

# Stakeholder Comments Template

## Subject: Regional Resource Adequacy Initiative

Submitted by	Company	Date Submitted
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Western Resource Advocates, Western Grid Group, Natural Resources Defense Council, Utah Clean Energy and NW Energy Coalition appreciate the opportunity to provide the following response to the Regional Resource Adequacy Third Revised Straw Proposal.

### 1. Load Forecasting

#### *General Background and Proposal Overview*

CAISO’s previous load forecasting proposal, developed over several iterations, was an hourly proposal that would have allowed the regional ISO (RSO) to directly forecast its coincident peak load rather than relying upon calculated coincidence factors. All participating Load Serving Entities (LSEs) were previously proposed to provide one-year-forward hourly forecasts. Submissions were to include estimates of demand response, energy efficiency, and distributed generation. To encourage accurate forecasting, the RSO proposed reviewing forecasts that diverged unexplainably from average year-over-year weather-normalized load trends using a 4% divergence threshold with tariff authority to adjust forecasts if found to be unreasonable. To further transparency, CAISO proposed publishing each LSE’s load forecast error.

In this fourth iteration, CAISO has made a significant pivot. Instead of developing RA requirements from hourly forecasts, it now proposes a bottom-up monthly-peak aggregation approach. The current proposal requires LSEs to submit forecasts of non-coincident and coincident monthly peak load forecasts with extensive supporting documentation. CAISO will use the sum of the monthly coincident peak load forecasts to establish the regional RSO peak and set resource adequacy requirements. To assure forecasts are accurate, CAISO proposes to conduct a benchmarking study. To assist LSEs in developing accurate forecasts, CAISO proposes developing a forecasting guide to assist forecasters and for use in an annual review of a subset of individual LSE submittals. To further transparency, CAISO proposes publishing each LSE’s load forecast error.

The reason for the pivot is to address regulatory and practical concerns expressed by some participants. CAISO believes the current proposal will allow current or prospective LSEs, or the

agencies that conduct their forecasts, to continue to develop their load forecasts with minimal impact on their current processes. In addition, allowing flexibility in load forecast methodologies will allow the entities who best know their systems to determine the best method to forecast coincident peak load.

#### *Monthly Peak Forecast*

Comment: In our previous comments responding to the Straw Proposal, Revised Proposal, and Second Revised Proposal, we fully supported and encouraged the use of hourly forecasts. Our past rounds of comments emphasized the need for an RSO to employ state of the art methods in assessing and protecting reliability, and our comments supported CAISO's proposal for the submission of hourly data as needed for probabilistic assessments.

We are concerned that CAISO's current load forecasting proposal may be at odds with its proposals to develop a system-wide planning reserve margin (PRM) using a probabilistic Loss of Load Expectation (LOLE) methodology and capacity values for wind and solar using a probabilistic Effective Load Carrying Capability (ELCC) methodology. Both methods require hourly forecasts.

In the next proposal, please provide detailed information regarding how CAISO will move forward with the probabilistic studies without hourly forecast submittals. In addition, please explain whether CAISO could move forward with a probabilistic assessment of MIC without hourly forecast submittals, and, if so, how?

In addition to issues with conducting probabilistic studies, we see a potential problem in accurately developing monthly coincident-peak load forecasts. The current bottom-up aggregation proposal relies on historical system data to project system peak. As the footprint grows, historic monthly peak demand will not be a good guide for assessing future peak demands. In the next revision, please explain in detail how ISO proposes to provide LSEs with historic system peak data that is representative of the expanding footprint and address whether adaptations to the historical data should be considered through an open, transparent, stakeholder process.

MISO apparently uses a similar bottom-up monthly-peak aggregation approach. Please provide additional detail regarding its approach. Does CAISO know if the bottom-up aggregation approach is used anywhere besides MISO? Are hourly forecasts used by other ISOs or RTOs? Please provide additional information that can help participants place the current proposal in context.

#### *Load Forecasting Submittal Requirements*

Proposal: CAISO proposes to require LSEs to submit forecasts of non-coincident and coincident monthly peak load forecasts with extensive supporting documentation. Forecasts are to include transmission losses. CAISO proposes to post historic monthly peak data from previous years to be used by forecasters in calculating LSE coincident peak loads.

CAISO proposes the supporting documentation include narrative summaries that describe how the forecast values are determined; descriptions of forecasts models including example calculations; description of the economic and demographic information used as inputs; an assessment of the reasonableness of forecasts in light of changing conditions; determination of the input values; documents or studies directly relied upon; actual and weather normalized monthly peaks for the previous year; and adjustments for energy efficiency programs, behind-

the-meter generation, and distributed energy resources with measured adjustments at ISO system peak. Finally, CAISO proposes it be given a specific contact person with sufficient knowledge to assist the RSO with any technical information or questions that might arise.

Comment: We support requiring this level of detail to back up the coincident and non-coincident monthly peak forecasts.

With regard to the historic monthly peak data CAISO proposes to post to be used by forecasters in calculating their coincident peak loads, please explain how this historic data is useful in forecasting system peak in an expanding footprint. If CAISO plans to adjust the data, please describe these adjustments in the next revision.

#### *ISO Guidance on Reasonable Forecasting Methodologies*

Proposal: CAISO proposes to develop a document outlining acceptable statistical methods to be used by LSEs in conducting load forecasting. The document is intended to help guide forecasters in producing reasonable forecast submittals, similar to MISO's load forecasting review whitepaper. CAISO proposes developing the document prior to RSO formation.

Comment: We agree with the general concept. As part of the next revision, please provide greater detail regarding the process the ISO will use to develop this guide. To the extent that not complying with the guide has real consequences, we believe the document should be developed through a stakeholder initiative and approved by the Board.

#### *System Load Forecasting Benchmark Check*

Proposal: To check the accuracy of the bottom-up aggregation load forecasting approach, CAISO proposes a system load forecast be performed based on historical system load, historical weather simulation, actual and forecast economic and demographic statistical data, and calendar information. If a discrepancy is found and the discrepancy is considered significant, CAISO proposes further investigation with recommendations to the LSEs.

Comment: We support conducting a load forecasting study as a check on whether the bottom-up approach is producing reasonable results. Assuring accurate load forecasts is essential to reliability, protects against leaning, and protects customers from unnecessary costs. However we believe greater detail is needed and recommend CAISO provide further information in the next revision. In particular, please provide greater detail regarding the following.

CAISO reports that the MISO forecast check has verified the bottom-up aggregation approach three years in a row. Please provide further detail regarding the process CAISO envisions if the RSO is not as fortunate and discrepancies in results are found. Would CAISO open a stakeholder process to consider the study implications and next steps? Does CAISO have criteria to propose to determine whether further investigation is warranted? How does it propose the criteria be developed? How often does CAISO propose to undertake the study? What might determine how often the study is conducted? Is CAISO expecting to undertake the study itself or to contract with an independent organization? To prevent against perceptions of bias, we recommend CAISO consider contracting with an independent organization as is done for MISO. Please provide links to MISO studies.

#### *Load Forecasting Submittal Review Process*

Proposal: Instead of using a 4% year-over-year divergence as a review trigger as previously proposed, CAISO now proposes reviewing a subset of individual LSE forecasts each year with

the review to be guided by the forecasting document discussed above. If the review reveals either the use of an improper statistical method or unrealistic forecasts, the ISO proposes discussing the issue with the relevant entities including the LSE, LRA(s), and any involved forecasting agency. If after multiple steps, the issue is unresolvable, the RSO proposes adjusting the load forecast, with dispute resolution as a final resort.

The RSO proposes publishing LSE load forecast error.

Comment: In our comments on the past three proposals we supported use of an identified criterion to trigger a review of an LSE's load forecast for reasonableness. In addition, we supported the RSO being given the authority, through its tariff, to adjust LSE forecasts that appear unreasonable and for which the LSE is unable to demonstrate that a forecast is reasonable.

This proposal appears to back away from the submission requirements of previous proposals, which, if we understand the proposal correctly, we believe may be a mistake. Allocations of capacity requirements are dependent on these forecasts, and unreasonably low forecasts can lead to leaning and potential resource insufficiency. The RSO has responsibility to assure resource sufficiency.

While we can support the current proposal, we continue to support use of a specific trigger to initiate a review, in addition to the LSE subset review approach proposed by CAISO. With regard to the LSE subset review, we request greater clarity regarding how CAISO will select the subset, and how it will conduct the review. We continue to support the RSO being given authority through its tariff to adjust unreasonable and unsupported forecasts, but fully agree with CAISO that a full open consultative process should precede any forecast adjustment. Finally, we believe the review process must be transparent.

We initially proposed, and continue to fully support, making load-forecast error public. We appreciate CAISO maintaining this part of its proposal. We believe transparent processes are key to good behavior.

## **2. Resource Adequacy and the Western States Committee**

### *Proposal*

In this Third Revised Straw Proposal issued September 29, 2016 CAISO identifies a role for the Western States Committee (WSC) in establishing the planning reserve margin (PRM).

This role is more fully developed in a paper titled "Potential Topics within the Primary Authority of the Western States Committee: Discussion Paper and Draft Proposal" issued October 7, 2016. In this paper CAISO proposes that the WSC "have primary approval authority for setting the PRM, both by providing input throughout the study development process and by holding ultimate approval authority for the system wide PRM target."

As discussed further below, CAISO proposes establishing the system-wide PRM target using a Loss of Load Expectation (LOLE) study. CAISO envisions the WSC potentially providing direct input into the stakeholder process. In addition to providing input on items of particular policy interest such as the treatment of demand response and energy efficiency, the specific level of reliability the LOLE study should meet (such as 1-day-in-10-years or 1-day-in-5-years) could be an important input consideration needing guidance. Finally, CASIO envisions the WSC could

approve the resulting PRM target or adjust as needed. If the WSC could not reach consensus, the ISO would use the default value produced by the study as the system-wide PRM target.

*Comment*

We support a strong WSC and the ongoing exercise of state authority. We also recognize the need to have in place a default PRM for use in the reliability assessment in the event that the WSC could not reach consensus. With the provision that the default value produced by the LOLE study would become the default value if the WSC could not reach a consensus, we support this proposal.

In addition, we recommend CAISO consider a similar role for the WSC in developing consistent methods for determining capacity values. Both the system-wide PRM, and resource capacity values are key inputs to the Reliability Assessment discussed directly below.

### **3. Reliability Assessment**

*Proposal*

Consistent with previous proposals, CAISO continues to propose conducting a reliability assessment using a single system planning reserve margin (PRM) and consistent methods for determining capacity values.

*Comment*

For the reasons we expressed in our response to the previous three proposals, we continue to support the RSO conducting a reliability assessment using common metrics.

#### **a. ISO default Planning Reserve Margin for Reliability Assessment**

*Proposal*

CAISO proposes to establish a probabilistic Planning Reserve Margin (“PRM”) through a Loss of Load Expectation (“LOLE”) study using a criterion of one-day-in-ten-years. CAISO proposes the study be refreshed periodically as new PTOs join.

*Comment*

We fully support establishment of a probabilistic PRM as the default approach CAISO will take to be filed in the tariff. We agree this methodology can provide a robust and accurate assessment of the necessary reserve margins required to maintain a specified level of reliability and represents a best practice.

We are not opposed to using a one-day-in-ten-years level of reliability for the LOLE study; it’s a common criterion in the industry. However, we support a role for the WSC in considering a lower level of reliability outside the default tariff provisions.

We support periodically refreshing the study through an open and transparent stakeholder process when significant changes to the system occur, such as when a new PTO joins and only modifying the PRM through a new study process.

Finally, we support the ISO undertaking the LOLE study in a separate stakeholder process to be completed before the ISO becomes an RSO. In the Draft Final Proposal, we encourage CAISO to provide a timeline for the separate stakeholder initiative.



## **b. Resource Counting Methodologies for Reliability Assessment**

### *Proposal*

CAISO proposes developing an Effective Load Carrying Capability (ELCC) methodology to determine capacity values for wind and solar resources. CAISO proposes undertaking a new stakeholder initiative to develop the inputs, assumptions, and processes needed to conduct the study. If the study is not complete prior to a new PTO joining, CAISO proposes using the Exceedance methodology for the first RA showings.

### *Comment*

We applaud this significant change in direction and thank CAISO for being responsive to stakeholder feedback.

With regard to timing, we encourage the CAISO to begin a stakeholder initiative as soon as possible. Because of the annual variability of wind and solar resources, we see benefit in replacing the 70% Exceedance standard with a probabilistic ELCC methodology at the earliest possibility. We, therefore, recommend CAISO consider a two-phase study process. As soon as can be arranged, we recommend CAISO initiate a study process to design study parameters and multistate logistics. When PacifiCorp files with its states, CAISO could initiate the second phase of the study process to complete the study using the new expanded BAA footprint. In the next revision, please describe how CAISO understands the study timing coordinating with PacifiCorp or any other utility's decision to join as a PTO.

## **c. Backstop Procurement Need Determination and Cost Allocation**

### *Proposal*

The current FERC-approved tariff does not include a reliability assessment. CAISO proposes revising the tariff to authorize the RSO to procure backstop capacity, as a last resort, if a reliability assessment identifies a shortage the RSO needs to address. CAISO proposes to allocate the cost of any backstop procurement first to the LSEs that have not met their individual system RA requirements.

### *Comment*

We have supported this proposal in all past iterations. We continue to support.

## **4. Maximum Import Capability**

### *Background and Proposal*

In both the Straw Proposal and the Revised Straw Proposal, CAISO provided background regarding how Maximum Import Capability (MIC) is currently calculated and proposed a minor change to accommodate regionalization. CAISO explained that in determining MIC, it relies on two years of historical data, using sample hours that are selected by choosing two hours in each year, and on different days within the same year, with the highest total import level when peak load was at least 90% of the annual system peak load. To allocate the MIC it uses a 13-step process that preserves existing rights and practices and then allocates the remaining capacity based on load ratio shares. To accommodate regionalization, CAISO proposed to use the same approach with one change. It proposed the addition of a phrase to a footnote in the Business

Practice Manual to allow non-simultaneous base case studies when areas of the expanded BAA have different seasonal peaking characteristics.

In the Second Revised Proposal, this aspect of the proposal was retained, and, in addition, CAISO proposed determining MIC for each TAC sub-region and allocating MIC to the LSEs serving load within each sub-region based on load ratio shares. In the event that new transmission projects create additional MIC capacity, CAISO proposed allocating the additional capacity to each sub-region in proportion to each sub-region's cost share.

In this, the Third Revised Proposal, the proposal remains unchanged from the Second Revised Proposal. The proposal addresses concerns that have been raised and provides additional detail, but the proposal is itself unchanged from the Second Revised Proposal.

#### *Determination of MIC*

In our comments on the Revised Straw Proposal we disagreed with the use of historical data in determining MIC and urged CAISO to develop a robust stochastic approach. In our comments responding to the Second Revised Proposal, we again expressed concern that the use of historical data may artificially limit import capacity, particularly as import patterns change with the expansion of the RSO and depending upon a variety of economic and weather-related factors. We again recommended CAISO propose in this current iteration a plan to develop a probabilistic assessment of MIC and to provide timelines.

In our response to this, the Third Revised Proposal, we again raise this issue and request CAISO to consider opening a stakeholder initiative, if not ahead of RSO formation, then shortly thereafter.

#### *Sub-regional Determination and Allocation of MIC*

We continue to support CAISO's proposal to determine MIC by sub-region and to allocate it based on a load-ratio share of the LSEs serving load within each sub-region. This approach provides equity and aligns import capability with the cost responsibility envisioned through the TAC initiative.

#### *Allocation of New Import Capability*

We continue to support the proposal to allocate additional import capability resulting from new transmission in proportion to each region's cost share. We agree that those who pay the costs should receive the benefits and vice versa.

## **5. Requirements for RA Imports**

### *Background and Proposal*

Under current Resource Adequacy (RA) rules, load-serving entities can meet RA requirements using imported resources that are not tied to a specific physical resource as long as they have sufficient import capability.

In its comments on the Revised Straw Proposal, the Department of Market Monitoring noted that PacifiCorp's integrated resource plan relies on bilateral spot market purchases to meet a significant portion of peak capacity needs, raised concerns regarding market impacts, and recommended that the requirements relating to the physical availability of imports used to meet RA requirements be further discussed in this process.

In the Second Revised Proposal, CAISO sought stakeholder input regarding how firm system RA resources should be. It asked whether there was a role for resources such as bilateral spot market purchases or short-term firm market purchases procured at market hubs outside of the BAA to meet a portion of an LSE's power needs.

CAISO proposes to clarify the tariff provisions for RA imports to make clear that the ISO will not allow intra-month spot market energy purchases to count as RA. To count as RA, contracts must be executed prior to RA showing deadlines for the month ahead time frame (45 days in advance).

*Comment*

We support requiring LSEs to have contracts in place month-ahead to demonstrate imports are firm. This supports reliability by avoiding potential double counting; it supports a functional market by avoiding potential gaming, manipulation and capacity leaning.

## **6. External Resource Substitution for Internal Resources**

*Background*

The CAISO tariff provides that in the event of a forced outage or de-rate, a scheduling coordinator must substitute an alternative resource physically located within the CAISO Balancing Authority Area (BAA). Significantly, pseudo-tied generating units are considered to be external resources. In an expanded BAA, this requirement could overly limit the resources available to be substituted in the event of an outage, because entities operating noncontiguous systems often operate many pseudo-tied units not physically located in their current BAA.

To address the potential limitation, CAISO proposed in the Second Revised Proposal allowing an external resource to fulfill the same must-offer obligation filled by the lost internal resources as long as the substituted resource has similar operating characteristics and capabilities and the entity making the substitution has sufficient import capability. CAISO sought comment on it proposal.

In this, the Third Revised Proposal, CAISO is no longer considering substitution of external resources for internal outages as an option. CAISO explains that tracking the requirement that similar must-offer obligations and related requirements were met would require large system changes, including potential changes to the master file information associated with the resources. It has determined that the “potential benefits of the previous proposal are far outweighed by the implementation complexity that would be required and thus has determined it is appropriate to defer the issue.”

*Comment*

This response is concerning, and we would like to better understand the decision to defer the issue. It would seem the reasons to address the issue, and its potential benefit, is in assuring an adequate resource supply to both maintain reliability mitigate market consequences. If pseudo-tied resources cannot substitute for internal resources, significant costs might be imposed on the customers of a utility such as PacifiCorp that operate many pseudo-tied resources in a non-contiguous footprint. These costs could be substantial.

In making the decision to defer the issue did CAISO consider the potential cost to customers of new PTOs? Did CAISO consider whether not addressing this issue could negatively influence



potential new PTO's decisions to join? Does CAISO have estimates of the expense and time associated with the large system changes that would be necessary? Under what circumstances would CAISO reconsider the issue?

In our previous comments we suggested that allowing pseudo-tied resources to count as internal resources was an alternative solution that might more accurately reflect the operations of potential participants and could be preferable for other reasons. In our previous response, we recommended that CAISO consider this alternative and determine which would be the better long-term option. This suggestion is not addressed in the current proposal.

We again recommend CAISO consider this alternative. If CAISO opts not to treat pseudo-tied resources as internal, please explain in detail why not. Please include in the explanation the quantitative rationale leading to the conclusion that implementation complexity would outweigh the benefits of allowing pseudo-tied resources to substitute for internal resources. Is this the same issue that would require large system changes? Given that other utilities who might join are likely to have pseudo-tied resources, should CAISO reconsider its decision to defer the issue?

## **7. Allocating Resource Adequacy Requirements to LRAs and LSEs**

### *Background and Proposal*

In California the ISO allocates resource adequacy requirements to the Local Regulatory Authority (LRA) who then allocates the responsibility to the LSE. Because this model will not work well under a regional model, CAISO proposes making changes. For new LSE's under the jurisdiction of a single regulatory authority, CAISO proposes creating a mechanism that would allow an LSE's LRA to defer the allocation directly to the LSE. In the case of a multijurisdictional utility such as PacifiCorp, CAISO proposes allocating the resource adequacy requirements directly to the LSE. The proposal contemplates no change in current California practices.

### *Comment*

We have expressed support for this approach in all iterations of the proposal. We continue to support this approach.

## **8. Monitoring Locational Resource Adequacy Needs and Procurement**

### *Background and Proposal*

To address internal resource adequacy transfer constraints two proposals have been considered. In the Straw Proposal, CAISO proposed extending the Path 26 methodology for allocating shares on constrained lines for RA purposes to all other internal constraints, but as it thought through how to implement the proposal, it recognized a number of problems and challenges. So, in the Revised Proposal, it proposed establishing zonal RA requirements. The RA import limit for each zone was to include the total MIC for all interties into the specified zone and the total of any internal transfer limits.

In the Second Revised Proposal and in this revision, CAISO proposes only to monitor locational resource adequacy needs and evaluate the level of procurement in locational areas. CAISO has recognized the complexity and administrative burden on LSE's that the development of a zonal approach will entail, and does not believe the situation currently warrants this effort.

*Comment*

In our response to the Second Revised Proposal we stated that we didn't have enough information to comment, and we requested a more detailed analysis in this revision addressing the potential risks of not having in place a method to address internal constraints and how CAISO would address these situations if they were to arise.

This analysis is missing from the current proposal. In addition, the industry is moving away from using paths to address reliability to considering resource location. It is unclear how this changing understanding will be incorporated in the current proposal. We repeat our previous request for a more detailed analysis of the proposal to monitor only locational resource adequacy needs. If CAISO moves forward with the current proposal, we further recommend the RSO keep participants informed through regular reporting and open stakeholder meetings.

**9. Updating ISO Tariff Language to Make it More Generic***Proposal*

CAISO proposes modifying tariff language to remove references to California and make the tariff more generic.

*Comment*

In our comments responding the Straw Proposal and the Revised Straw Proposal, we supported updating tariff provisions to make the language more generic. We continue to support this aspect of the proposal.

**10. Plan for Stakeholder Engagement***Proposal*

CAISO proposes to post a Draft Final proposal in early December, hold a stakeholder meeting in mid-December and request stakeholder comments in late December.

*Comment*

We recommend CAISO rethink the timeline and consider an additional round of proposal development and comments before issuing a Draft Final Proposal, depending on the responses to this proposal. The load forecast proposal is essentially new, and other elements of the proposal continue to have unanswered questions that could benefit from additional development. Given the current status of events, we don't see a pressing need to complete the policy development by the end of the year. Finally, we encourage CAISO to schedule lightly in December, if at all, since December tends to be an overly scheduled month.

**11. Other**

We recognize the challenges inherent in expansion to a larger region, and we appreciate CAISO's efforts to understand and accommodate the many needs and perspectives across an expanded region through open, transparent, stakeholder processes.