Middle River Power, LLC Comments on RA Enhancements Second Revised Straw Proposal
October 24, 2019

Middle River Power, LLC ("MRP") submits the following comments on the CAISO's October 3, 2019 Second Revised Straw Proposal ("2RSP").

Excerpts from the 2RSP are shown in blue Arial font.

UCAP Framework

The CAISO observes that the current RA framework does not ensure that the CAISO has sufficient capacity that is not on forced outage and is available to reliably serve load and maintain sufficient reserves on a daily basis. (2RSP at 11-12.)

The CAISO therefore proposes to introduce an Unforced Capacity ("UCAP") requirement. This would require LSEs to procure monthly an amount of UCAP at least equal to the sum of (1) 106 percent of the monthly peak demand forecast and (2) an additional amount of UCAP needed to account for forecast error. (2RSP at 15).

MRP appreciates the significance of the operating issues the CAISO is trying to address, and remains open to considering this new requirement if the overall RA markets and contractual impacts are appropriately addressed. MRP's more detailed comments about various aspects of this proposal follow below.

Eliminating RAAIM

The CAISO has proposed, when it implements the UCAP requirement, to eliminate the Resource Adequacy Availability Incentive Mechanism ("RAAIM"). The CAISO asserts that RAAIM does not provide sufficient incentive to provide substitute capacity for forced outages. Instead the "…CAISO believes a superior approach is to establish incentives to conduct resource maintenance to avoid outages and to procure capacity that is more reliable in the first instance." (2 RSP at 20).

MRP strongly supports efforts to create systems that allow generating resource owners the opportunity to conduct regular maintenance and ensure that resource owners can recover the costs of needed maintenance. The CAISO's proposal, however, does not address the single most important change needed to recover the costs of needed maintenance – establishing multi-year forward requirements for system and flexible RA capacity. Pressing ahead to create new CAISO "incentives" to conduct needed maintenance without also simultaneously making the modifications to the CPUC-jurisdictional RA program needed to support that maintenance is unlikely to achieve the desired result.

The RAAIM system, and the accompanying need to provide substitute capacity for forced outages, are complicated and difficult to manage. MRP does not object to considering the elimination of RAAIM as part of a package of reforms that includes a workable UCAP requirement.

UCAP Forecast Error Component

The CAISO has proposed setting the UCAP requirement as follows:

However, at this time, CAISO believes that UCAP requirement should be set at a minimum of 106 percent of forecasted peak (which is forecast load plus reserves), plus any additional capacity needed to account for forecast error. The CAISO seeks stakeholder input regarding how to best account for forecast error in setting a UCAP requirement. (2RSP at 15)

MRP offers that the UCAP target should, consistent with how the UCAP values are calculated, include the maximum daily forecast error observed across that month for the past three years.

Monthly UCAP Values Using Seasonal Forced Outage Rates

The 2RSP proposes to determine monthly UCAP values using seasonal forced outage rates:

> The CAISO proposes to calculate and publish monthly NQC and UCAP values for all resources annually (*i.e.*, once per year a unit will get a distinct NQC and UCAP value for each month of the upcoming year). (2RSP at 16)

> The CAISO is also assessing the benefits of calculating units' forced outage rates seasonally as the NYISO and MISO do. Although seasonal calculations may add some complexity, they likely better reflect resources' availability during peak and off-peak seasons. The CAISO proposes to utilize three years of historic data to determine these calculations for unit forced outage rates. (2RSP at 17)

MRP supports this approach. Assuming the CAISO will ultimately adopt monthly UCAP values (to mirror the monthly RA program), seasonal forced outage rates will appropriately incent suppliers to maintain units during high-value (i.e., peak demand) periods. MRP comments on moving to annual RA requirements below.

The effects of dynamic UCAP values in a short-term, bilaterally traded RA capacity market.

MRP remains very concerned about the ramifications of dynamic UCAP values in a bilaterally-traded RA market – especially if the term of those markets is extended multiple years forward, as both MRP and the CAISO support. Monthly capacity values that change every year will make it more difficult for suppliers and buyers to contract forward over multi-year periods. MRP respectfully encourages the CAISO to consider the impact of a UCAP paradigm on the bilateral RA capacity market and discuss this topic and how to mitigate supplier and buyer risk in future Revised Straw Proposals.

While the current monthly RA program design reflects decisions made a decade and a half ago, the increasing complexity of the RA program begs the question as to whether to consider if all the various RA products should be established and transacted on an annual basis. If the CAISO's UCAP proposal is adopted, each resource will have monthly QC, NQC and UCAP values to manage within a bilateral RA market with an increasing number of buyers. This increased complexity will not make it easier to transact RA capacity. Moreover, in addition to reducing complexity, annual RA requirements would align with the real world of annual resource requirements. MRP fully understands that the current RA program design is built on monthly RA capacity values and requirements, but encourages the CAISO to consider whether it is now time to consider annual RA capacity values and requirements.

Eliminating RAAIM and the obligation to provide substitute capacity for forced outages

The CAISO proposes to eliminate the Resource Adequacy Availability Incentive Mechanism (RAAIM) and not require an RA supplier to provide substitute capacity for forced outages when it implements a UCAP requirement. While MRP is not yet convinced that transitioning to a UCAP requirement is necessary (as opposed to a different approach, such as setting a higher Planning Reserve Margin), at this point in the stakeholder initiative MRP does not object in principle to considering the elimination of (1) the RAAIM program and (2) the requirement to provide substitute capacity for forced outages.

Initial UCAP values should be set using fleet-average GADS data

MRP continues to advocate that the CAISO use fleet-average GADS data during the transition to a UCAP paradigm. In particular, MRP advocates that the CAISO use fleet-average GADS data to set UCAP values for a three-year transition to resource-specific UCAP values. This transition would allow generating unit owners an opportunity to optimize their maintenance activities and corresponding forced outage rates in advance of the implementation of resource-specific UCAP values without introducing sharp UCAP changes during the transition.

Such a transition also will be necessary at least until the CAISO has modified the Outage Management System to accurately capture and track the forced outage data needed to support unit-specific UCAP calculations. While MRP notes that the CAISO prefers unit-specific UCAP values for some generating units (i.e., conventional generating units) the CAISO seems comfortable with fleet-average UCAP values (i.e., for wind and solar resources). Using fleet-average UCAP values would put conventional and variable energy resources on the same non-discriminatory footing (with both using fleet-average outage data to set their UCAP values).

The MOO and availability assessment periods should be the same

While the CAISO currently uses a five-hour availability assessment period (4 PM to 9 PM), the CAISO now proposes to use a 16-hour availability assessment period (5 AM to 9 PM). MRP does not object to this proposal to extend the availability assessment period, but strongly suggests the CAISO align the must-offer obligation with the availability assessment period. If there are no operational issues in the hours between 9 PM and 5 AM such that it is not necessary for the CAISO to monitor availability during that period, then the CAISO also should not require RA resources to offer during that time. If there **are** operational issues that require a 24 x 7 MOO, then resources' availability should be assessed across the same 24-hour time period. While the CAISO expresses concern that assessing availability performance across 24 hours will dilute the availability calculation, it is reasonable and equitable that resources' availability performance should be assessed across resources' entire MOO period. There is no logical reason to disassociate the obligation to offer and the availability assessment periods.

Nature of Work and UCAP

The CAISO continues to assess the existing Nature-of-Work cards to determine how best to leverage them for UCAP outage calculations The CAISO seeks stakeholder feedback on this initial classification of outage nature of work cards to define the outages that it will include in calculating resource specific forced outage rates.

Outages outside of a resource owner's control should be excluded from the resource's UCAP calculation. Such outages include: transmission outages, fuel insufficiency due to gas company issues (a resource owner's failure to secure gas, when that failure is not the result of gas company requirements, should not be excused).

MRP provides feedback on the Nature of Work categories in Appendix A to these comments.

Weighting Recent Availability Performance in the UCAP Calculation

The CAISO continues to propose to weight more recent performance more heavily in the UCAP calculation, offering that it would weight the most recent year's performance at 50%, the second previous year's performance at 30% and the third previous year's performance at 20%. MRP continues to consider the implications of this approach and reserves the right to comment on it at a later time.

Setting Wind and Solar UCAP at ELCC NQC

The CAISO proposes to set wind and solar resources' UCAP values at their ELCC values. The CAISO asserts that this is reasonable because "Forced outages are accounted for by using actual production data to inform the wind and solar production profiles in the ELCC modeling." While MRP agrees that production data ***informs*** the wind and solar production profiles used in the ELCC analysis, it is not apparent how these "informed profiles" ensure that the forced outage performance of these resources is accounted for in setting their ELCC values. MRP therefore requests the CAISO provide additional detail as to how forced outage performance is accounted for in the "informed profiles" for wind and solar resources.

Portfolio UCAP Assessments

The CAISO proposes: Given the CAISO will initially conduct a production simulation that is largely deterministic, there is insufficient information to generate a meaningful LOLE. Therefore, the CAISO proposes to use the portfolio's ability to serve forecasted load for the upcoming month. The portfolio must ensure the CAISO can maintain load, Ancillary Services, and load following requirements for all days and all hours in the portfolio deficiency test. If any of these requirements is not met, the CAISO will identify a portfolio deficiency. (2RSP at 30.)

MRP understands the CAISO's desire to conduct rigorous analyses to evaluate a given portfolio's Loss of Load Expectation. Stochastic LOLE portfolio analyses provide richer information relative to deterministic analyses; such deterministic analyses are now used for assigning RA capacity values to variable resources and for the Integrated Resource Planning proceeding. That said, MRP also understands the CAISO's expectation that initial studies will be deterministic. MRP expects, however, that deterministic studies conducted on portfolios with 1-in-2 peak demand procurement targets will not yield a true sense of that portfolio's ability to ensure reliability apart from under "average" conditions.

The CAISO also provides: The wind and solar production profiles will be generated prior to running the production simulation. These profiles represent maximum potential output from these resources. These profiles will not be considered must take capacity *and actual use of wind and solar resources in the production simulation may be lower than the profile*. (2RSP at 31, emphasis added.) MRP is not clear on what the CAISO intends through this language, and requests the CAISO clearly describe how it will set wind and solar profiles for the portfolio analyses.

Must-Offer Obligations

MRP understands the CAISO's logic with regards to requiring a resource to offer at its NQC value instead of its UCAP value. Whether this proposal is reasonable cannot be determined without some experience with how it plays out in actual operations, and evaluating how different UCAP and NQC values turn out to be.

MRP also does not object to requiring that RA resources have an obligation *only* to offer into the DA market, but notes that this proposal requires the implementation of a functional and robust DA Imbalance Reserve Product. Whether the DA Imbalance Reserve Product is functional and robust will depend on setting proper procurement targets for this product.

The CAISO has proposed to exempt the following resources from bid insertion:

Exemption Type	DA MOO	DA Bid Insertion
Eligible Intermittent Resource	May, but not required to, submit Bids in the Day-Ahead Market	No
NGR (Non-REM)[25]	Standard DA MOO plus MOO should reflect charge and discharge capabilities	No
Non-Dynamic, Non-Resource Specific Imports	Economic Bids or Self-Schedules are to be submitted for all RA Capacity. Block bids or self-schedules should be no longer than one hour for imports providing resource adequacy	Yes

MRP offers the following questions about this proposal:

- First, with regards to variable energy resources, why would the CAISO not insert bids for variable energy resources up to those resources' forecast output in the real-time market? Given that these forecasts are the basis for integrating these resources into CAISO real-time market operations, they also should be suitable for RA bid insertion in the real-time market.
- Second, with regards to NGR resources, MRP believes that much more discussion is required with regards to how NGRs that are providing RA capacity will be required to bid before reaching any conclusions regarding whether those resources should be exempt from having the CAISO generate bids on their behalf.

Please also see MRP's comment about aligning the must-offer and availability assessment periods above.

Planned Outage Process Enhancements

The CAISO has proposed to

- Allow internal resources to be shown for subsets of months. MRP supports this proposal.
- Include an RA adequacy test before approving some planned outages.
- Develop a planned outage calendar. MRP supports this proposal.
- Develop a substitute capacity bulletin board. MRP supports this proposal.

As part of these modifications, the CAISO proposes that all planned outages must be submitted at least 45 days prior to the start of the RA month, that "opportunity outages" must be submitted between 44 days and eight days before the outage, and that any outages taken with seven or fewer days' notice would be considered forced outages.

These provisions would eliminate the CAISO's current Short-Term Opportunity outages. MRP questions this, because the Short-Term Opportunity Outages – which allowed resource owners to take outages over weekends when loads were lower without having those outages count as forced outages – were a very successful "win-win" which afforded resource owners the chance to take outages to improve the reliability of their units without affecting reliability or having those outages count against their availability targets. These outages – which previously were taken to avoid having any impact on reliability – will now count against a resource's UCAP availability. MRP requests the CAISO provide stakeholders with additional aggregated information with regards to the use of Short-Term Opportunity Outages to help them assess the impacts of losing this current feature.

RA Import Provisions

MRP supports modifying RA import rules to deter speculative supply and address double counting. MRP does not support the CAISO's proposed modifications (described below), which, even if they addressed these two concerns, perpetuate the discriminatory treatment of import RA suppliers relative to internal RA suppliers.

The 2RSP lists the following objectives for RA Import Rule Provisions (2RSP at 45):

- Modify RA import provisions to ensure that NRS-RA imports are backed by physical capacity and reserves with firm transmission delivery.

MRP requests the CAISO clarify what "backed by…reserves" is intended to mean. Per BAL-002-WECC-2, interchange transactions no longer have any bearing on a BAA's contingency reserve obligations.

If, by "backed by reserves", the CAISO intends that the sourcing BAA has an obligation to continue to deliver energy from the RA capacity to the CAISO under all conditions, including under generator contingency conditions in the source BAA, it's not clear how this obligation would not better be secured by identifying the specific sourcing resource and ensuring that the specific sourcing resource is contractually committed to serving California load.

If that is not what the CAISO intends by "backed by…reserves", MRP requests the CAISO clarify what those words are intended to convey.

MRP strongly agrees with efforts to ensure "firm transmission delivery". The CAISO proposes that the RA import supplier comply with this requirement by providing supporting documentation: Specifically, all LSEs must submit supporting documentation that any non-specified RA import resource shown on annual and monthly RA and Supply plans represent physical capacity and firm transmission. (2RSP at 51.) MRP agrees that RA imports must comply with these requirements ***at the time of the RA showing.*** Without identifying the specific physical resource sourcing the RA import, however, it is unclear how the RA import supplier could represent that they have also secured firm transmission from the sourcing resource to the CAISO delivery point – **again, at the time of the RA showing**. MRP requests the CAISO describe the proposed "firm transmission delivery" obligation in language that (1) does not open the door to different interpretations and (2) clarifies the time frame in which this firm transmission must be reserved.

The CAISO proposes to require specification of the Source BA for any NRS-RA imports used on RA and Supply Plans for monthly showings. (2RSP at 51)

The CAISO proposes to require RA imports to specify the source Balancing Area to ensure all RA import resources are fully available and dedicated to the CAISO for reliability. (2RSP at 52)

MRP requests that the CAISO more fully explain how simply identifying the source BAA of the RA import ensures that the resource sourcing the RA import is committed to serving California load. Even if the CAISO intended to conduct an adequacy evaluation of the source BAA in the forward showing time frame – which, based on discussion at the October 10, 2019 working group meeting, MRP does not believe to be the case – merely identifying surplus capacity within a BAA would not ensure that surplus is dedicated to serving California load.[1]

The CAISO also provides that the proposed modifications to the RA import rules "…[c]reate more comparable treatment for RA imports to internal RA resources. The current provisions provide less rigorous requirements for RA imports." (2RSP at 46.) MRP strongly disagrees that the proposed modifications meaningfully move toward, or accomplish, this objective of providing more comparable treatment. If the CAISO's proposed rules were adopted, the following differences between internal RA resources and RA imports would remain:

	Internal RA Resource	RA Import
Sourcing resource	Specific physical generating resource	Source BAA
Firm transmission	Ensured through the CAISO's deliverability analysis (i.e., only the amount of the resource's capacity that is fully deliverable can count towards RA requirements)	The RA import supplier is supposed to attest that they have firm transmission to the CAISO delivery point, but it cannot ensure this without also identifying the specific sourcing resource – which the CAISO is not proposing.
Must-offer obligation	DA and RT up to the full amount of the RA capacity sold	DA up to the full amount of RA capacity, but RT only up to the amount of the DA award.[2]

Clearly, the rules for RA Imports and internal RA resources are not now comparable and will not be comparable if the CAISO's proposal is implemented.

The CAISO holds: "The CAISO also proposes to adopt provisions similar to current CPUC RA program rules and regulations for RA imports. (2RSP at 51). This language was written before the CPUC adopted, in D.19-10-021, a requirement that RA imports self-schedule the energy associated with the RA import "consistent with the time frame reflected in the governing contract"[3]. MRP is certainly not advocating that the CAISO adopt this detrimental "must-flow" requirement, but notes that the

[1] The CAISO observes that "Requiring a designation of the source Balancing Area ("Source BA") will be sufficient to ensure RA imports are not being double counted for EIM resource sufficiency tests" (2RSP at 52) but does not explain how not double counting a resource for an EIM resource sufficiency test – which is conducted in the spot market time frame, not in the RA showing time frame – ensures the resource is committed to California.

[2] As "clarified" by the CAISO's October 11, 2019 submittal in ER20-94.

[3] D.19-10-021 at page 9.

CAISO ***would*** have to adopt this "must-flow" requirement in order to adopt RA import "provisions similar to current CPUC RA program rules and regulations for RA imports." MRP hopes the CAISO does not intend to adopt a rule that would require RA import suppliers to flow energy to the CAISO regardless of the price.

Finally, the CAISO observes:

> Requiring a real-time bidding obligation for all non-resource specific RA imports could have a negative impact on the efficient utilization of the transmission [grid], potentially increasing overall costs to serve load. (2RSP at 53.)

The CAISO asserts that if RA imports were required to reserve transmission capacity through real-time, that reservation could prevent lower-cost resources from serving CAISO load. To the extent that concern that is true, it permeates the entire RA program. There is a tradeoff between ensuring adequacy by securing resources in a forward time frame and serving load at the absolute lowest cost through unsecured resources in the spot market. If serving load at the lowest cost through the spot market was the primary objective, the RA program would not – in fact, *could not* – exist. Given that the focus of this initiative is enhancing **Resource Adequacy** rules, leaving opportunities for the spot market to serve load more cheaply that dilute the forward reliability purpose of the RA program is not, and should not be, an objective.

Flexible RA capacity

The CAISO proposes the following modifications to the flexible capacity RA program:

> [T]he CAISO proposes to eliminate the existing three-hour net load ramping requirement and will not, at this time, pursue flexible RA capacity to address predictable ramping needs. (2RSP at 57.)

> To date, the CAISO has managed most resource commitments through the day-ahead market process. CAISO does not expect this to change. However, once the CAISO produces a day-ahead dispatch solution it must rely on real-time market dispatches to account for unpredictable ramps caused by uncertainty. (2RSP at 57.)

> As already noted in this proposal, to ensure the CAISO has adequate capacity available to the real-time markets to address uncertainty between the day-ahead and real-time markets, the CAISO is developing an Imbalance Reserve product in the Day-Ahead Market Enhancements initiative. The Imbalance Reserve product will ensure both upward and downward capacity is available to the real-time markets to address differences between the day-ahead and real-time markets caused by time granularity differences and forecast error. (2RSP at 58.)

While MRP supports the idea of the CAISO addressing the need for flexibility through a Day-Ahead Imbalance Reserve Product, MRP notes that addressing flexibility needs through this yet-to-be-created product creates a lock-step dependency between the RA Enhancements and DAME initiatives – neither can or should proceed on a different time frame than the other.

> The CAISO proposes to develop flexible resource adequacy capacity requirements to align with the proposed imbalance reserves to address uncertainty needs between the day-ahead and fifteen-minute markets. (2RSP at 58.)

To address the above flexible capacity needs, the CAISO proposes a single flexible capacity requirement equal to the historic forecasted net load error between IFM and FMM plus a growth factor to account for additional growth in uncertainty. (2RSP at 58.)

MRP asks: did the CAISO mean "equal to the **maximum** historic net load error between IFM and FMM"? If not, MRP requests the CAISO clarify how the historic forecasted net load error will inform the flexible capacity requirement.

The CAISO proposes to use three years of historic data to determine both the maximum difference between the day-ahead and fifteen-minute market forecasts and the rate that difference is changing (i.e. how much it increase year over year). The CAISO will combine the identified needs from the calculated flexible RA needs with expected changes in load, wind, and solar (including behind the meter solar) as submitted by LSEs in the CAISO's annual flexible capacity needs assessment survey and CEC load forecast. The CAISO will then use those data points to extrapolate the need for the uncertainty requirement for the upcoming RA year. Once there is sufficient data available from the imbalance reserves market, the CAISO can reexamine this practice and consider establishing this need based on imbalance reserves procurements. (2RSP at 58-59.)

As noted above, given the growing nexus between flexible RA capacity and the DA Market Enhancements initiative, successfully resolving the issue of how the CAISO will set the DA Imbalance Reserve Product procurement targets and procure this product is a critical piece of making both proposals work. MRP looks forward to working on that critical issue with the CAISO and other stakeholders.

Imports Providing Flex RA

The CAISO provides:

However, the CAISO has found that import capacity is capable of providing significant ramping capabilities. Therefore, the CAISO will allow imports to provide flexible RA capacity. (2RSP at 59.)

Imports do not have the same defined ramp rates or minimum operating levels as internal resources. Imports have no Pmin and high ramp rates in Masterfile. Given these parameters, the CAISO is unable to calculate an EFC for imports in the same way it does for internal resources. However, this simply means that the LSEs and resource owners must determine how much flexible capacity they wish to procure from imports. The CAISO will allow imports to provide EFC up to the UCAP of the resource. (2RSP at 61.)

While MRP agrees that imports (not necessarily RA imports) have historically provided the CAISO with flexibility to help meet net load ramps, the CAISO's proposal exacerbates the discrimination between RA imports and RSA internal resources. According to the CAISO, RA internal resources' EFC is "…the largest range a resource can move over [a] 15-minute interval capped at the resource's UCAP." (2RSP at 61) Once again, by failing to require that RA imports point to a specific sourcing resource, the CAISO allows RA imports to qualify to provide an RA service (in this case, EFC) without being able to verify whether the RA import is actually capable of providing that service. MRP does not support this aspect of the CAISO's proposal.

Finally, it is not clear how the CAISO intends to set the UCAP value of RA imports. MRP requests the CAISO provide additional information on this topic.

Setting EFC Values for Wind and Solar Resources

The CAISO provides:

> Solar resources' NQCs are based on their ELCC values and may not reflect the resources' availability during all hours of the day. Additionally, they are limited in their ability to provide imbalance reserves outside of sun-up hours. As such, the CAISO in considering a couple options for solar resources including:
>
> 1. Limits on the amount of flexible RA that can be shown from solar resource
> 2. Creating a separate flexible RA product that would have a more limited availability
>
> As such, the CAISO is not proposing an EFC counting rule solar at this time. Instead, the CAISO seeks stakeholder feedback on which of these options is preferred and how the CAISO should calculate EFC for solar given the preferred solution. (2RSP at 61.)

The CAISO has proposed that a resource's EFC be "…the largest range a resource can move over [a] 15-minute interval capped at the resource's UCAP." (2RSP at 61.) As with all generating resources, applying this EFC value operationally will require positioning the resource at the proper operating level. Further, while wind and solar resources' ability to ramp may not be limited by inverter ramping speed, their ability to ramp ***up*** is limited by fuel availability. Setting a resource's EFC based solely on its theoretical ability to move (in either direction) over a period without any consideration with regards to the things that restrict that ability to move in a particular direction is unlikely to yield reliable or dependable EFC values.

MRP proposes that the EFC value of wind and solar resources:

1. Be set at zero for *upward* flexibility (to reflect the fact that such resources are most likely to be producing output that reflects full fuel availability, above which they cannot ramp unless their production has been curtailed); and
2. Be set at the resource's NQC value for *downward* flexibility. This recommendation is based on the expectation that the NQC value reasonably reflects a dependable operating level for the variable resources.

Local RA

The CAISO proposes:

> In order to utilize UCAP for local RA, one of two things must be done:
>
> 1) Run existing studies and convert local capacity requirements into a UCAP equivalent value, or
> 2) Determine the local capacity requirements using resources UCAP values in the study process. (2RSP at 63.)

The CAISO expressed a strong preference for Option 1 at the October 9 Working Group meeting. The CAISO observed that if it converts the LCR to UCAP-equivalent values by using a UCAP conversion factor equal to the average UCAP of the resources in the associated local capacity area, that this could leave the area deficient if LSEs procured resources whose UCAP was not at least the average of the UCAP in

the area. MRP notes that setting resource UCAP values using fleet-average outage rates would help ameliorate this concern. Conversely, if the CAISO moves forward with resource-specific UCAP values, applying the second option seems the more prudent course, even though doing so would misalign the LCR study process and the TPP study process and result in higher local area capacity requirements.

CPM Modifications

The CAISO proposes to seek authority to make CPM designations based on UCAP deficiencies, and to ensure that resources that meet LCR can meet not only the MW needs in those local areas but the energy-shaped MW needs in those areas. MRP concurs with those proposals.

Appendix A - Nature of Work Cards

MRP offers two clarifications up front.

First, "outages" related to some of the categories below may require some operational accommodation (e.g., to metering or ICCP) but may not affect the physical availability of the unit. MRP holds that such outages, which do not affect the physical availability of the unit, should not count against a resource's UCAP.

Second, while all the categories below are labeled "planned", MRP holds that the first principle above (that outages that may introduce some operational accommodation but do not affect the physical availability of the resource) should not count against a resource's UCAP, regardless of whether the outage is forced or planned.

The following table is taken from the BPM for Reliability Requirements. MRP has replaced the final column ("Is substitution required?") with "Affects UCAP?" In this table, MRP offers its thoughts about which nature-of-work categories should count against UCAP values.

Outage Type	Nature of Work/Opportunity Status	Affects UCAP?
Planned	Ambient Due to Temperature	N
Planned	Ambient Not Due to Temperature	N[4]
Planned	Ambient due to Fuel insufficiency	Y[6]
Planned	**Gas delivery system**	**N[6]**
Planned	AVR/Exciter	Y
Planned	Environmental Restrictions	N
Planned	Short term use limit reached	N
Planned	Annual use limit reached	N*
Planned	Monthly use limit reached	N*
Planned	Other use limit reached	N*
Planned	ICCP	Y[5]

[4] As MRP understands, the CAISO has used "Ambient Not Due to Temperature" when outages on the gas delivery system did not allow gas to be delivered to the generating unit. NRG agrees with continuing this usage. MRP also agrees that where the gas delivery system did not constrain delivery of gas to the generating unit, but the generating unit owner failed to secure fuel, such outages should count against the UCAP values. The CAISO refers to this as "Ambient due to fuel insufficiency". MRP suggests the CAISO label the condition where gas could not be delivered to the generating unit due to problems in the gas delivery system as "Gas Delivery System" and label the condition where the generating unit owner failed to secure gas for the unit as "Failure to Secure Gas".

[5] Such outages should count against UCAP only where the ICCP problem lies with equipment owned and operated by the generating unit owner.

Outage Type	Nature of Work/Opportunity Status	Affects UCAP?
Planned	Metering/Telemetry	Y[6]
Planned	New Generator Test Energy	N
Planned	Plant Maintenance	Y
Planned	Plant Trouble	Y
Planned	Power System Stabilizer (PSS)	Y
Planned	Ramp Rate	Y
Planned	RTU/RIG	Y[7]
Planned	Transitional Limitation	Y
Planned	Transmission Induced	N
Planned	Technical Limitations not in Market Model	N
Planned	Unit Supporting Startup	Y
Planned	Unit Testing	N
Planned	Off Peak Opportunity	N
Planned	RIMS testing	Y
Planned	RIMS Outage	Y[8]

[6] Such outages should count against UCAP only where the problem lies with equipment owned and operated by the generating unit owner.
[7] Such outages should count against UCAP only where the problem lies with equipment owned and operated by the generating unit owner.
[8] Such outages should count against UCAP only where the problem lies with equipment owned and operated by the generating unit owner.