



Wind Integration Team

Responses to Customer Comments Received on BPA's Proposed Enhanced BPA Balancing Authority (EBBA) - 6/12/12

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1. Market-based Mechanisms (EIM)

Iberdrola Renewables

Iberdrola encourages Bonneville to move forward with a focus on the longer-term objective of market-based mechanisms and to ensure any system and/or process modifications will facilitate Bonneville's ultimate participation in a regional solution

NW Energy Coalition

It is important for the EBBA initiative to mesh well with other efforts regionally to improve variable energy resource integration and make better use overall of the existing grid. One important concept, the proposed Energy Imbalance Market, could gain a great deal if the EBBA initiative can more fully build out BPA's capabilities. While the EIM concept still needs further assessment on costs, benefits and delivered value, we support BPA's view of how the EBBA initiative can be complementary to development of an EIM

Portland General Electric

Portland General Electric (PGE) appreciates the opportunity to comment on BPA's proposed Enhance BPA Balancing Authority (EBBA). PGE understands the challenges that the region as a whole is facing in integrating Variable Energy Resources (VERs) and appreciates BPA's unique position as a large VERs integrator within the region. PGE supports the development of effective and achievable solutions to the challenges that both BPA and the region face. PGE's preferred methodology to solve regional challenges is through regional participation and consensus.

The EBBA as proposed appears to be addressing a BPA concern without a corresponding comprehensive approach for planning for increased levels of VERs integration. PGE feels that BPA's EBBA proposal could achieve a higher level of success if it were developed under the Northwest Market Assessment and Coordination Committee (MC) that was recently formed by a significant number of Northwest Power Pool member executives. PGE feels the more regional approach that will be employed by the MC will result in greater efficiencies and increased benefit to not only BPA, but the region as well.

PGE encourages BPA to consider the aforementioned comments and recommendations as BPA moves toward addressing the regional challenge of integrating an increased level of VERs. BPA has initiated a number of non-market solutions to integrate VERs to date. Some initiatives have been successful while others have created challenges of their own. PGE encourages BPA to continue its work on VERs integration and increased system reliability. However, PGE feels that to adequately address the challenges that the region faces, both today and in the future, a market-based solution involving all interested participants will provide the most effective and equitable response. PGE welcomes the opportunity to continue to work with BPA to find solutions to our regional challenges that not only address specific concerns but also address the needs of the region as a whole.

Puget Sound Energy

The EBBA, like other BPA practices, should not conflict with the ability of the region to develop and implement a transparent and efficient regional energy imbalance market. For example, the

EBBA should not substitute for or replace BPA’s continued work with the region on an EIM. Moreover, an EBBA should not be precedential or serve as a barrier to the development of a regional EIM. In that regard, BPA should acknowledge that an EBBA would terminate upon the commencement of an EIM supported by the region. In order to be effective, the EIM—or any EBBA—should be shaped to benefit the stakeholders of the region generally and should not be shaped to be attractive to any one particular stakeholder.

Renewable Northwest Project (RNP)

We encourage BPA to continue to work towards the development of an energy imbalance market (EIM) while simultaneously developing the EBBA capabilities. Ultimately, both of these approaches are built upon the same new capabilities and achieve the same efficiencies. In the same memorandum, the Secretary of Energy applauded the Western Area Power Administration (WAPA) for its commitment to participating in an EIM and directed all PMAs “to capture economies through partnering with others in ... operating the grid.” We understand Bonneville is working with the Northwest Power Pool to consider development of a regional EIM. We support that effort and venue but urge Bonneville to ensure the NWPP process is open and transparent to stakeholders who are not NWPP members but who will be critical to the success of a regional EIM, including state regulators, independent power producers, and public interest groups.

Xcel Energy Services

If BPA participated in a broad regional energy market with sub-hourly economic dispatch, the costs to integrate wind and the operational issues associated with the integration of variable generation, would be reduced. This participation would allow BPA to reduce the level of balancing capacity resources needed to integrate wind generators. While participation in a broad regional market entails cost, these costs are projected to be less than the economic dispatch and operational savings associated with the market.

1. Time Period to address issues

The five-year plan provided by BPA does not include actions to address participation in a broad regional energy market.

2. Addressing Generator Imbalances

a. BPA Provision of Generator Imbalance

Xcel Energy suggests that a broad regional market with fast economic dispatch would mitigate the operational requirements within the BPA BA for balancing reserves.

b. Self-provision of Generation Imbalance - No comment.

c. Means to address large imbalances

Xcel Energy would like to invite BPA to participate in industry discussions that would authorize limited recourse to contingency reserves for large imbalances due to unusual or extreme wind ramp events which create balancing area imbalance.

BPA Response

BPA appreciates the support for its continuing commitment to participate in regional discussions to develop regional solutions to regional balancing issues. BPA expects to be an active participant on the Northwest Market Assessment and Coordination Committee (MC), recently

formed by NW Power Pool members. BPA will continue to play an active role in discussing potential regional solutions including an Energy Imbalance Market (EIM).

BPA also expects to continue its participation in the Wind Integration Steering Team (WIST) DTC Task Force and other regional forums (such as NWPP and WECC committees) to address variable energy resource (VER) integration and system reliability issues such as defining common regional capacity requirements, defining use of contingency reserves and addressing extreme wind ramps that create Balancing Authority Area (BAA) imbalance.

We look forward to continued customer involvement in these areas to assure reliable, cost effective solutions to balancing resource problems facing Bonneville, its customers and the region.

2. Base Level of Service

Flathead Electric Cooperative

Generally, Flathead's view is that BPA should not expand its Balancing Authority obligations beyond a narrow interpretation of its current obligations. If there are reliability and operation benefits of expanded services dedicated to integrate variable generation resources, these services should not be incorporated into a voluntary increase in reliability obligations of the BPA Balancing Authority, but rather should be specific products and cost pools for customers desiring these products and services.

Iberdrola Renewables

Iberdrola feels strongly that the Base Level of Service should be sufficient to support variable energy resources as a firm product in the market and believes efficient solutions can be implemented in a manner that is not cost prohibitive.

Iberdrola Renewables is concerned that Bonneville's approach for acquiring incs and/or decs above the FCRPS limits for the pooled BPA service will unnecessarily increase the cost of integration services in Bonneville's BA. Purchasing incs and or decs on a long-term capacity basis will be cost prohibitive and is not representative of the type of product that is truly required. Wind ramps cannot be forecasted with absolute certainty, but balancing reserve requirements for an anticipated ramping event can be determined with reasonable confidence over a 5-8 hour window. If Bonneville were able to hold fewer reserves during less volatile periods and more reserves during periods where significant ramping events are anticipated, Bonneville will be able to offer a higher quality product while lowering the overall cost of the integration service.

Puget Sound Energy

The determination of the base level of service may be used in setting rates but should not set a fixed maximum of service (from the FCRPS or from reserves acquired to make up any shortfall between the FCRPS' ability to supply reserves and the base level of service). For example, the FCRPS may have "additional" capacity (in addition to FCRPS capacity assumed in setting the rate for the base level of service) available at the time service is being provided. BPA should use

such additional available capacity to provide balancing reserves. Further, assuming that BPA has exhausted the base amount of reserve capacity and that energy from unloaded turbine capacity is not available, BPA should acquire the amount of economic balancing capacity necessary to provide reserves.

Renewable Northwest Project (RNP)

We wholeheartedly support BPA's goal of expanding the use of nonfederal balancing reserves. As we take those steps forward, however, we encourage BPA to simultaneously refine its ability to determine the capability of the federal system to provide balancing reserves in real time. Using the federal system efficiently, when it is available, will be an important part of achieving cost-effective balancing service in the Northwest.

Snohomish County PUD

1. Determination of a Base Level of Service the FCRPS can supply.

Establishing the amount of balancing reserves that can be supplied by the Federal Columbia River Power System ("FCRPS") on any given day or hour is a large task. Variability in water conditions that provide the "fuel" for the system, BPA's preference load and statutory obligations, and other commercial obligations only exacerbate the complexity of the modeling effort.

2. Makeup of shortfalls between the FCRPS capability and the Base Level of Service.

From North Western Corp., 121 FERC 61,204 (2007), Snohomish understands that BPA is required to provide balancing reserves to non-federal resources that interconnect to its BA. To the extent BPA lacks sufficient integration capacity, and it must procure that capability, then the cost of such procurement may be passed on to those requesting service.

At issue is who has the right to the existing, low-cost FCRPS capability – today and in the future – and who will be required to pay for any additional integration capacity. This issue arises because of the unique nature of BPA's statutory obligations to preference customers. Snohomish would like BPA to clarify whether it envisions discussing both cost allocation as well as level of service in the Generation Inputs workshops for BP-14.

THE WESTERN PUBLIC AGENCIES GROUP

The WPAG utilities believe that an essential element that is currently not included in the Draft Framework is the interplay between BPA's statutory and contractual obligations to its power customers and the balancing services BPA intends to provide in FY2017 and beyond. For instance, these statutory and contractual obligations raise initially the following questions:

- What impact will EBBA initiatives that make greater use of the Federal system to provide both capacity and energy for balancing non-federal resources have on the rights of preference customers to have their capacity and energy load needs met first from those resources?
- What impact will EBBA initiatives that further carve up the Federal system to provide more balancing reserves to non-federal generators (e.g., seasonally or on a short term basis) have on the contract rights of Slice/Block customers to their slice of the system?

- What impact will EBBA initiatives to use Federal resources to provide short term sales of balancing reserves have on the availability of Federal resources to meet the load service needs of its load following customers?

The WPAG utilities respectfully submit that the EBBA initiatives, in whatever form they eventually take, will be and should be subordinate to BPA's obligations to its preference customers. We look forward to discussing this topic and the other EBBA related issues at the upcoming workshops.

BPA Response

BPA will determine a base level of balancing reserve service it will supply, the amount of reserves BPA needs to meet this level of service, the portion of those reserves it is reasonable to plan on providing from existing FCRPS resources, and the forecast cost of supplying reserves from the FCRPS and of acquiring additional capacity from non-federal resources. As BPA acquires non-federal resources, BPA is open to exploring ways to make short-term on-demand capacity acquisitions for balancing reserves from non-federal resources with less notice for shorter duration acquisitions.

WPAG's questions are asked in the context of establishing a base level of service the FCRPS can supply for all needs, and whether making additional supplies of capacity available from the FCRPS on a short term basis would impact the existing contract rights of BPA's preference customers.

In order to determine the impact of such services on the existing contract rights of BPA's preference customers, BPA must determine what its designated system obligations are. These obligations affect the amount of power available to supply all of BPA's obligations under power sales agreements and reduces the available power capability under BPA's Slice/Block power sales contracts. Designated BPA System Obligations are defined in the Tiered Rates Methodology and Slice contract section 2.52 as specifically obligations required by statute, treaty or order to support the operation of the FCRPS that are not intended for commercial purposes, and can include BPA's BA transmission obligations. These are obligations that BPA can serve from existing FCRPS resources. BPA reserved capability on its system for use by BPA to meet Designated System Obligations prior to making an advanced sale of capacity and energy to its preference customers under the Slice/Block power sales contract. The amount of capacity and energy its preference customers purchase is based on a simulated amount of system capability and energy based on the capability of the existing system remaining after Designated BPA System Obligations are met. These designated system obligations are defined as follows:

“Designated BPA System Obligations” means the set of obligations specified in Table 3.4 of the TRM, imposed on BPA by statutes, regulations, court order, treaties, executive orders, memoranda of agreement, and contracts that require the generation or delivery of power, forbearance from generating power, or receipt of power, in order to support the operation of the FCRPS, including any obligations to the BPA Balancing

Authority (Transmission Services), and that are not intended for commercial purposes Section 2.52.

BPA expects to establish a forecasted planning limit on the annual amount of generation inputs that can be provided from existing FCRPS resources to supply ancillary and control area services in the FY 14-15 rate case process. In setting the limit, BPA acknowledges there are times when actual water conditions may require BPA to restrict the actual amount of generation inputs provided to an amount less than the forecasted limit. BPA will reexamine its needs and its ability to supply generation inputs in each succeeding rate case.

BPA expects the determination of balancing reserve limits in the rate case to establish the ability of preference customers to call on purchases under the Slice/Block contract, consistent with the terms of those contracts, to meet their capacity and energy load needs from existing FCRPS resources. BPA currently establishes those balancing reserve amounts on a rate period basis. Since the frequency of restrictions on the actual amount of energy that is available to supply balancing reserves from the FCRPS in the spring is higher than BPA anticipated going into the current rate case, BPA expects to consider proposing a credit in its rates for periods when BPA restricts those rights due to an oversupply condition. While BPA expects to continue making annual amounts of balancing reserves available on a rate period basis, there is an option to limit forecasted reserve amounts during April, May, and June. Such a limitation could result in a seasonal shape to the reserve amounts made available.

BPA has also considered whether it could make any “additional” FCRPS capacity available to provide balancing reserves with less notice for shorter durations outside the limits on Designated BPA System Obligations established in the rate case.

In order to plan for hydro operations and meet environmental and flood control targets, Bonneville, the Army Corps of Engineers, and the Bureau of Reclamation must know well in advance what their obligations will be to provide balancing reserve capacity. Operational planning of the hydro system begins many months in advance of the actual operation, and the plan is adjusted as new information on water, operational constraints, equipment outages, load forecasts, and other variables becomes available.

The uncertainty involved in planning river operations to meet load obligations and non-power constraints on an ongoing basis make it very difficult for BPA to make additional on-demand capacity products available on a short-term basis without impacting future river operations. Having water available at certain points on the system does not mean that Bonneville has additional reserves or that it is physically feasible to provide more generator imbalance service.

3. Self-Supply

Iberdrola Renewables

Iberdrola strongly supports continuation of self-supply and encourages Bonneville to explore potential expansion of self-supply on an interim basis until a regional market-based solution evolves. Iberdrola Renewables is unclear as to what is meant by “Further define BPs related to

self-supply” and requests additional information related to this reference in its EBBA conceptual framework.

Puget Sound Energy

The Balancing the Future Presentation states that the EBBA will seek to “[f]urther define [business practices] related to self supply.” Balancing the Future Presentation at 7. PSE supports BPA in the goal of enhancing the availability and use of self supply in the region. Self supply is a potentially valuable source of reserves within the region, and the furtherance of any self supply efforts will likely to reduce the reserve responsibility faced by BPA

BPA Response

BPA agrees that self-supply options will continue to be an important element for managing balancing capacity in our BAA. As with all Control Area services, our Rates and Tariff create opportunities for Customers to self-supply as an alternative to taking services from the BPA Balancing Authority (BA).

In response to Iberdrola’s question about further defining self-supply policies, BPA is considering expanding the range of self-supply options, which could include regulation and following components, including an alternative for having the BAA deploy self-supplied resources.

In addition, BPA is interested in continuing our discussions regarding how to gain a greater assurance that any self-supply commitments stand on their own and do not shift any risk onto the BPA BA, or BPA operations in general.

We also believe that we will eventually need to define policies for self-supply of DERBS and possibly Load Regulation and Frequency Response Service. We will discuss these ideas with customers and stakeholders as these and related ideas develop.

4. Enhanced Supplemental Service

Iberdrola Renewables

Iberdrola supports the optional purchase of supplemental reserves on a short-term basis but reiterates its concern that Bonneville’s procurement methodology may lead to cost prohibitive solutions.

NW Energy Coalition

We are supportive of this concept and commend BPA’s initiative in thinking ahead to the challenges and opportunities presented by the expansion of renewable energy generation. We see significant opportunities for a more flexible, available and less costly approach to variable energy resource integration, as well as other benefits of more effective use of the BPA grid. One important need is to improve the capability and decrease the costs of providing balancing reserves for renewable energy. The EBBA presentation suggests an integrated approach to

assessing and then fully deploying a wide variety of balancing resources, especially non-federal resources on a short term basis. This fits well with the effort to develop promising cutting-edge efforts for demand side balancing, such as the use of residential water heaters and end-user energy thermal storage, where BPA has already taken the lead in sponsoring pilot programs.

PowerEx

Powerex has reviewed the draft conceptual framework of an enhanced BPA balancing area (EBBA). We support BPA's efforts to make significant progress in increasing the ability of market participants to make shorter-term purchases of balancing capacity (i.e. weekly, daily, and eventually hourly) to meet the balancing needs of their variable energy resources. Powerex believes participants should have the opportunity to purchase balancing capacity from BPA; self-supply the capacity; or purchase it from other participants that are able to provide the service.

Puget Sound Energy

The Balancing the Future Presentation states that the EBBA will seek to “[a]llow Customers that desire a higher level of service to acquire Balancing Reserves through a Supplemental Service.” Balancing the Future Presentation at 7. PSE is supportive of the customer choice provided by a Supplemental Service. PSE recognizes that BPA's Supplemental Service, to date, has been in the nature of a pilot program and has that has not been widely adopted. Such limited use to date should not be interpreted as a failure of the concept of a Supplemental Service. A Supplemental Service, if designed and implemented in a thoughtful manner, could be benefit those customers that elect to take such service.

Renewable Northwest Project (RNP)

We also want to encourage Bonneville to develop the ability to make cost-effective short-term procurements needed to supplement the federal system during volatile wind periods instead of requiring all balancing reserves to be provided on a long-term committed basis (as federal balancing reserves are today). It is unlikely the region will realize real cost savings until balancing reserves are procured from a diversity of non-federal resources, each individually unburdened by expensive long-term commitments, but collectively contributing to substantially firm service. We suspect that the cost-prohibitive responses to BPA's recent Dec Acquisition Pilot are evidence of this concern.

BPA should develop experience with dispatching available short-term federal resources and non-federal resources on a sub-hourly basis before requiring certain customers to commit to an inefficient cost structure under supplemental service. As BPA noted during the March 7th workshop, BPA and its customers need to develop systems, technical capabilities and staff expertise to maximize the ability of the region's generation and transmission assets to provide balancing reserves reliably and cost effectively.

Southern California Edison (SCE)

The ideas BPA proposes seem to be a step in a positive direction. As such, we would encourage BPA to move some items from the EBBA and instead make them part of the upcoming rate case. In particular we encourage BPA to accelerate issues related to enhancing the trading and provision of VERBs, enhancements to Supplemental service, enhancements to dynamic

scheduling, and movement towards a real-time energy market in which BPA has the ability to make intra-hour sales and purchases of energy from entities within their BA.

BPA Response

BPA shares the interest, expressed in the above comments, in continuing to pursue efforts related to enhancing supplemental service. We recognize that a mechanism to acquire supplemental resources for a shorter timeframe may result in greater participation in BPA's Supplemental Service pilot.

As we continue to refine supplemental service policies, we will explore alternatives such as using WebEx as a potential mechanism for acquiring supplemental service inputs. BPA will also test whether it is viable for customers to acquire capacity on their own and reflect that capacity in operational systems such as allocation of base and supplemental balancing capacity, and deployment of that capacity for DSO 216 purposes. These are challenging technical issues that are worth pursuing.

BPA would like to better understand customer's views and preferences on choices between self supply and/or acquisitions of enhanced supplemental service. BPA will seek additional customer input to better target each program to meet BPA objectives and customer interest.

5. DSO 216

Iberdrola Renewables

Iberdrola wholeheartedly supports Bonneville's responsibility to maintain reliability. Iberdrola has put forward an interim solution that would enable Bonneville to maintain reliability without subjecting wind to non-reliability based curtailments which have significantly interrupted operations in the west and damaged the value of wind in the market. Iberdrola Renewables looks forward to an opportunity to work with Bonneville and its customers to refine and implement the proposal while working to enable longer-term, market-based solutions.

DSO 216 in its current form has created a hybrid product in the market that subjects receiving BAs to unnecessary risk and uncertainty and damages the value of wind in the market. Bonneville must work to implement a solution to eliminate the uncertainty associated with wind schedules sourced from its BA and enable wind to be scheduled as a firm product

Powerex

Appreciates the rationale and justification for DSO 216, we continue to have concerns regarding the manner in which BPA has implemented it. Specifically, Powerex is concerned that schedules that are subject to curtailments under DSO 216 continue to be e-tagged as "Firm" energy, even if some portion of the schedules may be subject to DSO 216 curtailments. Powerex believes, as a fundamental reliability principle, that purchasers of energy and affected reliability entities should know what portion of these "Firm" schedules coming from BPA's balancing area (BA) are actually interruptible if BPA determines it has insufficient balancing reserves.

The issue of DSO 216 curtailments has raised great concern in the industry. Because BPA does not provide clarity, neither to the wind generator nor to the BA ultimately sinking the energy, as to what portion of an energy schedule may be subject to a DSO 216 curtailment, BPA is creating unnecessary ambiguity with respect to the amount of balancing reserves that the sinking BA should be carrying. In the event of an unforeseen reduction in wind generation output that prompts significant DSO 216 curtailments to wind schedules leaving BPA's BA, that ambiguity can lead to the very real possibility that insufficient balancing reserves are being held in the region to replace the lost energy. Because of the reliability risks associated with such an event, it is Powerex's opinion that BPA should modify DSO 216 to remove the ambiguity associated with balancing reserves.

In Powerex's view, BPA has the expertise and viable options to address this issue. In this regard, BPA should devise a methodology whereby it identifies the portion of the wind generation for which it is carrying sufficient reserves, and allows wind generators to sell that portion into the market as a Firm product, while the remainder is e-tagged as interruptible. That way, receiving BAs would have the certainty they need regarding the reserves they need to carry. In addition, we note that BPA has been exploring giving variable generators the ability to acquire some additional reserves, either via a supplemental service or self-supply, such that the entire output of their generation could be tagged as "Firm". We encourage BPA to continue to seek ways to provide wind generators with these types of options.

Powerex also notes that a significant amount of the uncertainty associated with the scheduling of wind could be eliminated by establishing an objective forecast-based scheduling business practice. As BPA has presented publicly, the available reserve pool is often unduly depleted as a result of wind generation output not being scheduled in accordance with an objective wind forecast. By establishing a business practice that allows wind generators to schedule, as "Firm", an amount of output linked to an objective wind forecast, BPA can greatly reduce the amount of uncertainty associated with the reserve requirement.

Puget Sound Energy

DSO 216 and its implementation has lacked transparency, and it is not clear that DSO 216 is necessary or appropriate. BPA should not in any event rely on DSO 216 in the long run. Making balancing reserves on BPA's system available as described in item 1 above, facilitating self supply and dynamic scheduling, providing enhanced supplemental service, resolving Transfer Variability Limits ("TVL") issues, and developing an EIM should dramatically reduce if not eliminate instances in which BPA might otherwise seek to invoke DSO 216.

Southern California Edison (SCE)

We encourage BPA to have sufficient tools such that DSO216 can either be eliminated or that parties will have the ability to both secure services and clearly identify to the market that they are not subject to DSO216 curtailments. Again we would prefer to have these features as part of the upcoming rate cases, but at a minimum they should be part of the EBBA process.

BPA Response

Regardless of whether BPA eventually develops the ability to call on additional non-federal reserves to cover wind generation when it requires more INC reserves than are standing ready, BPA will need to maintain DSO216 or a similar mechanism to limit schedules when necessary for reliability purposes. BPA agrees that it is preferable that firm tags not be curtailed on a regular basis. This may lead to having some or all of the wind output tagged as non-firm.

While others believe BPA should acquire spot capacity to meet VER needs when the base level of balancing reserves is not sufficient, BPA believes that VERs need to take responsibility for acquiring the necessary level of reserves and commercial (firming capacity) support to meet their planned tagging intentions.

BPA would like to better understand how to discern when a VER marketer is out of DSO 216 bounds due to its resources volatility versus their own marketing decisions.

No generation resource providers, and least of all the FCRPS with its myriad of operating constraints and complex operational planning requirements, can agree to be dispatched without advance planning to cover another generator's schedule error. While there may potentially be a better mechanism in the future to protect reliability, some mechanism must be available today. For BPA, that mechanism is DSO216.

BPA understands the concerns expressed by many regarding the impacts of DSO216 in customer operations and marketing. In order to allow parties to protect themselves from these impacts, BPA is actively pursuing an enhanced supplemental service. This service would make it possible for parties to acquire additional balancing capacity to be called on to reduce impacts during a DSO216 event.

6. Scheduling

Puget Sound Energy

The Balancing the Future Presentation states that the EBBA will tag “as agreed to by seller and buyer in accordance with each BA’s rules.” Balancing the Future Presentation at 8. It is axiomatic that all tagging should be in accordance with applicable standards and requirements, including, for example, applicable tagging procedures and requirements of the Federal Energy Regulatory Commission (“FERC”), the North American Electric Reliability Corporation (“NERC”), and the Western Electricity Coordinating Council (“WECC”).

BPA Response

BPA agrees that tagging should be in accordance with all applicable FERC, NERC, and WECC standards. Tagging should also reflect the mutual understanding of the seller, purchaser, and source and sink BAs regarding the likelihood of the schedule requiring adjustments.

7. Intra-Hour Scheduling

Iberdrola Renewables

Iberdrola encourages Bonneville to take all possible actions to support and promote increased intra-hour scheduling and dynamic scheduling on Bonneville's system to enable other entities to assist Bonneville in its system balancing functions.

Puget Sound Energy

The Balancing the Future Presentation states that the EBBA will seek to "encourage increased participation in BPA's Committed Intra-Hour program." Balancing the Future Presentation at 8. PSE is supportive of the increased participation in intra-hour and dynamic scheduling and notes that the implementation and design of this theme may be significantly affected by the final order of FERC on its variable energy resource notice of proposed rulemaking

Renewable Northwest Project (RNP)

As a first step, RNP encourages BPA to expand the Committed Intra-hour Scheduling program to relieve the pressure on the federal system. BPA should then develop experience with dispatching available short-term federal resources and non-federal resources on a sub-hourly basis before requiring certain customers to commit to an inefficient cost structure under supplemental service.

BPA Response

BPA agrees that expansion of Committed Intra Hour Service could enable more efficient use of the FCRPS resource to manage more wind generation in the region.

BPA has heard that the discount for Committed Intra-Hour for some customers is less than the benefit that is given up by committing to scheduling on a 30 minute basis. BPA is considering a tiered approach to allocating the lower cost of FCRPS capacity available for reserves that would reward parties that commit to use of a centralized forecast as the basis for scheduling, which should increase schedule accuracy and, thereby reduce the reserve requirement. BPA has also heard support for providing options to use committed scheduling for longer schedule intervals.

BPA will continue to seek public input on ideas for improving participation in the Committed Intra Hour Service Pilot and/or expanding the pilot to include commitment to scheduling based on a centralized forecast and for on other time frames such as 30/60, 60/60, or other scheduling timeframes.

8. Dynamic Scheduling / DTC

Iberdrola Renewables

Iberdrola encourages Bonneville to take all possible actions to support and promote increased intra-hour scheduling and dynamic scheduling on Bonneville's system to enable other entities to assist Bonneville in its system balancing functions

Powerex

Powerex has concerns regarding the use of DTC on BPA's system. As Powerex indicated previously, Powerex supports BPA's efforts to facilitate dynamic scheduling; however, we are concerned about inadvertent flows eroding the ability of BPA's customers to use DTC. In this regard, Powerex notes that many BAs in WECC are participating in the Reliability Based Control (RBC) Field Trial, which allows virtually unlimited inadvertent flows during certain conditions. In Powerex's view, BAs have the ability to utilize the enormous flexibility in the RBC standard to deliberately cause "inadvertent" flows. As a result, Powerex is concerned that the amount of inadvertent flow over BPA's system may significantly increase in the future if market participants work with their BAs to take advantage of the RBC standard for their own commercial benefit (i.e. for the purpose of acquiring free regulation capacity, free transmission and/or bypassing the queue for access to DTC.)

Powerex is pleased that BPA has indicated that it will work with Reliability Coordinators to consider the issue of inadvertent flow. Powerex hopes that BPA will continue to carefully monitor the amount of inadvertent flow over its system, and, if necessary, take steps to limit uncompensated use of its transmission system by other BAs. In addition, Powerex strongly believes that customers that have formally requested and compensated BPA for DTC rights should not face increased real-time curtailments because of inadvertent flow into BPA's BA from neighboring BAs.

Puget Sound Energy

The Balancing the Future Presentation states that the EBBA will seek to "[f]acilitate ability to schedule and dispatch dynamic resources in-hour." Balancing the Future Presentation at 8. Again, PSE is supportive of the increased participation in dynamic and intra-hour scheduling and notes that the implementation and design of this theme may be significantly affected by the final order of FERC on its variable energy resource notice of proposed rulemaking.

The Balancing the Future Presentation states that the EBBA will seek to "[c]onsider DTC growth options to accommodate increased flexibility for customers to supply BRs as needed." Balancing the Future Presentation at 9. BPA should explore solutions to TVL issues on BPA's balancing authority area ("BAA"). There may be relatively "low hanging fruit" in the form of solutions—such as RAS automation or reactive equipment—that can be installed at a relatively low cost. If so, allocation of the costs of such solutions should not be particularly contentious, in light of the fact that transmission system upgrades made to mitigate the effects of unanticipated power flow from variable energy resources will likely provide benefits to users of BPA's transmission system more generally (not just to those with variable energy resources).

Xcel Energy Services

Dynamic Transfer Capability (DTC) is not a FERC- or NERC-defined transmission service product attribute. Xcel Energy recommends that if BPA continues to establish limitations on dynamic transfers, these efforts should ensure comparability to all users of the BPA system, including internal native/network impacts. In some cases, conditions leading to rationing so-called DTC due to voltage control concerns may reflect inadequate investment in grid operations and control equipment.

BPA Response

BPA agrees that allowing more dynamic transfer and increasing dynamic transfer capability (DTC) across the WECC interconnection may be desirable by many parties. To date, BPA has honored almost all of the dynamic transfer requests without limiting the amount requested. BPA is requesting that all entities with a need for dynamic transfer across BPA's transmission system to submit dynamic transfer requests so BPA can determine if and where dynamic transfer limitations for new uses might occur.

BPA will continue working with Reliability Coordinators to address issues with inadvertent flow. BPA agrees with Powerex that inadvertent flows due to multiple Balancing Authority Areas operating under Reliability Based Control (RBC) could cause increased inadvertent flow on the transmission system and cause BPA to limit dynamic schedules (and even block schedules) across a DTC flowgate. Additionally, BPA notes one correction to Powerex's comment: to date BPA does not receive compensation for DTC rights.

BPA does not think that the automation of Remedial Action Schemes (RAS) and installation of reactive equipment is 'low hanging fruit.' Both of these improvements involve significant investment. To determine the need for additional reactive equipment, BPA would need additional information via requests for new DTC, to study the future system with the requested dynamic transfers to see if and where additional reactive elements might be needed.

BPA does not believe that limits to DTC are due to inadequate investment in grid operations and control equipment. The transmission system was engineered to serve the load that has traditionally been the source of variability on the system. As more entities vary their energy usage in-hour, BPA is experiencing system use in new and different ways. Some use in ways it has never been used before. The original investment was adequate, even more than adequate to meet the design need. That is evident in the significant amount of DTC BPA has been able to accommodate to date. However, future investment may be needed to respond to these new or changing uses.

9. Wind Forecast

Iberdrola Renewables

Iberdrola supports Bonneville's continued development of a Centralized Forecast for operational purposes if the forecast information is used to affect Bonneville's actual dispatch to lower the

cost of reserves. Absent this important step, development of a Centralized Forecast will drive incremental costs for variable generators on Bonneville's system. Iberdrola Renewables looks forward to working with Bonneville to develop a workable approach that will provide Bonneville with greater certainty related to the amount of wind scheduled within its BA and to better optimize dispatch and deployment of reserves.

Puget Sound Energy

The Balancing the Future Presentation states that the EBBA will seek to "continue development of Centralized Forecast for operational purposes." Balancing the Future Presentation at 10. It seems premature to comment on the role of Centralized Forecasting with regard to wind resources in BPA's BAA. However, if and to the extent BPA proposes to engage in centralized forecasting and would require generation information from its customers, BPA must work with all necessary stakeholders to develop and implement appropriate non-disclosure agreements and other procedures to protect sensitive and proprietary commercial information.

Snohomish

Snohomish requests further discussions on how BPA envisions it would implement centralized forecasting for wind projects in their BA

Xcel Energy Services

BPA should be applauded for its desire to improve its wind forecasting ability to reduce the errors in its expectations of dispatch, although this should be done much faster than the proposed five years. To improve wind forecasting, BPA should look to work with other entities that have integrated large amounts of wind generation. Xcel Energy is willing to work with BPA employees involved in the forecasting effort to compare forecasting processes.

BPA Response

BPA appreciates support for the idea of developing better forecasting tools to better predict BPA's balancing reserve needs.

By encouraging wind generators to schedule to a forecast that is known by BPA, BPA should be able to better plan the operation of the FCRPS and position it to supply reserves needed for forecast error. If wind generators were scheduling to a centralized forecast and committing to a specific scheduling approach, such as 30/30 or 30/60 scheduling, reserve use would become more predictable, although some uncertainty will always remain. If scheduling becomes more accurate, reserve use will decrease and eventually the reserve requirement could be reduced

At some point in the future, BPA may be able to rely on an imbalance market or other real-time transaction support system such as WebEx to acquire a portion of balancing reserves from non-FCRPS resources. However, dispatch of reserves is always based on the actual imbalance at the moment and not on a forecast. Establishment of capacity standing ready to dispatch must occur in advance, not in real time, for reliability services.

10. Dispatch Decisions and Visibility

Puget Sound Energy

The Balancing the Future Presentation states that the EBBA will seek to “ [b]etter manage [balancing reserve] deployment by creating better visibility tools, by dispatching more efficiently, and by better forecasting the need for [balancing reserves]”. Balancing the Future Presentation at 10. PSE is supportive of efforts that improve management of, increase visibility to, and improve dispatching efficiency for balancing reserves.

Renewable Northwest Project (RNP)

As BPA noted during the March 7th workshop, BPA and its customers need to develop systems, technical capabilities and staff expertise to maximize the ability of the region’s generation and transmission assets to provide balancing reserves reliably and cost effectively.

Xcel Energy Services

Finally, it is unclear by the terminology used in the posted document if BPA is looking to modify its interconnection agreement with wind generation. If BPA has not yet required AGC capability at new (and possibly existing) wind resources, it should. It is not unreasonable to require any new wind facility interconnecting with BPA’s transmission lines to have the ability to receive AGC signals from the AGC system. This might address some issues seen at BPA for minimal cost and lower the level of curtailments through better control mechanisms.

BPA Response

Thank you for your comments. At this point BPA is not requiring AGC capability at wind resources, but BPA does have a mechanism in place to limit wind output. Many of the new and existing wind projects are choosing to have that mechanism automatically lower the output of the wind facilities, which is close to an AGC capability.