



Comments of Pacific Gas & Electric Company

Regional Resource Adequacy Initiative – Working Group, July 20, 2016

Submitted by	Company	Date Submitted
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Pacific Gas and Electric Company (PG&E) offers the following comments on the California Independent System Operator's (CAISO) Working Group for the Regional Resource Adequacy initiative that was held on July 20, 2016. Topics covered during the Working Group included Maximum Import Capability, Imports for RA issues, and Uniform Counting Rules.

PG&E offers comments on the following topics:

1. PG&E does not believe changes to the Maximum Import Capability calculation are needed to allow for expansion of the regional ISO.
 2. PG&E proposes to use a transitional approach to address non-coincidental peak output from interties of new entrants.
 3. Allocation of RA Import Allocation Rights should be based on the current methodology of the load-ratio share of the expanded ISO.
 4. Substitution of internal Resource Adequacy resources with external resources should be allowed if associated must offer obligations of the resources are the same.
 5. To promote the durability of RA counting rules for external resources, Must Offer Obligations for internal and external resources should be as similar as possible.
 6. The CAISO should provide more justification for the registered capacity option and include RAAIM exposure and QF conversion considerations in the next CAISO proposal.
1. PG&E does not believe changes to the Maximum Import Capability calculation are needed to allow for expansion of the regional ISO.

The CAISO explained during the Working Group its proposed change to the methodology for calculating the Maximum Import Capability. As PG&E understands it, the CAISO is proposing to continue the existing methodology for most market participants. This Maximum Import Capability uses historically-based intertie schedules during high load periods. These high load periods are when peak load was at least 90% of the annual system peak load. However, in a scenario when an area of the system peaks in a different season from the rest of the system, and there are no associated simultaneous constraints between different areas of the system, the ISO proposes to measure intertie capacity based on when the portion of the system peaks rather than when the entire system peaks.

PG&E does not support this proposed change to the CAISO's MIC calculation methodology. The CAISO has argued that this change is needed to allow for expansion of the regional ISO. We do not agree. It has not been shown that PacifiCorp is more disadvantaged by the current rules than any other market participant. CAISO should provide evidence of how PacifiCorp is unable to meet its RA

requirements in the winter based on current rules and explain how the scope for this initiative addresses the specific PacifiCorp concerns.

PG&E has three primary concerns with the CAISO proposal in its current form.

- 1) The proposal lacks sufficient detail to allow stakeholders to understand its potential impact.
- 2) The proposed changes seem to have a potential negative impact on the deliverability of existing CAISO resources.
- 3) The CAISO's proposed solution does not address the true underlying problem.

- 1) The proposal lacks sufficient detail to allow market participants to understand its potential impact.

The term "constraints" and "areas" are used in the CAISO proposal without concrete definitions. PG&E is unable to determine how constraints are analyzed as part of the MIC process due to the lack of clarity on the proposal. As a result, PG&E is unable to forecast how frequently this change in methodology would occur, nor forecast its impact.

PG&E is under the impression that an implicit assumption included in the discussion of this methodology change is that the existing CAISO footprint should be considered an "area". Under the new paradigm that the CAISO has suggested in this initiative, where MIC is artificially constrained when intertie output could be higher during a non-coincidental peak, it is not clear to us that the areas of the PG&E and SCE Participating Transmission Owners (PTOs) should be considered coincidentally peaking. Some years, the peaks in each PTO area can be separated by several months, a similar separation to what seems to be considered between CAISO and PacifiCorp.¹ To date, there has not been adequate discussion of how re-defining intertie output for PTOs within California could impact MIC calculations. Similarly, the CAISO indicated in the working group meeting that some new PTOs would be considered coincidental to the existing ISO but others would be considered non-coincidental. The CAISO should explain in greater detail how the CAISO will determine when this methodology change would apply to new PTOs. We believe that the implicit definition of "area" in the CAISO proposal unfairly creates a vintaging of treatment based on when entities enter the ISO and inappropriately separates new entities from existing entities under rules that should apply equally.

- 2) The proposed changes have a potential negative impact on the deliverability of existing CAISO resources.

CAISO discussed that the MIC allocated based on non-coincidental peak would be assessed through deliverability studies. The CAISO also explained that it would ensure the simultaneous import limits would not be exceeded in deliverability studies by protecting the non-coincidental peak MIC values. The CAISO should explain the impact of protecting non-coincidental peak MIC values in deliverability studies on the NQC of internal resources, both in local area peak periods and system peak periods.

¹ In 2011, PG&E's non-coincidental peak was June 21st, whereas SCE's non-coincidental peak occurred on September 7th.

3) The CAISO's proposed solution does not address the underlying problem.

Many of the issues that this proposal seeks to address are results of the decision to use historical output as well as using a single MIC value for all 12 months of the year. In a system that does not have significant transfer constraints, such as the existing ISO footprint, these issues are not significant. However, considering the non-contiguous nature of the PacifiCorp West region, these simplifications become more problematic. The suggested methodology change treats the symptoms without addressing the underlying cause. This further complicates an already confusing MIC process.

The primary driver of the CAISO's identified problem on this topic is the use of historical inertia output as opposed to transmission line ratings or other physical inertia characteristics. The CAISO has indicated that an overhaul of the MIC process to more appropriately measure the reliability from inertias is not possible, based on the time constraints associated with PacifiCorp joining the CAISO as a PTO. If these time constraints limit the options for solving the identified problem so severely that the only changes up for discussion appear to benefit one market participant over another, then we support maintaining the status quo until the MIC process itself can undergo a review.

2. PG&E proposes to use a transitional approach to address non-coincidental peak output from inertias of new entrants.

In the interest of promoting a helpful discussion of ideas and to better understand the differences in interpretations of the language included in the proposal, PG&E explored its perspectives on non-coincidental peak inertia output and attempted to provide an alternative solution during the July 20th Working Group meeting.

During PG&E's presentation, we attempted to highlight the lack of clarity based on the information CAISO has provided that drivers of the need for a change to the MIC calculation methodology are overwhelming to the point of instituting a permanent rule change. PG&E's concern with the suggested rule change is that it could create unnecessary complications in import counting rules. CAISO has not provided sufficient information that the non-coincidental inertia output associated with PacifiCorp is due to physical limitations.

Instead, this inertia output could be self-correcting once PacifiCorp joins the CAISO for several reasons. First, the CAISO's HASP optimization may result in prices that provide incentives for higher inertia output to occur during the system coincidental peak, when prices are most likely to be the highest. Second, if the optimization does not have this immediate impact, LSEs in PacifiCorp will have incentives to make its existing load pockets more contiguous, in order to reduce congestion and promote a competitive lower cost energy supply. For example, the LSEs in PacifiCorp could purchase additional BPA transmission rights that can be brought into the CAISO footprint. If the incentives are not strong enough to truly integrate these load pockets into the CAISO footprint on a contiguous basis, then unique exemptions or permanent rule changes may be appropriate. However, until stakeholders are provided with historical data that shows these incentives will not be sufficient in a combined balancing area, we do not believe a permanent solution is appropriate to the problems CAISO has identified in the current MIC calculation proposal.

PG&E’s alternative solution is to allow interties associated with new entrants into the CAISO to be based on non-coincidental peaks on a transitional basis. After the first initial year of integration, PG&E proposes that the amount of MIC allocated to new entrants on a non-coincidental peak decreases based on a sunset percentage, and the amount of MIC allocated to new entrants on a coincidental peak basis increases. After a determined number of years, the MIC calculation will be equivalent for all LSEs and all interties. If the new intertie’s coincident peak output increases in excess of the output during the historical non-coincidental peak, then the coincidental peak output could be used more quickly.’

 **MIC Calculation: PG&E Proposal**

Example

Sunset Calculation	Year 1	Year 2	Year 3	Year 4
New Entity’s Non-Coincidental Flows ^{1 2}	10,000	10,000	10,000	10,000
New Entity’s Summer Peak Flows ³	7,000	4,000	8,000	7,000
Sunset Percentage	100%	66%	33%	0%
MIC Value calculation Max of (A x C, B)	10,000 * 100%, 7,000	10,000 * 66%, 4,000	10,000 * 33%, 8,000	10,000 * 0%, 7,000
MIC Value	10,000	6,666	8,000	7,000

¹ Flows represent a two year historical average during 90% of Region peak before the new entity joined the CAISO

² Number is static during transitional period

³ Flows represent a two year historical average during 90% of System peak

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As outlined in the slide above, PG&E’s MIC calculation would involve 4 steps that would need to be repeated each year during a transition period from the date of entry of each new entity that joins the ISO.

Step 1: Determine the new entity’s historical intertie flows² during the new entity’s historical coincident peak, even if it is non-coincidental to the ISO’s historical system peak. This value would remain static throughout the sunset period.

Step 2: Determine the new entity’s historical intertie flows during the combined system’s historical coincidental peak. In the example above, the system peak is called the summer peak. This value would be updated annually based on new historical data that would accumulate as the combined regions are dispatched as a single balancing area.

² Calculation would apply for each new intertie that enters the ISO via a new PTO.

Step 3: Calculate the sunset MIC value of the non-coincidental peak by multiplying the first static value by a sunset percentage.

Step 4: Compare this sunset MIC value against the system peak MIC value. If the sunset MIC value is greater than the system peak MIC value, then the sunset MIC value is used. If the system peak MIC value is greater than the sunset MIC value, then the system peak MIC value is used.

By using a sunset MIC value, and comparing the system peak to the sunset MIC value, the new entity that currently has a non-coincidental peak will continue to have the incentive to become more contiguous with the existing ISO footprint. However, if due to the dynamics of the transmission system, the new entity's non-coincidental peak flows continue to be higher than the intertie output during the system peak, the new entity will continue to be awarded higher MIC that will decrease over time until it converges over time with the system coincident value. While PG&E is not tied to a three year sunset period, we believe this time period will give the CAISO several years of historical data with which to determine if any additional measures should be taken to address a new entity's non-coincident intertie output.

3. Allocation of RA Import Allocation Rights should be based on the current methodology of the load-ratio share of the expanded ISO.

The CAISO proposes to split the initial MIC allocation on a sub-region TAC basis before allowing other entities to acquire RA import allocation rights from interties associated with the new entrant to the CAISO. The CAISO justifies this position based on the Regional TAC proposal, where existing transmission facilities will be allocated costs on a sub-region TAC basis. The CAISO argument is that if the costs for transmission are not shared across sub-regions, the benefits associated with import capability should also not be initially shared across sub-regions.

PG&E does not believe that allocating MIC based on sub-regions is reasonable. LSE's currently can use MIC allocation rights to meet RA obligations. If CAISO's proposal is enacted, each time a new PTO joins the CAISO, other LSE's will lose MIC allocation rights at the interties that become internal to the CAISO. While LSE's might benefit from some external resources becoming internal, there will still be external resources to the expanded ISO that could provide lower cost RA. If sub-regions are used to allocate MIC, LSE's will continue to lose MIC allocation rights as new PTOs join. Since the system RA requirement is based on a system load ratio share of the expanded ISO, PG&E believes lost access to external resources to meet that system RA requirement is inappropriate. Allocation of RA Import Allocation Rights should be based on the current methodology of the load-ratio share of the expanded ISO.

The CAISO explained during the Working Group that under the CAISO's current proposal, new transmission facilities would be allocated MIC based on the sub-region that is allocated costs via the Transmission Access Charge. The allocation of new transmission facilities is not discussed in the most recent CAISO TAC proposal. PG&E asks that the CAISO provide more details as to how the MIC will be allocated for new transmission facilities (i.e. those that are approved and built after the formation of an expanded ISO) if the MIC continues to be calculated on a historical basis.

PG&E wishes to voice its concern on the level of complexity this allocation strategy could add to the RA program. This concern is particularly relevant if one assumes that several entities may join the CAISO in future to form a regional ISO with multiple sub-regions, each with existing MIC rights, as well as new MIC rights, based on a transmission project's allocation of cost. PG&E has consistently voiced its desire to simplify the RA program in order to create a more efficient market as well as promote an easily understood program for new entrants. This idea that MIC will be allocated on a transmission project-by-project basis does not add simplicity.

PG&E does not believe the proposal for changes to the MIC allocation process promotes regulatory certainty for new entrants, as the benefits of joining could only be known after new transmission is awarded and constructed. Allocating on a load ratio share is simple, fair, and provides the certainty regulators need to properly assess the benefits of joining an expanded ISO.

4. Substitution of internal Resource Adequacy resources with external resources should be allowed if associated must offer obligations of the resources are the same.

In its Second Revised Regional Resource Adequacy Straw Proposal, the CAISO added two more topics into the initiative. One of those topics is the Resource Adequacy Unit Outage Substitution Rules for Internal and External Resources. The ISO proposes removing the current restriction in the ISO tariff wherein an internal RA resource that experiences a forced or planned outage requiring substitution can only substitute using an internal resource and cannot substitute using an external resource. The ISO proposes to allow an external resource to substitute for an internal resource as long as the substitution resource has similar operating characteristics, has sufficient MIC allocation, and the external resource has the capability to fulfill the RA must-offer obligation of the resource on outage.

PG&E supports creating as fungible an RA product as possible. External and internal system-only resources should be used for substitution as long as the last two criteria are met. If the associated must offer obligation is the same as the resource on outage and MIC allocation rights can be used, the operating characteristics of the external or internal resources should not be relevant for system RA substitution. As the intertie resource shown on an RA plan is a firm commitment to the CAISO, PG&E requests more information as to why the CAISO believes operational characteristics of external resources are relevant for System RA purposes.

5. To promote the durability of RA counting rules for external resources, Must Offer Obligations for internal and external resources should be as similar as possible.

PG&E supports changing RA must offer obligations of Intertie resources in order to have both day ahead and real time must offer obligations, and bid insertion, so that these resources can be more similar to internal resources.

There was discussion during the Working Group about the HASP reversal rule and other forms of penalties for non-performance of intertie resources that differ from internal resources. These differences should be documented and explained in the next Regional RA proposal.

6. The CAISO should provide more justification for registered capacity option and include RAAIM exposure and QF conversion considerations in the next proposal.

PG&E supports using as similar counting rules as possible between resource types. The CAISO should provide more justification as to why some resource types should be based on a registered capacity value while others must conduct a Pmax test.

RAAIM Penalties

One distinction that the CAISO should make is whether certain resource types will be exposed to RAAIM penalties. Particularly, how does the audit provision associated with the registered capacity value methodology interact with RAAIM penalties?

QF Conversions

Another aspect of RA counting rules that the CAISO should consider is whether resources should have the option to choose a Pmax test and be exposed to RAAIM, or instead have an ELCC/historical calculation and not be exposed to RAAIM. PG&E is currently working on converting existing Qualified Facilities that currently use a historical methodology for calculating Qualifying Capacity to a methodology that is based on (1) either a Pmax test or (2) the resource's bids into the Day Ahead Market. These conversions facilitate providing more operational flexibility compared to their historical dispatch patterns.