execution. Bonneville reports that another 2200 MW is "lined up to sign LGIAs."

unique position to provide leadership in the integration of renewable generation. The Northwest Power Act, which substantially expanded Bonneville's powers and authorities, encourages the development of renewable resources within the Pacific Northwest.³ In addition, U.S. Senate Majority Leader Harry Reid (D-NV) recognized the PMA's leadership potential when he introduced S.2076. This legislation would direct PMAs, to construct the transmission needed to support generation development in renewable energy zones, if no other transmission developer steps forward.

Bonneville needs to be reminded that it should solve problems. While Bonneville has held and participated in innumerable meetings and co-authored high-profile studies foremost of which is the Northwest Wind Integration Action Plan⁴ of March 2007, BPA's tactical approach is to appear to act without actually acting.

In contrast, the Commission took leadership with the generation imbalance requirements the Commission added to the *pro forma* Open Access Transmission Tariff ("OATT") in Order No. 890. Those generation imbalance provisions, if promptly implemented by Bonneville, would be a significant step toward integrating wind and other renewable resources into wholesale electric markets. The elegance of this solution is that it could be accomplished by simple implementation of the Commission's policy.

Another solution is to treat wind and other intermittent resources as must-run generation resources. Bonneville has experience with must-run generation in managing the Federal Columbia River Hydro System for salmon, flooding, and various other non-power constraints. The difference though is that the Federal government does not own the intermittent resources that are today seeking to integrate with Bonneville's transmission system. Bonneville adjusts its generation patterns and utilization of the Federal transmission system as necessary to accommodate the must-run status of its generation. The Commission should work to allow non-Federal intermittent resources equal access so they can use the taxpayers' transmission system on the same terms and conditions a Bonneville uses the system for Federal generation. Again this could be accomplished in part by simple implementation of the Order No. 890 *pro forma* OATT.

Third, the Commission should encourage high profile transmission providers like BPA to lead by promptly adopting new tools to respond to the variability of wind and other intermittent resources. New tools should include markets, additional dispatchable generation beyond the increasingly limited flexibility of the Pacific Northwest's federal hydroelectric system, and dispatchable loads.

³ 16 U.S.C. § 839(1)(B).

⁴ Of the 16 Action Items listed in this two-year-old guidance document, BPA has implemented only one.

It's true that "markets" are a scary concept to many in the Pacific Northwest. But they have a purpose given our real need to integrate renewable generation. A narrow, transparent market could be established so that dispatchable thermal generators and hydro power could be offered to transmission providers like BPA that may lack sufficient resources of their own to provide ancillary services such as regulation on a day-ahead or eventually real-time basis. This need not be complicated. Bonneville has consistently chosen to bypass multiple prior opportunities for enabling market responses beyond the federal capacity it manages.⁵

Next, in the intermediate and longer term, BPA needs to build new transmission capacity to other markets so that abundant Pacific Northwest wind and other intermittent resources can be delivered to load in need of these resources. The construction of new transmission facilities will lessen the very problems BPA says are associated with wind and intermittent resources.

BPA is correct that wind power development is largely concentrated in one localized area within its balancing area, but BPA has not taken steps to tap into other wind areas or more accommodating resource mix that would diversify wind generation patterns and make transmission planning easier and generation imbalance service less costly. This is accomplished by building transmission. However, BPA has been reluctant to support transmission facilities that would enable the export of wind power to other parts of the Pacific Northwest or elsewhere within the West.

When faced with real problems that require solutions, utilities have an excellent track record in solving problems and keeping the lights on. BPA, like other balancing authorities, has a wide range of tools to manage other, non-wind elements that also contribute to system variability. Load is variable, and BPA does not shirk from providing energy imbalance service. Scheduling and dispatch errors and curtailments create variability, and BPA must and does find the tools to offset variability created by those factors. BPA's own generation, federal hydroelectric generation is variable because of unforeseen Clean Water Act and Endangered Species Act constraints, and BPA manages around that variability. Yet, BPA treats the variability of wind differently, pushing wind power generation to the operational and cost margin.⁶

The Commission can and should support the "cultural" change required of transmission providers – like BPA – to start implementing the solutions that we

⁵ Most recently, BPA released a Request for Information (RFI) to determine the interest of non-federal generators in assisting Bonneville with load following and regulation services. In spite of the robust response to the RFI, BPA has delayed conduct of a pilot test for introducing non-federal resources until 2010 at the earliest.

⁶ In response, several wind power plant owners are considering forming their own wind-based balancing authority within BPA's.

already know about and lead the development of new solutions to integrate intermittent resources.

Generation Imbalance Service is a Necessary Foundation for Renewable Resource Integration

The integration of intermittent resources depends on many factors, including new transmission facilities and market structures. Generation imbalance service probably is foremost in its immediate impact. The Commission held that consistency in generator imbalance service is preferable to a wide variety of imbalance provisions.⁷

The Commission found that formalizing generator imbalance provisions in the Commission's *pro forma* Open Access Transmission Tariff ("OATT") would standardize treatment from the wide variety of generator imbalance provisions that existed before Order 890 and would "lessen the potential for undue discrimination, increase transparency and reduce confusion in the industry that results from the current plethora of different approaches."⁸ To the extent a transmission provider sought to deviate from the *pro forma* provisions in Schedule 9 of the *pro forma* OATT, the Commission required the transmission provider demonstrate that the proposed changes were consistent with or superior to Schedule 9 of the *pro forma* OATT.⁹

The Commission adopted three fundamental principles for generation imbalance service to increase consistency in such service. The first principle is that charges must be based on the transmission provider's incremental cost of providing the service, or some multiple thereof. The second principle is that the charges must provide an incentive for accurate scheduling. The third and final principle, of greatest relevance to the Commission's inquiry, is that generation imbalance provisions "must account for the special circumstances presented by intermittent generators and their limited ability to precisely forecast or control generation levels, such as waiving the more punitive adders associated with higher deviations."¹⁰

The Commission requires that a transmission provider offer generation imbalance service in connection with any transmission service used to deliver energy from a generator within its balancing authority,¹¹ and the Commission

⁷ *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 72 FR 12266, FERC Stats. & Regs. ¶31,241, P 72, (March 15, 2007) ("Order 890"), *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890-A, 73 FR 2984 (January 16, 2008), FERC Stats & Regs. ¶31,261, P 287 ("Order 890-A").

⁸ Order 890, P 667; Order 890, P 287.

⁹ Order 890, P 668.

¹⁰ Order 890, P 663; 890-A, P 265.

¹¹ Order 890-A, P 287.

revised its initial *pro forma* Schedule 9 to include such requirement.¹² Recognizing that a transmission provider may have insufficient capacity to provide generation imbalance service in amounts required within its area, the Commission determined that a transmission provider only “has to provide generator imbalance service from its own resources to the extent that it is physically feasible to do so (*i.e.*, the transmission provider is able to manage the additional potential imbalances without compromising reliability).”¹³

Reliability limitations on the operation of its own generation for generation imbalance service do not relieve a transmission provider from its obligation to provide generation imbalance service.

The Commission determined that, if a transmission provider’s own generation was so constrained, the transmission provider is obligated to attempt to acquire additional generation to provide generation imbalance service. The Commission said that this might require a balancing authority operator to provide generator imbalance service by procuring regulation energy and associated capacity from another entity.¹⁴ The Commission determined that, in the unlikely event that a transmission provider was unable to acquire balancing energy and associated capacity from another entity, the transmission provider “*must* accept the use of dynamic scheduling to the extent a transmission customer has negotiated appropriate arrangements with a neighboring control area.”¹⁵

The Commission recognized that intermittent generators were different than other types of generation because they cannot always accurately follow their schedules. Therefore, the Commission exempted intermittent generators from Schedule 9’s third-tier penalties.¹⁶ This exemption “reflects the special circumstances faced by” intermittent generators.¹⁷

The Commission gave transmission providers the option to have separate demand charges to recover the cost of holding additional regulation reserves for meeting imbalances. The Commission further required that a transmission provider electing the demand charge option “file a rate schedule and demonstrate that these charges *do not allow for double recovery of such costs.*”¹⁸

¹² Order 890-A, P 288.

¹³ Order 890-A, P 289.

¹⁴ Order 890-A, P 290

¹⁵ Order 890-A, P 290 (emphasis added).

¹⁶ Order 890, P 72, 665; Order 890-A, P 291

¹⁷ Order 890, P 667.

¹⁸ Order 890-A, P 300 (emphasis added).

The Bonneville Power Administration Disregards the Commission

BPA has chosen to disregard the Commission's requirements for generation imbalance service in general, and for further integration of wind farms in particular.¹⁹

BPA has not adopted Schedule 9 of the *pro forma* OATT. Instead, BPA argues that it does not have to revise its OATT to include Schedule 9 because it adopted a transmission rate that incorporates provisions of Schedule 9. The Commission, lacking jurisdiction to review rate design issues, confirmed and approved BPA's generator imbalance rate.²⁰ BPA takes the position that its failure to include Schedule 9 in its OATT is not a barrier to the Commission finding that BPA's OATT substantially conforms to or is superior to the *pro forma* OATT.²¹

The Commission determined that consistency in generator imbalance service is preferable to a wide variety of imbalance provisions. BPA, disregarding the Commission's judgment, has adopted a special generator imbalance service for wind generators: Wind Integration – Within Hour Balancing Service (“Wind Integration Service”). At present, the Wind Integration Service rate is \$0.68/kW/month based on nameplate capacity. BPA proposes to increase this rate to \$2.72/kW/month based on nameplate capacity. Wind generators must pay for this service in addition to BPA's generator imbalance service. Like generator imbalance service, BPA does not propose to modify its OATT to include Wind Integration Service. Instead, BPA adopted its Wind Integration Service rate as a transmission rate, thereby avoiding Commission review for consistency with the Commission's *pro forma* OATT.

The Commission determined that a transmission provider could have separate demand charges to recover the cost of holding additional regulation reserves for meeting imbalances. But the Commission also requires a transmission provider that seeks to impose a demand charge to demonstrate that its proposed charge does not allow for double recovery of generation imbalance costs. BPA adopted only a Wind Integration Service transmission rate, and the Commission lacks authority to determine whether BPA's Wind Integration Service rate, along with BPA's generator imbalance service rate, double recovers BPA's generation imbalance costs.

The Commission says that a transmission provider is obligated to attempt to acquire additional generation to provide generation imbalance service if the transmission provider's own generation is constrained by reliability considerations. BPA asserts that its generation is insufficient to provide

¹⁹ BPA has filed an open access transmission tariff with the Commission and sought safe harbor protection.

²⁰ CITE.

²¹ *Bonneville Power Administration Petition for Declaratory Order Granting Reciprocity Approval and for Exemption From Filing Fee*, P 5, Docket NJ09-1, dated October 3, 2008.

generation imbalance service required by wind generators and other intermittent resources, as well as generation imbalance service required by conventional resources. However, BPA acknowledges that it has not sought to procure balancing energy (regulation) and associated capacity from another entity, but might do so in the future.

In the unlikely event, to use the Commission's characterization, that BPA attempted and failed to acquire balancing energy and associated capacity from another entity, the Commission said that a transmission provider "must accept the use of dynamic scheduling to the extent a transmission customer has negotiated appropriate arrangements with a neighboring control area." BPA proposes to effectively deny wind generators the ability to negotiate arrangements with neighboring balancing authorities or even generators located within BPA's balancing authority. BPA has announced that it will unilaterally incorporate terms in Appendix C of existing and new large generator interconnection agreements that will require wind generators and other intermittent resources to both pay BPA the amount of generator imbalance, stranded costs resulting from a wind generator's move to another balancing authority and to receive BPA's unilateral approval before utilizing dynamic scheduling.

BPA has placed itself and wind generators in its balancing authority in an unacceptable position. BPA does not have sufficient resources to provide generator imbalance service, will not acquire such resources to meet the generator imbalance requirements of wind generators, and refuses to permit generators to dynamically schedule with a neighboring balancing authority or other generators. Moreover, BPA also proposes to unilaterally incorporate terms in Appendix C of existing and new large generator interconnection agreements requiring wind generators and other intermittent resources to reduce the output of their facilities in any hour to the megawatt amount listed in the generation schedule for the hour (or to a higher amount) if BPA determines that such reduction is necessary to preserve the reliability of BPA's Transmission System or to avoid a violation of the Clean Water Act or the Endangered Species Act.²²

The Commission recognized the special circumstances faced by intermittent generators because they cannot always accurately follow their schedules. Therefore, the Commission exempted intermittent generators from Schedule 9's third-tier penalties. BPA has turned the Commission's treatment of intermittent generators on its head. Instead of exempting wind generators from certain penalties and charges, BPA imposes heavy new penalties. Instead of accepting the Commission's standardized treatment of generator imbalance service in order to increase transparency and reduce confusion in the industry that existed before Order 890, BPA has moved in the opposite direction.

²² Connecting Variable Generating Resources to the Federal Columbia River Transmission System (FCRTS), January 29, 2009.

The Commission can contribute to Solving Wind Integration Challenges in the Pacific Northwest

Realistically, the Commission's mandate extends only weakly, if at all, to the Pacific Northwest in the matter of integration of wind and other intermittent resources. In part, this is the result of the Commission's limited jurisdiction over BPA rates, and in part it is the result of the Commission's limited jurisdiction over transmission providers like BPA that have the discretion to decide whether to file an open access transmission tariff that is comparable to the Commission's *pro forma* OATT.

However, the Commission should meaningfully exercise the jurisdiction that it clearly does have. First, the Commission should strictly test BPA's proposed open access transmission tariff revisions, including revisions regarding generation imbalance service, under the standard the Commission has previously established: BPA's OATT must be consistent with or superior to the Commission's *pro forma* OATT. If the Commission were to strictly apply this test, then BPA's terms and conditions for rates for generation imbalance service and wind integration service, which are subject to only the most limited Commission review, cannot be a substitute for the terms and conditions in Schedule 9. Only when BPA adopts *pro forma* terms and conditions for generator imbalance service can wind generators and other intermittent resource developers file a complaint asserting that BPA is not in compliance with its OATT.

Second, the Commission should challenge BPA to conform to the Commission's orders regarding generator imbalance service at the same time that BPA tells the public that it is working hard to integrate wind and other intermittent resources into its transmission system. The Commission finding otherwise should forcibly state that BPA's strategy regarding generation imbalance service is more than a technical deviation from the Commission's *pro forma* OATT. The Commission should identify BPA as creating special, burdensome conditions for entities that want to develop wind generation and give BPA the choice of modifying its OATT to include those provisions or losing its "safe harbor" status.

Conclusion

NIPPC believes that BPA has fallen far short of fulfilling its mandate to advance renewable energy development and that the Commission, as its "sister agency," is uniquely positioned to direct Bonneville to make wind power integration a success within its balancing authority and a model for the nation.