

Comments on the Regional Resource Adequacy Draft Regional Framework Proposal

Department of Market Monitoring
January 12, 2017

Summary

The Department of Market Monitoring (DMM) appreciates this opportunity to comment on the Regional Resource Adequacy Draft Regional Framework Proposal. This proposed framework includes several significant changes to the current resource adequacy framework. If adopted, these changes would substantially weaken existing resource adequacy program requirements. These changes include the following:

- Allowing non-resource specific imports to account for up to ten percent of resource adequacy capacity;
- Allowing external resources to substitute for internal resources that are on outage; and
- Reducing the assessment of resource adequacy availability penalties for resources on forced outages.

DMM's role does not include determining standards of reliability. However, DMM's comments are designed to provide clarity on the implications of market design proposals related to reliability. Some stakeholders support these changes. These stakeholders argue that the proposed weakening of requirements would not threaten reliable system operation. DMM believes that the proposed regional framework would significantly lower the current reliability standards of the ISO and its local regulatory authorities (LRAs).

As stated in the straw proposal of this initiative, the "current RA program, which is based on a bilateral procurement framework overseen by the California Public Utilities Commission ('CPUC') and other LRAs, has worked well for the current BAA and has provided many benefits".¹ Any decision to lower these standards should be taken with caution and consideration. The ISO's proposed weakening of the current reliability requirements will reduce the likelihood that sufficient capacity is available to the regional ISO under critical conditions. DMM recommends that the ISO consider the loss of each of these benefits in any decision to weaken the resource adequacy provisions currently in place.

¹ Regional Resource Adequacy Straw Proposal, February 24, 2016.
<http://www.caiso.com/Documents/StrawProposal-RegionalResourceAdequacy.pdf>, p4.

Background

In its draft regional framework proposal, the ISO proposes to loosen resource adequacy requirements by allowing up to ten percent of the total system resource adequacy requirement to be satisfied by short term import capacity. The ISO states that this loosening of resource adequacy requirements is in response to “strong stakeholder feedback.”² The proposal states that these provisions were changed because

“many entities external to the current ISO balancing area indicate that they have managed reliable systems and maintained resource adequacy while relying on some short-term arrangements.... This change recognizes the current practices of certain entities and the desire for some flexibility to use short-term arrangements, while reducing the potential exposure to adverse effects by setting a reasonable 10% limit”³

Pacificorp states these concerns most clearly in its comments on the third revised draft straw proposal (‘third revised straw’). PacifiCorp argues that the policy proposed in the third revised straw would raise system costs. These higher system costs would potentially outweigh the benefits to PacifiCorp of joining a regional ISO. These concerns do not appear to be broadly supported by other stakeholders.

PacifiCorp indicates that they can and do maintain system reliability while relying on imports. They argue that doing so is efficient due to the dispersed locations of their load and generation resources. As stated in PacifiCorp’s comments on the third revised straw, the “ISO’s current approach for discerning internal versus external resources and local versus system resources may make sense for California but does not readily apply to PacifiCorp and how it currently utilizes resources and imports interchangeably without reliability implications due to the topology of its load and transmission system.”⁴

PacifiCorp’s comments also note that “PacifiCorp is able to achieve an economic trade-off by utilizing bilateral energy purchases that can be more cost effective than utilizing its own resources for resource adequacy purposes.”⁵ In addition, PacifiCorp notes that short term imports have historically been part of PacifiCorp’s long-term reliability planning; PacifiCorp “considers the capacity contribution from short-term firm market

² Regional Resource Adequacy Draft Regional Framework Proposal, December 1, 2016. <http://www.caiso.com/Documents/RegionalFrameworkProposal-RegionalResourceAdequacy.pdf>. P. 42.

³ Regional Resource Adequacy Draft Regional Framework Proposal, December 1, 2016. <http://www.caiso.com/Documents/RegionalFrameworkProposal-RegionalResourceAdequacy.pdf>. P. 42.

⁴ Brown, Kelcey. PacifiCorp Stakeholder Comments Template Subject: Regional Resource Adequacy Initiative, November 2, 2016. <http://www.caiso.com/Documents/PacifiCorpComments-RegionalResourceAdequacy-ThirdRevisedStrawProposal.pdf>. P. 2.

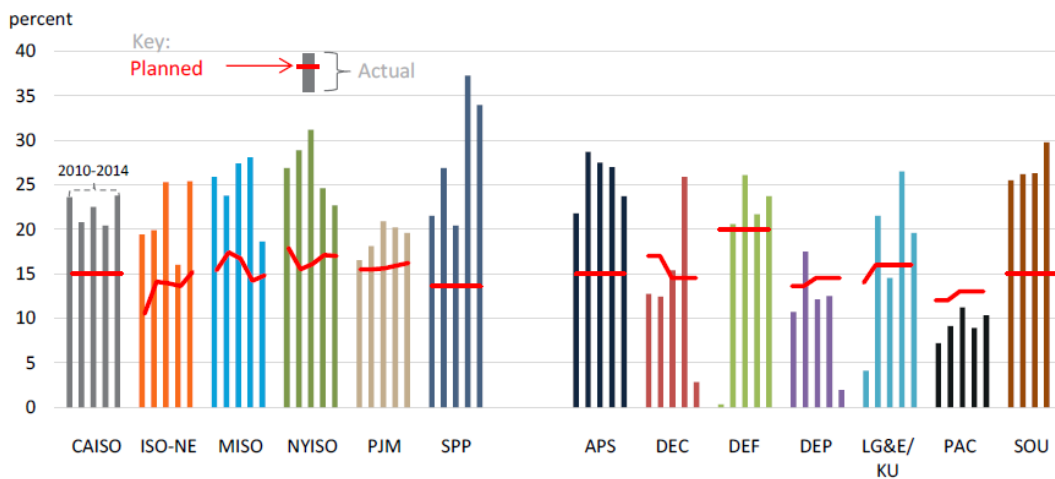
⁵ Brown, Kelcey. PacifiCorp Stakeholder Comments Template Subject: Regional Resource Adequacy Initiative, November 2, 2016. <http://www.caiso.com/Documents/PacifiCorpComments-RegionalResourceAdequacy-ThirdRevisedStrawProposal.pdf>. P. 3.

purchases procured at market hubs outside of the BAA” in its annual integrated resource plan.⁶

However, FERC’s staff recent report of common metrics indicates that PacifiCorp’s planned and actual reserve margins have historically been significantly lower than in the ISO and many other balancing authority areas. FERC’s report includes a comparison of actual to planned reserve margin as one measure of “the extent to which generation resource planning processes are ensuring long-term resource adequacy and reliability.”⁷

As shown in Figure 16 of this FERC staff report (reprinted below), PacifiCorp (PAC) has set a lower planned reserve margin than the ISO (CAISO) in all years between 2010 and 2014. In addition, PacifiCorp’s actual reserve margin fell short of the planned reserve margin in all years, while the ISO’s actual reserve margin exceeded the planned reserve margin in all years.

Figure 16: Planned and actual reserve margins, 2010-2014.



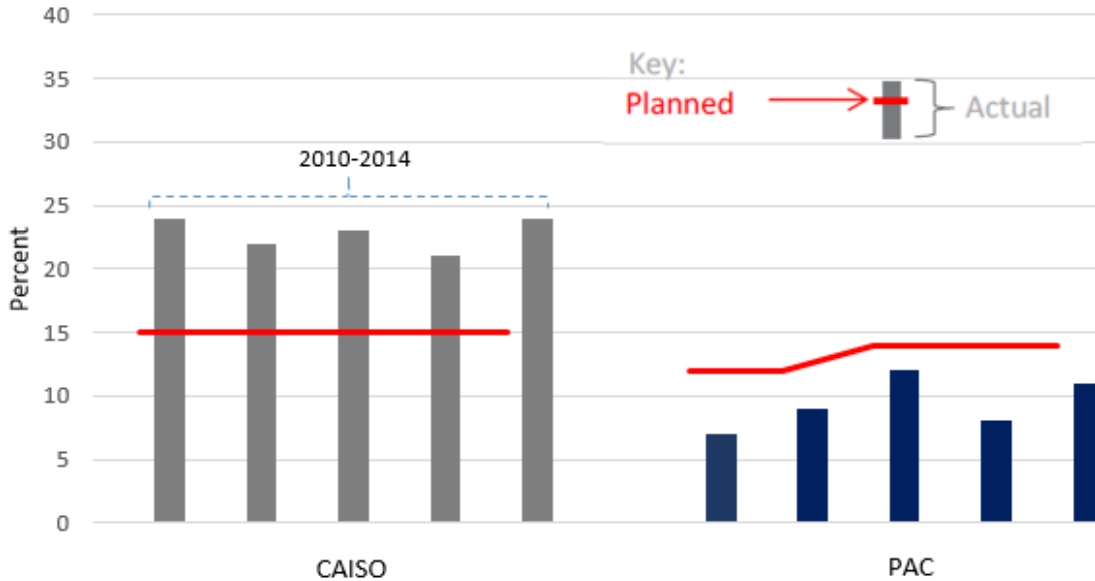
Source: Commission staff based on information collection FERC-922.

⁶ Brown, Kelcey. PacifiCorp Stakeholder Comments Template Subject: Regional Resource Adequacy Initiative, November 2, 2016. <http://www.aiso.com/Documents/PacifiCorpComments-RegionalResourceAdequacy-ThirdRevisedStrawProposal.pdf>. P. 4.

⁷ Federal Energy Regulatory Commission, Common Metrics Report: Performance Metrics for Regional Transmission Organizations, Independent Systems Operators, and Individual Utilities for the 2010-2014 Reporting Period. Staff Report. Docket No. AD14-15-000. August 2016, Revised October 2016. <https://www.ferc.gov/legal/staff-reports/2016/08-09-common-metrics.pdf>, p 34.

DMM used the data from FERC’s Figure 16 to construct the figure below, which facilitates a direct comparison of CAISO and PAC’s planned and actual reserve margins.

DMM’s adaption of FERC’s Figure 16: Planned and actual reserve margins, 2010-2014



In its third revised straw comments, PacifiCorp argues that meeting capacity procurement reliability requirements more onerous than those in place in PacifiCorp today would raise costs, potentially to such a degree that joining a regional BAA would not be profitable. PacifiCorp’s comments state that “[m]aking changes to the current RA construct with a ‘need to have’ focus seems to be limiting the ISO from taking into consideration how current policies could cause harm or burden a potential entrant, thereby making it all the more difficult for that entrant to make a sufficient cost-benefit business case for joining a regional ISO.”⁸

There is a substantial gap between PacifiCorp and the ISO in the balance each currently strikes between cost and advance capacity procurement for reliability. This gap dictates that one or both will have to alter current practice to adopt a common set of applicable standards within a joint regional ISO. DMM believes any decision to weaken resource adequacy reliability standards within the ISO should be taken with caution and consideration.

DMM notes that one reason PacifiCorp may have historically been able to maintain a lower reserve margin has been that other balancing authority areas in the west have

⁸ Brown, Kelcey. PacifiCorp Stakeholder Comments Template Subject: Regional Resource Adequacy Initiative, November 2, 2016. <http://www.aiso.com/Documents/PacifiCorpComments-RegionalResourceAdequacy-ThirdRevisedStrawProposal.pdf>, p 1.

maintained higher reserve margins. However, if the ISO's resource adequacy requirements are lowered and other balancing areas join the ISO, the overall reserve margin in the west will likely to be lowered over time.

Requirements for resource adequacy imports

The draft regional framework proposal includes a provision to allow short term capacity import arrangements to account for up to ten percent of the total system resource adequacy requirement for each load serving entity. This is a substantial shift in direction from the third revised straw. The third revised straw included a provision to require non-resource specific imports to be contracted prior to being utilized in a showing to satisfy resource adequacy requirements. That provision has been removed in the draft regional framework.

This represents a change that would substantially weaken existing resource adequacy program requirements. This change would increase the ability and economic incentive to increase reliance on resource adequacy imports that would not need to be backed by physical resources or forward purchases of firm energy from outside the ISO.

Under the ISO's current resource adequacy regulations, non-dynamic non-resource specific imports ('resource adequacy imports') do not have the same must offer obligation as internal resources. Resource adequacy imports are not required to bid in all hours of the day-ahead market. Day-ahead bidding requirements for resource adequacy imports are also limited by inter-temporal constraints such as multi-hour run blocks or contractual limitations.

In addition, resource adequacy imports are only required to bid in the day-ahead market. They do not have any must-offer obligation in real-time if not accepted in the day-ahead market. Internal resources either capable of starting in real-time or incrementing from day-ahead schedules are required to bid available resource adequacy capacity in real-time.

Historically, import bids submitted in the day-ahead market at or near the current price cap of \$1,000 per MWh are extremely unlikely to clear.⁹ Thus, it would be possible to meet resource adequacy must offer requirement by simply submitting an energy bid at the bid cap into the ISO's day-ahead market. In the rare instance that the resource adequacy importer bidding at or near the \$1,000/MW bid cap received a day-ahead schedule, it could attempt to source its import from spot market purchases at market hubs outside of the ISO.

⁹ Since January 1, 2011, less than one half of one percent of hours cleared in the day-ahead market included any price node with a day-ahead market price of \$990 per MWh or above. The percentage of hours clearing with any node at a price above \$990 in the residual unit commitment process is even lower: less than one eighth of one percent in all years since 2011. Nodes clearing at prices above \$990 in the day-ahead market or residual unit commitment process are typically located in areas with supply limited by available transmission capacity and are thus unlikely to include inter-tie points.

Under the worst case scenario for this importer, if they were unable to purchase the power on the spot market to import in real-time, they would simply have to buy back their day-ahead schedule in real-time at the same \$1,000/MWh price at which the import was paid in the day-ahead market. Any penalty the ISO would impose on the resource adequacy importer for failing to deliver in these rare, but critical, conditions would almost certainly be less than the money that the importer would save from avoiding a capacity payment to an actual physical resource to support his resource adequacy obligation.

Therefore, as previously expressed in stakeholder meetings held to discuss this proposal, DMM is concerned that these rules would create the economic incentive for all load serving entities to meet a significant portion of their resource adequacy requirements with day-ahead market import bids that are not supported by any physical resource or forward purchases of firm energy from outside the ISO.

The cumulative effect of this may also be functionally equivalent of reducing the formal planning reserve margin by the percentage of resource adequacy capacity that is allowed to be met by short-term non-resource specific imports. For example, if the ISO sets a planning reserve margin of 115 percent, but it allows 10 percent of requirements to be met by such resource adequacy imports, the effective planning reserve margin would actually be only 103.5%.¹⁰

FERC's recently issued Order 831 raises the hard price cap from \$1,000 to \$2,000 per MWh.¹¹ This order, which has not yet been scheduled for implementation in the ISO's markets, will require cost verification for bids between \$1,000 and \$2,000 per MWh for internal resources before they may set market clearing prices. Order 831 does not require this verification for economic exchange transactions, including imports. Under these provisions an import resource could submit a bid in the day-ahead market at the price cap of \$2,000 per MWh with an even lower chance of being dispatched than a similarly situated import resource today.

Allowing imports to substitute for internal resources

The draft regional framework proposal also changes current market rules to allow external resources to substitute for internal resources that are on outage. DMM believes this will also lower the overall level of reliability afforded by resource adequacy program requirements. In principle, DMM believes that a resource adequacy resource on outage requiring replacement should be replaced by a resource capable of providing the same set of relevant resource adequacy characteristics as the resource it is replacing.

¹⁰ 10 percent of 115% = 11.5%. 115.0%-11.5%= 103.5%.

¹¹ 157 FERC ¶ 61,115. UNITED STATES OF AMERICA FEDERAL ENERGY REGULATORY COMMISSION 18 CFR Part 35 [Docket No. RM16-5-000; Order No. 831] Offer Caps in Markets Operated by Regional Transmission Organizations and Independent System Operators (Issued November 17, 2016) <https://www.ferc.gov/whats-new/comm-meet/2016/111716/E-2.pdf>

As noted above, under current resource adequacy regulations, non-resource specific imports do not have the same must offer obligation as internal resources. Additionally, resource adequacy availability incentive mechanism (RAAIM) penalties are not structured to incentivize performance of non-resource specific import resources as strictly as internal resources. Furthermore, internal resources can be exceptionally dispatched in extreme situations; non-resource specific import resource adequacy resources cannot. Finally, under the ISO's proposal, resource adequacy imports could simply be backed by spot market purchases at market hubs outside the ISO.

Allowing resource adequacy imports to substitute for internal resources could reduce the incentives for internal resource adequacy resources to incur the expenses needed to operate reliably. As described in the section above, resource adequacy imports backed only by spot market purchases could effectively be procured without any capacity payment. This would make it much less costly to meet resource adequacy requirements through non-resource specific imports rather than internal resources. If an internal resource expects to be inoperable, it could go on outage and avoid a penalty by substituting a much lower cost non-resource specific import.

The ISO's proposal would therefore tend to shift internal resource adequacy contracts away from higher cost, more reliable resources and towards lower cost, less reliable resources. This would decrease reliability relative to the ISO's current resource adequacy framework. If resource adequacy imports were required to have the same bidding requirements and other relevant features as internal resources, it would be more appropriate to allow imports to be substituted for internal resources.

Revisions to the resource adequacy availability incentive mechanism (RAAIM)

The current proposal includes a new provision which would weaken existing resource adequacy availability incentive mechanism (RAAIM) penalties for resources on forced outages. Rather than assessing RAAIM for all resources on forced outage, the ISO proposes to assess penalties based a new daily assessment called the *forced outage assessment*. This assessment would compare total available capacity to a daily estimated reliability requirement. RAAIM penalties would be assessed only on the portion of resource adequacy on forced outage needed to meet that daily estimated requirement.

As under current provisions, a resource on forced outage could be substituted with an available resource adequacy resource. Monthly requirements are based on projected peak load and would exceed the daily estimated reliability requirement.

Treating resources on forced outage similar to resources taking planned outages weakens resource adequacy penalties associated with failing to bid in a resource shown to meet a monthly requirement. In addition, this change reduces the incentive to report an outage as a planned rather than a forced outage. This reduces the planning time available for the ISO's market to re-dispatch the system after accounting for the lack of a resource with a must offer obligation.

Instituting this provision would reduce the volume of capacity required on any day to meet resource adequacy requirements without penalty. PacifiCorp supports this provision on the grounds that it will lower costs. PacifiCorp states that treating forced outages of resource adequacy per current practice in the ISO would require PacifiCorp “to procure for forced outages that may occur on each day of the month, which would significantly increase its planning reserve margin and would require it to carry greater than 115% of its expected peak load for the month in every hour of the month. In addition, requiring a LSE to contract or procure capacity that is greater than 115% of its expected peak load in every day of the year is an unreasonable reliability requirement and, more importantly, it would cause PacifiCorp’s customers to pay for resources that will not be used or needed”.¹²

Resource adequacy has played a critical role in the ISO’s markets. It is intended to ensure that sufficient capacity with the requisite characteristics to maintain system and local reliability is made available to the ISO. The ISO specifies the criteria for resource characteristics and locations that will ensure system reliability in consultation with local regulatory authorities.

However, if resource adequacy resources do not perform according to the characteristics that the ISO and local regulatory authorities assume the resources will provide, the resource adequacy process may not ensure system or local reliability. Reducing the quantity of capacity with a must offer obligation also increases the likelihood of market power conditions requiring mitigation. The must offer obligations also provide one measure of protection against physical withholding.

Other comments

The proposed framework would establish a common set of resource adequacy rules to be applied across a regional balancing authority. Any local regulatory authority within the regional balancing authority could choose to impose resource adequacy requirements that are higher or stricter than those required within the regional ISO.

However, DMM does not believe that this is likely to occur to any significant degree. Any local regulatory authority doing this would risk imposing higher costs on load serving entities under its jurisdiction. But these load serving entities would not be able to capture the reliability benefits associated with the higher costs. Instead, reliability benefits of the additional capacity would be spread across the entire regional balancing authority area. This is because the regional balancing area would be operated as a single system, without any link between the resource adequacy capacity procured by each load serving entity and that entity’s actual load.

For example, a local regulatory authority or load serving entity within the ISO today could voluntarily choose to exceed the ISO’s current requirements. A load serving

¹² Brown, Kelcey. PacifiCorp Stakeholder Comments Template Subject: Regional Resource Adequacy Initiative, November 2, 2016. <http://www.caiso.com/Documents/PacifiCorpComments-RegionalResourceAdequacy-ThirdRevisedStrawProposal.pdf>. P 2.

entity might also choose to procure more capacity than sufficient to serve that entity's load during all hours. However, in the event that the total capacity procured by all entities in the ISO was insufficient to meet demand, that load serving entity would still face the same chance of outages as other participants.

In other words, since an entity would not be able to retain the benefits of additional resource adequacy capacity itself, entities would not have any incentive to exceed the minimum requirements set for the regional ISO.