



November 18, 2013

**VIA EMAIL**

Tech Forum  
Bonneville Power Administration  
PO Box 491  
Vancouver, WA 98666  
[techforum@bpa.gov](mailto:techforum@bpa.gov)

Re: Public Power Council's Comments on BPA's Proposed Control Concepts for the PAC EIM, Principles for Decision-making and Process.

Dear Tech Forum:

Thank you for the opportunity to comment on BPA's proposed concepts for "controls" on the impact of PacifiCorp's (PAC's) use of BPA transmission service agreements to participate in the proposed California Independent System Operator's (Cal ISO's) Energy Imbalance Market (PAC EIM or EIM). PPC has an interest in BPA's provision of transmission services to other customers, and in this case to PAC, to ensure that BPA does not provide transmission services (1) that, now or in the future, could interfere with or otherwise degrade BPA transmission services and rights of preference or other transmission customers and (2) that may be unduly preferential or discriminatory. Our interest is unrelated to the PAC EIM itself and we have no wish to interfere with or unnecessarily delay the start of that market.

Our ability to comment on these proposed concepts, however, is hampered at this time by a lack of information from BPA. PPC has requested additional information, which we need to assess BPA's current proposals and the additional work that will be needed going forward. Currently, we lack key information to permit us to understand PAC's use of its existing transmission rights. This is particularly an issue in three areas:

1. Without an understanding of those rights and uses, we cannot speak to the baseline assumptions that BPA intends to study in regard to the controls (*i.e.*, what is PAC's current use of dynamic capability and what is its impact on the BPA transmission system and interchange).
2. Without an understanding of those rights and uses, we cannot assess whether BPA would be providing additional, new rights to PAC to schedule dynamically across the BPA Network and California intertie (COI).
3. Most importantly, we cannot evaluate BPA's assessment and make any independent assessment of the potential impact on transmission

curtailments and redispatch depth or frequency, impacts on operations of FCRPS resources and other operational matters that impact the quality of service provided to, and costs paid by, preference customers.

As a result, in this submittal PPC provides preliminary comments on the proposed concepts for controls based on the information available to it at this time. We strongly encourage BPA to provide the information we have requested and to hold technical workshops on the analyses that it plans to make and would make after further consultation with customers. We also strongly encourage BPA to provide additional opportunities for customers to comment on the potential feasibility and effectiveness of the proposed concepts and on the analyses when more information becomes available and before any decisions are made.

### **Summary of BPA Staff's Proposed Controls**

Our understanding is that PAC proposes to use a subset of its existing long-term firm transmission services agreements with BPA to transmit energy from its resources to its loads and to the EIM market based on a 5-minute dispatch of those resources provided by the Cal ISO in its operation of the proposed PAC EIM. These dispatches require that PAC hold rights from BPA to dynamically transfer energy under those agreements and PAC has asserted but has not detailed what it believes are its rights and past usage of those rights.

A key assumption in the use of those contract rights is that PAC's use of transmission capability on the BPA system will not, in any interval, exceed either its reservation amount or its scheduled amount. This assumption underpins the further assumption that PAC's use of dynamic transfer to transmit energy to the EIM in response to Cal ISO's dispatches will not impact either static or dynamic use of the transmission system by other customers. Another key assumption is that BPA's open-access transmission tariff (OATT), transmission business practices, and rates terms, conditions, charges and penalties will continue to apply to PAC's use of its transmission contracts without exception or modification.<sup>1</sup>

To ensure that there are no adverse impacts due to PAC's proposed use of its BPA Network transmission contracts, BPA is proposing a number of possible controls on that use. For transmission on the BPA Network, these include the following:

---

<sup>1</sup> For example, under current business practices any amount of the reservation that is unscheduled is released back to BPA for sale as hourly firm and non-firm transmission services and that practice would continue to apply to PAC's use of its transmission contracts.

- An initial identification of transmission paths and flowgates that may require “coordination and the implementation of operational controls . . . .”<sup>2</sup> BPA proposes to apply two tests and if either were met, the path or flowgate would be subject to coordination and control. First, BPA would analyze single pairs of resources and loads that PAC has identified to BPA as those that would submit bids to the EIM and determine whether the resource redispatch of 1 MW would have an impact of 0.1 MW on any path or flowgate (10% of the redispatched amount). Second, BPA would analyze each identified resource that would submit bids to the EIM and determine whether the resource redispatch of 1 MW would have an impact of 0.1 MW on any path or flowgate (10% of the redispatched amount).
- System Operating Limits (SOLs) on paths and flowgates would not be exceeded due to “market flows” on the BPA transmission system resulting from PAC EIM dispatches. BPA staff has stated that Cal ISO would model the market flows on the system for each 5-minute dispatch interval. The Cal ISO appears to bear the obligation to prevent market flows from causing an SOL violation or making one worse. The SOL limits on market flows would be enforced but the plan for doing so has not yet been developed. BPA staff has stated that they expect BPA to be able to identify the share of any required curtailment that would be attributed to PAC and to curtail PAC in that amount as a firm schedule and in the curtailment order set out in the BPA OATT.
- BPA proposes to adopt and implement of controls on the magnitude of changes in PAC resource output flowing on Network paths and flowgates both within and between 5-minute intervals. In both an upward and downward direction, BPA would limit changes in variable transfers dispatched by the EIM to a level not to exceed an “Upper 5-minute Delta Flow Limit” and “Lower 5-minute Delta Flow Limit.”<sup>3</sup> BPA has offered two alternatives for the calculation of those Delta Flow Limits: (a) “Static Method” – establish limits using PAC’s historic dynamic usage to determine the impact of variability for each identified PAC resource on each flowgate and path. From this, BPA would determine the net coincidental impact by flowgate, and derive a limit; (b) “Variable Method” – BPA would develop nomograms for the Network paths and flowgates that would, among other things, take into account Remedial Action Scheme (RAS) arming and other parties’ dynamic transfer rights, for each flowgate. The limits would, therefore, be subject to change over time.

We understand also from BPA that PAC’s use of BPA transmission contracts providing service on the California-Oregon Intertie (COI) would follow the existing business practice for granting dynamic transfer rights on that path. Additionally, the COI

---

<sup>2</sup> BPA, *BPA Stakeholder Discussion on PAC/ISO EIM Implementation: Controls for Managing Impacts*, Oct. 28, 2013 (Oct. 28 Slide Deck), p. 6.

<sup>3</sup> Oct. 28, Slide Deck, p. 10.

would be a coordinated and controlled path<sup>4</sup> and the Cal ISO would ensure through its market dispatch that SOLs would not be exceeded or exacerbate violations of the SOL for that path. Lastly, BPA would apply and enforce scheduling limits.<sup>5</sup>

## Comments

### Principles for Evaluating Controls and Implementation

BPA's October 28, 2013, presentation materials set out principles, which underlie BPA's approach to PAC's requests regarding use of dynamic transfers to facilitate its participation in the PAC EIM. Regarding dynamic usage, BPA notes that "[t]hrough the EIM will represent a *unique* usage of our system, the EIM's dynamic usage should not negatively impact:

- Other dynamic usage;
- Flexibility for future dynamic uses on BPA's system;
- BPA's ability to review and modify it's [sic.] dynamic use policies."<sup>6</sup>

In September BPA also noted that "[u]se of the BPA transmission system will be consistent with non-discriminatory access and Open Access principles[,] that "[o]peration of the transmission system will be consistent with NERC and WECC reliability standards," and that BPA's "customers in neighboring Balancing Authorities receive fair and comparable service."<sup>7</sup> We agree that these principles are appropriate and necessary but they are incomplete in important respects.

First, BPA provides transmission service to its customers under an OATT and the principle of providing not unduly preferential or discriminatory transmission service should be expressly stated. We suggest that BPA's stated open-access principle quoted above include the express statement that "no dynamic usage, scheduling and tagging protocol or other authorization shall provide PAC with unduly preferential transmission service or rights."

Second, because BPA has committed to provide transmission service to its customers according to open-access principles, and because BPA has contracts to provide its existing customers with transmission service that is reliable and high quality, BPA should additionally adhere to the broader principle of "do no harm." Not impairing

---

<sup>4</sup> See the first bullet in the immediately preceding paragraph.

<sup>5</sup> Oct. 28 Slide Deck, p. 9 - 11.

<sup>6</sup> Oct. 28 Slide Deck, p. 5 (emphasis in the original). We are assuming that BPA uses "unique" in this context to indicate that no other transmission customer could request similar usage but that only PAC has as yet requested such usage.

<sup>7</sup> BPA, *BPA Stakeholder Meeting: CAISO-PacifiCorp EIM Implementation*, Sep. 27, 2013, p. 5.

the dynamic uses of other customers on the BPA transmission system or BPA's ability to grant future dynamic uses or alter its policies are important principles. It is essential, however, that customers with flat, non-dynamic schedules not experience additional curtailments, instances of increased BPA redispatch or higher costs.<sup>8</sup> Similarly, it is essential that BPA not experience any increase in reliability events of any kind as a result of PAC's use of BPA transmission services to participate in the EIM.<sup>9</sup> Therefore, we suggest that BPA expressly state that "PAC's use of dynamic transfer for its participation in the PAC EIM will not degrade in any manner transmission system reliability or the quality or cost of transmission services provided to other BPA transmission customers." This is a different statement from simply stating that BPA will operate consistently with NERC and WECC requirements.

Lastly, BPA must look to the future and its ability to enforce and control the dynamic transfer rights that PAC wishes to use for its participation in the PAC EIM. BPA and other Northwest parties may wish to establish an EIM in the Northwest and dynamic transfer capability must be available for that purpose. Other customers may wish to dynamically schedule their resources to their loads or establish pseudo-tie arrangements with BPA. BPA will need to maintain and possibly expand the dynamic uses of its system to meet the needs of its customers for delivery of federal power and balancing energy to their loads and resources. It is essential that BPA maintain the ability to restrict the term of the grant of dynamic transfer capability as well as alter the terms and conditions of that use of such capability in order to both meet its statutory obligations for delivery of federal power and to ensure that no single entity gain an undue market advantage through incumbency.

BPA has limited the duration of grants of dynamic transfer capability (DTC) through its Network and COI business practices and should continue to do so. BPA should continue to evaluate these issues and not make long-term grants, as it has not determined a long-term approach to evaluating the amount of DTC available on its system, developed control and visibility systems within BPA to manage those flows in real time, and ensured that its existing customers will not be harmed by providing more DTC rights. An incremental approach is particularly warranted at this point because

---

<sup>8</sup> When assessing the impacts of PAC's use of the system through participation in the EIM, BPA should consider frequency and duration of curtailments and redispatch events for both NT and PTP customers, impacts on nonfirm revenues, and BPA's ability to provide robust NT service from a variety of FCRPS dispatches

<sup>9</sup> With regard to curtailments in particular, we are also concerned that BPA be able to make effective curtailments to avoid SOL violations on the Network and the COI. We understand that BPA intends to retain the ability to do so, but have questions about how effective curtailments can be made to PAC's system-to-system tags when PAC's generating resources cannot be seen by BPA. We are also concerned that effective curtailments of PAC schedules will require actions by the Cal ISO and that BPA cannot effectively implement them alone.

BPA, PAC and Cal ISO have not established either PAC's current uses of dynamic transfers or its expected future impacts on the transmission system. Nor have they established the efficacy of the proposed, or any additional, controls.

As a result, we suggest that BPA adopt a principle that "any arrangement made with Cal ISO or PAC regarding PAC's use of dynamic transfer on the BPA system will be consistent and comply with BPA's existing OATT and business practices and that BPA will ensure that it will retain the ability (and that no arrangement with Cal ISO or PAC will at all restrict the ability) to establish OATT terms and conditions, business practices or operational rules or controls that protect the transmission services and interests of its existing transmission customers." BPA staff has indicated a similar goal with regard to the upper 5-minute flow limit.<sup>10</sup> This is critical, not just because BPA must retain the ability to manage and provide transmission services on its transmission system, but also because as currently proposed, the solution for preventing excessive use of dynamic transfer resides in large part with the Cal ISO. The Cal ISO market engine must be designed and operated to prevent PAC's dynamic uses from exceeding its existing transmission rights and control the magnitude of dynamic changes. BPA must ensure that it has the ability to make effective curtailments on its system that include PAC's EIM schedules and that it has the ability to make changes to rules that will be reflected in the PAC EIM market design and software, should that prove to be needed.

#### Metrics for Implementing Principles

In determining how these principles are met, BPA has also articulated "operational goals." BPA describes its operational goals as follows:

- "The 5-minute EIM dispatches do not adversely impact RAS arming, voltage control limitations, or reliability, and existing dynamic uses of the system are protected.
- If a congestion event is imminent or occurring, the EIM does not exacerbate the event.
- BPA dispatchers have sufficient visibility and controls to be aware of the impact of the EIM (in real-time and prospectively) and be able to suspend or restrict the EIM dispatches if deemed necessary to maintain the reliability of the system."<sup>11</sup>

PPC agrees that these metrics must be met. Also, these are on-going requirements that are not limited to an initial assessment. This is a key component of the metrics that BPA should use as the obligation to avoid harm to other transmission customers is an on-going obligation that cannot be assured by an initial snapshot assessment.

---

<sup>10</sup> See Oct. 28 Slide Deck, p. 12.

<sup>11</sup> *Id.* at p. 6

PPC suggests one additional metric. One of the assumptions that BPA makes in its approach to 5-minute EIM dispatches is that PAC will stay within its reservation and scheduled energy amounts. Failure to stay within those limits may increase curtailments and redispatch events. BPA's stated operational goals should be revised to include a goal that there be "no increased curtailments and redispatch impacting its transmission customers."<sup>12</sup>

### General Comments on the Proposed Control Concepts

In order to ensure that sufficient control is ensured, the control concepts need to be designed to address these requirements. To ensure this going forward, a program of ongoing evaluation and, if necessary, revision must be adopted. Given the fact that BPA has not dealt with this type of usage before,<sup>13</sup> it is important to be cautious, particularly early on, and to provide transparency and opportunities for frequent re-evaluation of the impacts of the dynamic uses by PAC. It will be also necessary for BPA to continue to analyze impacts and possibly to make changes to the controls and to flexibilities it might initially grant PAC should the impact of the PAC's dynamic uses impose a burden on the transmission system or other customers.

Moreover, as noted above in regard to the principle that BPA must retain the ability to manage flows on its transmission system, the fact that BPA proposed to rely to a significant extent on the Cal ISO to control PAC EIM market flows raises concerns. BPA proposes that the Cal ISO control market flows through operation of Cal ISO's market engine which would ensure flows do not exceed either the reservation or schedule amounts and that 5-minute flow limits are not exceeded. If it turns out that this mechanism does not fully control flows or impedes BPA's ability to make effective curtailments or otherwise manage flows for reliability or has other adverse impacts,<sup>14</sup> it may prove difficult to change. The market design and the market engine may not be something that the Cal ISO can or wishes to change and FERC's consent could be required to do so. BPA should consider very carefully how it retains its ability to autonomously manage its system and operations. As a result, BPA must not only ensure

---

<sup>12</sup> BPA should have an express and directly executable ability to curtail PAC schedules and flows if the market flows do in fact exceed either the reservation or schedules amount.

<sup>13</sup> BPA has permitted PAC's dynamic use of its transmission system to permit remote resources to meet load variations and other load needs. Load variations tend to be largely predictable, within a range, and centered on morning and evening ramps. This is different than a 5-minute dispatch governed by an economic optimization model, which may be much less predictable by BPA in regard to when and how much resources in different locations would be dispatched to meet loads needs in diverse areas. Whether the new use of dynamic transfer will benefit or burden system operations and reliability is unknown.

<sup>14</sup> We can envision a situation in which BPA has to provide redispatch of its own resources to manage flows on its transmission system if it cannot obtain effective curtailment of EIM scheduled flow, which increases costs for BPA customers.

that it evaluates the impacts of PAC's dynamic transfer use on an on-going basis but also that it has the ability to make whatever adjustments are necessary to ensure that its stated principles are fully met in the future.

PPC agrees that temporary reliance on the Cal ISO to meet system visibility needs and market flow calculations may be necessary while BPA develops its own capability. In order for BPA to maintain control of management of flows and operations of the FCRTS, it would be highly preferable that the relationship between BPA and the Cal ISO be structured to make BPA less dependent at a point in the near future on PAC EIM market operations for BPA transmission system flow management. PPC requests that BPA take this up with its customers soon so that we can have a clear understanding of the proposed BPA-Cal ISO relationship, contractual terms and conditions and the ability for the relationship and contracts to evolve.

#### Identification of Network Flowgates that Would Be Subject to Control

BPA proposes to model the impact of PAC's dynamic usage on each path and flowgate and require coordination with, and control of market flows by, the Cal ISO of each path or flowgate for which there is a predicted 10% impact. We agree with BPA that identifying potential impacts on flowgates and paths is important to establish up front but urge BPA to be cautious and choose a metric that is over-inclusive rather than potentially under-inclusive. At this stage BPA has no experience with the way the Cal ISO will actually change the dispatch of PAC's resources compared to their current dispatch.

Starting from the premise that no adverse impact should occur, it is appropriate to begin with a more conservative analysis and eliminate flowgates from the set that must be controlled as experience is gained over time.<sup>15</sup> The Eastern Interconnect uses a 5% metric for flowgate impact in its Interchange Distribution Calculator (IDC). The IDC evaluates market flows on all coordinated flowgates in that interconnection for purposes of implementing curtailments on congested paths. A 5% metric for BPA's analysis may be more appropriate for the above reasons.

#### Static versus Variable Calculation of 5-Minute Delta Flow Limits

As noted above, BPA proposes two alternatives for limiting market flow ramps across each 5-minute scheduling interval and between 5-minute intervals. PPC does not object to use of the static calculation of 5-minute Delta Flow Limits but prefers the Offline Nomogram Variable Limits calculation. The proposed variable calculation

---

<sup>15</sup> BPA's transmission system is becoming more constrained, and the high penetration of wind resources in the BPA balancing authority area has increased BPA's need for dynamic transfer overall. As a result, additional caution is warranted.

benefits BPA by permitting BPA to take account of RAS arming and, presumably, changes of system topologies as planned and unplanned outages occur. We recognize that this may permit PAC to use more than its historic usage levels of dynamic transfer but it may also permit less, both based on system conditions. Our understanding is also that as other customers are given new grants by BPA of dynamic transfer usage, the total amount of incremental dynamic transfer capability at a flowgate limited by the variable calculation will be shared among the dynamic transfer customers, including PAC.<sup>16</sup> This appears to benefit both reliability and oversight by BPA in setting limits on the use of its transmission system, as well as giving customers, who may wish to obtain dynamic usage in the future, an ability to obtain an allocation of DTC. It does not, by itself, protect BPA's ability to ensure that it retains sufficient DTC for its current and future system balancing requirements. But, the ability to address BPA's needs to retain control of the usage of DTC on its system must be ensured by appropriate rights and obligations in its agreements with the Cal ISO and PAC.

### Conclusion

PPC looks forward to further discussions and workshops with BPA staff on these and related issues. As noted at the beginning of these comments, PPC staff has requested further information that will assist us in understanding the nature of PAC's current and proposed dynamic uses, the analysis that BPA has done and plans to do that evaluates those uses and the potential impact on BPA's other transmission customers and on BPA's and its customers' interests. As BPA moves forward in this process with its customers, we are hopeful that this and other information will be forthcoming so that we can be assured that our interests are and will be met.

Sincerely,

/s/

Nancy Baker  
Senior Policy Analyst

cc: R. Scott Corwin, Executive Director  
PPC Executive Committee  
PPC Rate and Contracts Committee

---

<sup>16</sup> Oct. 28 Slide Deck, p. 14, indicates that currently existing DTC awards, other than PAC's would be subtracted from the amount of flowgate limit made available to PAC. Our understanding that those existing DTC awards would continue to be subtracted and new awards would enjoy access to the same DTC within those limits as PAC would.