



## **Local Market Power Mitigation Enhancements Issue Paper/Straw Proposal**

**Public Generating Pool Comments  
December 7, 2018**

The Public Generating Pool (PGP) appreciates the opportunity to comment on the California ISO's Local Market Power Mitigation Enhancements Revised Straw Proposal that was published on November 16, 2018 and discussed with stakeholders on November 28, 2018. PGP represents ten consumer-owned utilities in Oregon and Washington that own almost 6,000 MW of generation, 4,500 MW of which is hydro and 95% of which is carbon-free. Three of the PGP members operate their own Balancing Authority Area (BAA), while the remaining members have service territories within the Bonneville Power Administration's (BPA) BAA.

PGP members are not currently participants in the EIM. However, BPA and PGP member BAAs continue to evaluate the costs and benefits of EIM participation. Market power mitigation continues to be a critical issue for PGP members in their consideration of EIM participation.

### **I. EIM DECISIONAL CLASSIFICATION**

PGP disagrees with the EIM decisional classification for the elements of this initiative. PGP understands the solutions proposed have a broader impact than the EIM. However, this initiative would not have been undertaken "but for" the EIM. The issues that CAISO is attempting to address – flow reversal, economic displacement, a new default energy bid for hydro resources – are unique to the EIM and critical issues, in particular for Pacific Northwest hydro resources. PGP believes the entire initiative should fall under the primary decision-making authority of the EIM Governing Body, in particular the proposals to create a new default energy bid (DEB) designed to approximate the opportunity costs for hydro resources and the proposals to address flow reversal and economic displacement. This initiative greatly highlights the timeliness of an EIM Governance Review, specifically the need for greater delegation of authority to the EIM Governing Body.

### **II. SUPPORT FOR LIMITING MITIGATION TO INTERVAL IN WHICH MITIGATION IS TRIGGERED AND PREVENTION OF FLOW REVERSAL**

PGP supports CAISO's proposals to limit mitigation to the intervals in which mitigation is triggered and address the issue of flow reversal. PGP supports CAISO eliminating current rules that fix a mitigated bid price for the balance of an hour, updating the mitigated bid price in each interval based on the current competitive LMP, and no longer automatically mitigating a resource in the 5-minute real-time dispatch that is mitigated in the 15-minute market. PGP also

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understands CAISO's rationale for adding a small parameter to the competitive LMP to establish price separation between competitive and non-competitive areas. PGP supports this change and agrees that this price separation will further prevent flow reversal from occurring in cases when a resource is mitigated to either the resource's DEB, or the competitive LMP.

### **III. SUPPORT FOR PREVENTION OF ECONOMIC DISPLACEMENT BETWEEN MITIGATED BAAs**

PGP agrees that mitigated bids that result in additional transfers in a voluntary market can be problematic – particularly in cases when the DEB is lower than a resource owner's estimate of its marginal costs. PGP supports CAISO's proposed market rule to prevent economic displacement by limiting transfers from the exporting BAA to the greater of: (1) pre-mitigation transfer quantity or (2) the exporting BAA's upward flexible ramping requirement adjusted by its imbalance energy need.

CAISO has proposed that the use of this rule be optional and that each EIM balancing authority area would have the option whether to implement this rule in the market for transfer out of its BAA. However, there may be third parties with participating resources within an EIM BAA that don't want their bids being mitigated to result in additional transfers to a neighboring BAA. PGP requests CAISO consider how to allow those resource owners to indicate their desire to have their mitigated bids result in additional transfers or not.

### **IV. HYDRO RESOURCE DEFAULT ENERGY BID**

PGP thanks CAISO for the modifications made to the new DEB option for hydro resources and for CAISO's continued responsiveness to stakeholder input. PGP is very pleased with the progress made to date and believes the approach and formula proposed in the revised straw proposal is much improved from the initial straw proposal. The revised proposal has come a long way in closing the gaps between the DEB options available today and what is needed to more appropriately capture the opportunity costs of EIM hydro resources. PGP provides the following comments on the proposed DEB and suggests a few further refinements that can provide durability to the DEB formulas and consistency between hydro resources with shorter storage horizons.

#### **a. Support for inclusion of Balance of the Month**

PGP thanks the CAISO for its receptiveness to including the Balance of the Month price indices in the ST DEB formula. As stated in previous comments, this change will help capture price conditions not captured by day-ahead and month-ahead forward prices.

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**b. Support for Gas Floor and suggest using heat rate of peaking gas resource and maximum of day-ahead, balance of the month and month-ahead**

PGP supports inclusion of a \$/MWh floor in the short-term DEB formula and supports CAISO's proposal to define the \$/MWh floor as the Gas Heat Rate multiplied by the specific gas price index for the resource in concept. PGP believes the gas floor would more accurately align with the opportunity cost of use-limited hydro resources with the following changes:

- PGP proposes CAISO *use the heat rate of a peaking gas resource rather than the average heat rate for a typical gas resource* as it more accurately aligns with use-limited hydro resources' ability to shape their output to more critical hours.
- PGP proposes CAISO *use the maximum of the day-ahead, balance-of-the-month and month-ahead gas price indices* to align with the sales opportunity windows of hydro resources.

PGP recognizes that re-running the analysis with a gas floor as recommended above would likely result in a lower scalar necessary to achieve 95% dispatch efficiency but believes these changes would more accurately reflect hydro opportunity costs.

**c. Request for ability for short-term storage resources to elect multiple trading hubs**

PGP thanks CAISO for including the ability to capture sales opportunities to multiple trading hubs in the hydro resource DEB equations. PGP is supportive of CAISO's proposal to allow long-term resources to elect multiple bilateral trading hubs given demonstration of transmission rights but believes this same opportunity should be afforded to short-term storage resources. Resources with less than 4 months of storage may also have transmission rights that provide them the ability to sell to other bilateral trading hubs. These sales opportunities should be included in their DEB formula as well. ***PGP requests CAISO allow a resource with less than four months of storage to elect multiple bilateral trading hubs in the short-term DEB formula.***

PGP agrees with stakeholder comments that rather than using a weighted average of the bilateral trading hub a resource has transmission rights to, the highest priced trading hub should be used as this is more representative of the sales opportunity the hydro resource has, with consideration of transmission rights. A hydro resource will sell to the highest price trading hub it has transmission rights to. Given that CAISO is limiting the bilateral trading hubs that can be selected to four hubs, PGP believes using the highest priced trading hub in the formula weighted based on what transmission rights are available to reach each hub strikes a reasonable compromise. PGP believes this concept merits further consideration.

Regarding demonstration of transmission rights, PGP believes it is appropriate to require showing of annual firm transmission rights but not a demonstration of monthly purchases of rights from the prior year. The ability to obtain transmission rights over certain paths the prior year is not an accurate indicator of what transmission is available for this year, nor is it necessarily an indicator of what transmission rights will be purchased by a resource owner in the current year. Demonstration of transmission rights should be forward looking. As such, ***PGP***

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*recommends CAISO only accept transmission rights held by the resource owner for the assessment time period as demonstration of transmission rights to other bilateral trading hubs.* This could mean CAISO allow demonstration of transmission rights prior to each month, etc.

**d. Recommendation to set scalar using set methodology and criteria**

PGP appreciates CAISO's analysis of different scalars for the hydro resource DEB formulas and found it to be very helpful in defining a hydro owner's risk of mitigation causing its water to be depleted inefficiently under a range of scalars applied to the formula. PGP does not recommend a specific scalar. Rather, PGP recommends using the basis of CAISO's analysis to establish a methodology and criteria for setting the scalar and then apply the methodology and criteria consistently for all hydro resources. PGP believes this will enhance the durability of the hydro DEB formula. PGP proposes the following steps for defining a scalar:

**1. *Establish methodology for setting scalar and update on regular cadence.***

CAISO could use the framework of its analysis to establish the methodology for setting the scalar and refresh the analysis on a periodic basis to ensure the scalar remains reflective of current conditions. To apply the hydro DEB in the day-ahead timeframe, for example if the Day-Ahead Market is extended to EIM Entities, CAISO could run the same analysis using day-ahead prices instead of real-time prices. PGP recommends using the steps of the CAISO analysis to establish the methodology for setting the scalar, with minor modifications highlighted below.

- i. Calculate a DEB for each day during the time period using Powerdex bilateral prices for both a one-month storage horizon and a three-month storage horizon. Calculate the floor using the heat rate of a *peaking* gas plant (rather than average) and *use the maximum of the day-ahead, balance-of-the-month and month-ahead gas price indices.*
- ii. Compare the daily DEB to real-time *(or day-ahead<sup>1</sup>) Powerdex bilateral prices.* PGP agrees with stakeholder comments that Powerdex bilateral prices are more reflective of the EIM, in particular as the EIM continues to expand.
- iii. Determine percentage of intervals that a resource would be dispatched if bidding into the market at DEBs.

**2. *Establish criteria for selecting scalar***

Whatever criteria is determined for setting the scalar should be applied consistently to hydro resources with different storage horizons. Hydro resources with different storage horizons face the same limitations on energy availability and the same risk of economic and

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<sup>1</sup> Use day-ahead prices for a day-ahead hydro DEB.

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operational harm if dispatched inefficiently. PGP largely supports the framework CAISO used for selecting an appropriate scalar and recommends minor modifications highlighted below.

- i. Storage Horizon: test resources with one month of available storage and three months of available storage (see rationale below)
- ii. Energy Availability: resource has generation available to generate 10% of hours (2.3 hours per day or 16.75 hours per week). *This criterion should be applied consistently for both 1-month and 3-month storage resources. Select the maximum of the one-month and three-month storage resource with 10% energy availability.*
- iii. Percentage of Intervals of Efficient Dispatch: DEB would allow a one-month and a three-month resource to be dispatched less than their availability during 99% of intervals (see rationale below).

### **Select scalar based on maximum of one month and three months storage horizon**

PGP supports CAISO's differentiation of hydro resources by maximum storage horizon. PGP agrees that the calculation of sales opportunities for a hydro resource differs based on a resource's maximum storage horizon and merits distinct calculations. PGP would like to offer that based on CAISO's analysis, it appears using the maximum of a three-month storage resource and a one-month storage resource to set the scalar may be warranted in order for CAISO to be able to apply consistent criteria (define a scalar that considers a resource with energy availability for 10% of intervals to be dispatched efficiently a certain percentage of the time).

The analysis showed that a resource that has one month of storage that could deliver 2.3 hours of energy per day (10% of intervals) requires a scalar of 1.65 to result in a higher value DEB than real-time prices during 95% of intervals. Whereas the same energy availability limitation of 10% of intervals for a three-month resource requires a scalar of 1.35 to result in a higher value DEB than real-time prices during 95% of intervals. In order to treat resources with one-month or less of storage and three months of storage comparably and assure efficient dispatch at a 95% confidence level (or whatever confidence level is chosen), PGP proposes CAISO select the scalar based on the maximum of the one-month storage and three-month storage hydro resources with 10% energy availability to assure x% dispatch efficiency.

### **Base scalar on 99% dispatch efficiency criteria**

CAISO has proposed application of a scalar that would result in sufficiently high DEBs for a resource to potentially be dispatched efficiently 95% of the time. This means that the resource could be dispatched inefficiently 5% of the time (18.25 days a year). PGP believes having hydro operations interfered with by having your water potentially depleted inefficiently 18 - 19 days a year is too high a risk for hydro resources, in particular if mitigated frequently. While ideally hydro owners would not ever be dispatched inefficiently, PGP believes hydro owners could tolerate their hydro operations being interfered with maybe a handful of days or less. As such,

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PGP requests CAISO consider a scalar that would increase the likelihood of efficient dispatch to 99% of intervals, thereby lowering the risk of a hydro resource being inefficiently dispatched to 1% of the time (3-4 days a year) or less.

#### **V. APPLICATION OF THREE PIVOTAL SUPPLIER TEST IN EIM**

It is PGP's understanding that CAISO does not apply a three pivotal supplier test in the EIM because it is assumed the pivotal supplier test would fail given the limited number of suppliers in an EIM BAA or multiple EIM BAAs if separated from the CAISO BAA. PGP requests CAISO consider what the catalyst would be for application of the three pivotal supplier test in the EIM, specifically if there would be a need for the three pivotal supplier test if an EIM BAA with multiple suppliers, such as BPA joins the EIM.

#### **VI. CONCLUSION**

PGP thanks CAISO for the improvements made in the Local Market Power Mitigation Enhancements Revised Straw Proposal. PGP also appreciates CAISO's efforts to construct the hydro DEB formula based on sound analysis that is repeatable, transparent and can be applied consistently with the suggestions PGP provided above. It is in the interest of both hydro resource owners and the market for hydro resources to not be inefficiently dispatched due to mitigation. PGP appreciates CAISO's responsiveness to the interests of Northwest hydro owners and looks forward to further iterations of the proposal going forward.

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