BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Develop an Electricity Integrated Resource Planning Framework and to Coordinate and Refine Long-Term Procurement Planning Requirements.	Rulemaking 16-02-007 (Filed February 11, 2016)

COMMENTS OF POWEREX CORP. ON ASSIGNED COMMISSIONER AND ADMINISTRATIVE LAW JUDGE'S RULING ON POTENTIAL RELIABILITY ISSUES

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Pursuant to the June 20, 2019, Assigned Commissioner and Administrative Law Judge's Ruling Initiating Procurement Track and Seeking Comment on Potential Reliability Issues[1] ("Ruling"), Powerex Corp. ("Powerex") offers these comments. The California Public Utilities Commission ("Commission") staff explain that the California grid is facing significant reliability challenges in the near- to medium-term.[2] Powerex agrees.

First, there is a growing gap between the capabilities of California's internal generation fleet and actual system needs due to fundamental changes to the California grid, while concurrently California's ability to rely on short-term voluntary imports is also declining, increasing the risk of a significant reliability event. The continued retirement of California's conventional generation fleet and expansion of renewable energy resources is reducing the capacity available to meet peak demand, while greater flexibility is also needed to balance the grid.

Second, other load-serving entities ("LSEs") in Western Regions face similar capacity and flexibility challenges as California. As a result, numerous LSEs throughout the West are

[1] On July 11, 2019, Administrative Law Judge Fitch issued a ruling granting a request for extension of time for comments on potential reliability issues until July 22, 2019. Therefore, these comments are timely.
[2] *See* Ruling at 6.

increasingly short of sufficient capacity on a forward basis to meet peak demand and have now begun securing forward commitments of the limited surplus capacity and flexibility in the West that remains available. Consequently, there is unlikely to be much, if any, residual capacity available from external entities in the short-term markets during periods of high demand to supplement supply procured through California's System Resource Adequacy program.

To respond to these reliability challenges and ensure the most economic value for California ratepayers, the Commission should modernize its Resource Adequacy program to support a cost-competitive forward bilateral market for existing surplus capacity. By modifying the System Resource Adequacy program, the Commission can help California LSEs compete with LSEs in other regions to obtain greater forward commitments of surplus capacity from outside California (i.e., increase reliable import supply). Such modifications to the program should include:

- specifying System Resource Adequacy requirements on a seasonal (rather than monthly) basis; and,
- requiring compliance with this requirement to be shown on a year-ahead basis (rather than allowing a significant portion to be shown only on a month-ahead basis).

This will help ensure that reliable surplus capability from external suppliers such as Pacific Northwest hydroelectric entities is committed to California LSEs on a forward basis, enabling it to play an important role in ensuring cost-effective reliability in California.

Despite the Ruling's concerns to the contrary, numerous external entities have the demonstrated ability to deliver System Resource Adequacy reliably and with a degree of certainty that rivals or exceeds most of the resources located in California – and the Commission can ensure this performance by adding certain supplier requirements described below in response to the Ruling's questions. Accordingly, a highly cost-competitive Resource Adequacy program

that utilizes reliable import supply will ensure the most possible economic value for California ratepayers and best meet California's environmental goals, while ensuring sufficient capacity and flexibility to balance the grid.

I. NEAR- AND MEDIUM-TERM RELIABILITY CHALLENGES EXIST

The Ruling identifies near- and medium-term renewable integration and reliability resources as most in need of the Commission's attention.[3] The existing near- and medium-term (2019-2024) reliability challenges are the result of: 1) a significant and growing gap between the capabilities of California's internal generation fleet and actual system needs, and, 2) numerous LSEs in western regions outside of California increasingly facing similar capacity and flexibility challenges that will affect California's ability to secure surplus capacity.

A. The Growing Gap in the Capabilities of California's Internal Generation Fleet and Actual System Needs

There is a significant and growing gap between the capabilities of California's internal generation fleet and actual system needs stemming from the dramatic increase in the flexibility needed to balance the grid and a reduction in capacity available to meet peak demand. For years, the California Independent System Operator Corp. ("CAISO") has relied on short-term purchases of energy from external supply voluntarily offered into CAISO's day-ahead and real-time markets to supplement internal and external wholesale electricity supply procured pursuant to California's System Resource Adequacy framework. However, fundamental changes to the grid in California and throughout the West largely, if not entirely, eliminate the ability for CAISO to rely on short-term imports without significantly increasing the risk that California will experience a significant reliability event in the summer season, potentially as soon as 2019.

[3] *See* Ruling at 4.

Within California, the growth in renewable resources dramatically increases the flexibility needed to balance the grid. At the same time, the retirement of a significant portion of California's conventional generation fleet reduces the resources that may be available to meet this expanded flexibility need, while also reducing the capacity available to meet peak demand. The result is a significant and growing gap between the capabilities of California's internal generation fleet and actual system needs.

B. Other Load-Serving Entities in Western Regions Are Facing Similar Capacity and Flexibility Challenges, Affecting California's Ability to Secure Surplus Capacity

While the transformation of California's grid is well known, numerous LSEs in western regions outside of California are also increasingly facing similar capacity and flexibility challenges due to the changing resource mixes on their systems, including the retirement of coal resources and significant additions of renewable resources. Consequently, numerous LSEs throughout the West are materially short of capacity on a forward basis and have begun securing forward commitments of the limited available surplus capacity and flexibility that remains available.

These trends have important implications for California, as it can no longer be assumed there will be any residual capacity from external entities voluntarily offered into the CAISO's day-ahead or real-time energy markets to supplement supply procured through California's System Resource Adequacy program, particularly during periods of high demand across the western grid. In addition, California LSEs seeking to purchase monthly System Resource Adequacy capacity from external entities may often find that sellers with surplus capacity have committed their surplus capacity to other entities in the West under contracts typically of longer duration than a single month, and contracted farther in advance than a month-ahead basis.

II. MODIFYING THE RESOURCE ADEQUACY PROGRAM WILL ENSURE CALIFORNIA LSEs HAVE SUFFICIENT ACCESS TO IMPORT SUPPLY THAT CAN HELP CALIFORNIA COST EFFECTIVELY MEET ITS RESOURCE ADEQUACY REQUIREMENTS, RELIABILITY NEEDS AND ENVIRONMENTAL GOALS

The Ruling identifies several key trends in the performance of California's Resource Adequacy program, including tightening supply conditions in the forward bilateral markets and the inability of certain California LSEs to meet their System Resource Adequacy requirements for 2019.[4] These trends point to the need to take steps to ensure there are sufficient resources to maintain reliability in the near- to medium-term.

Numerous external entities have the ability to deliver System Resource Adequacy reliably and with a degree of certainty that rivals or exceeds most of the resources located in California. Reliable import supply will ultimately be essential in helping California meet its reliability and environmental goals in the most cost-effective way.

A. Reliable Import Supply Can Be Committed on a Forward Basis to Meet California Resource Adequacy Requirements

The Ruling appears to conclude that there is no additional import supply available to be committed on a forward basis to meet California System Resource Adequacy requirements, beyond historical levels of 4,000 MW or less. This is not necessarily the case. There is significant potential to increase the quantity of surplus capability from external suppliers that is committed on a forward basis to meet California's reliability needs *if* the Commission modifies the Resource Adequacy Program. Modifications to the System Resource Adequacy program are necessary to help California LSEs more effectively compete with LSEs in other regions – that are increasingly seeking similar products – to obtain forward commitments of the surplus capacity of external systems.

[4] *See* Ruling at 6.

Even as grid conditions continue to tighten, there will be entities outside of California, particularly Northwest hydro entities, that collectively have significant surplus capacity and flexibility that can be committed to meet the reliability requirements of other LSEs. However, there is not sufficient capacity and flexibility to meet the needs of *all* LSEs across the West short on capacity; thus, the result of tighter supply conditions will be greater competition among potential purchasers to enter into forward commitments for the limited surplus capacity and flexibility that is available.

Due to the growing competition among entities throughout the West to procure surplus capacity and flexibility on a forward basis, it should be expected that the cost of such forward commitments will exceed historical prices associated with shorter-term Resource Adequacy transactions when surplus capacity has been relatively more abundant. Nevertheless, forward procurement of existing surplus capacity and flexibility is highly cost-effective compared to building new capacity resources.

While meeting California's short-term needs may ultimately require some delay in the retirements of once-through-cooling resources or similar measures, the need for such measures can be minimized by pursuing well-crafted modifications to California's System Resource Adequacy program that enable greater quantities of external Northwest hydro capacity to be made available to California. Importantly, the successful forward commitment of larger quantities of clean, flexible Northwest hydro resources to meet California's needs would be far more consistent with California's environmental policy objectives than delaying the retirement of fossil-fueled in-state resources.

B. Import System Resource Adequacy Can Be Reliable

The Ruling appears to assume that import System Resource Adequacy is necessarily less reliable than internal System Resource Adequacy. More specifically, the Ruling proposes that

imported System Resource Adequacy capacity be de-rated by 1/3 "to account for the risk associated with increasing imports[.]"[5] The Commission, CAISO and the CAISO Department of Market Monitoring ("DMM") have each correctly raised significant concerns regarding the reliability of *some* import Resource Adequacy contracts from *some* entities under the existing framework. However, multiple entities outside California have consistently demonstrated their ability to provide System Resource Adequacy and deliver energy to California reliably, including during the most critical demand periods. Accordingly, the Commission should not de-rate *all* import System Resource Adequacy.

Unfortunately, the Commission is correct that *some* import Resource Adequacy contracts may not be counted upon to perform when called upon by CAISO. However, this is <u>not</u> a general feature of *all* import Resource Adequacy commitments. Rather, these concerns are specific to import Resource Adequacy contracts with certain entities that may not have the underlying surplus physical capacity and/or firm transmission service necessary to support their forward capacity commitments. And while it is both possible and likely that certain intermediaries have, in fact, sold substantial quantities of System Resource Adequacy to California LSEs on a purely speculative basis, other suppliers, including Powerex, have the physical capabilities necessary to support their System Resource Adequacy commitments. More specifically, these suppliers have the ability to commit to supply System Resource Adequacy with physical generating capacity that is surplus to needs in the source Balancing Authority Area, is not "double counted," and can be delivered to the California grid with a degree of certainty *that rivals or exceeds that of most resources located within California*. The capabilities of these external physical suppliers, including Powerex, is supported by a lengthy record of

[5] Ruling at 15.

reliably delivering firm energy to California, as well as other regions across the West, including during the most stressed system conditions. Thus, the Commission should not adopt a proposal that de-rates all import Resource Adequacy contracts.

C. External Resources Are Ideally Suited to Cost-Effectively Help California Meet its Reliability Needs and Environmental Targets

External resources can play a significant, and even expanded, role in efficiently and cost-effectively meeting California's reliability needs. The large storage hydro systems in the Pacific Northwest, in particular, can play a significant role in meeting California's reliability challenges consistent with California's environmental objectives and at substantial savings when compared to meeting reliability needs solely through building new internal resources or the retention of otherwise uneconomic, fossil fuel resources.

Given the changing conditions on the grid outside of California, Northwest hydro resources may increasingly have little, if any, unsold surplus capability available to support voluntary energy offers in the CAISO's day-ahead and real-time market (particularly during conditions of high demand in the West), and may also have limited unsold surplus capability to offer to California LSEs through short-term, monthly System Resource Adequacy transactions. Unless the Commission takes steps to modernize California's forward procurement framework, it is likely that the surplus capability of the large hydro systems in the Northwest will increasingly be committed on a forward basis to meet the annual and seasonal capacity and flexibility needs of LSEs in regions outside of California, leaving little or no capacity and flexibility to be made available to California on a short-term basis. This would be detrimental to California consumers, as the clean, flexible hydro resources of the Northwest are ideally-suited to meeting the growing capacity and flexibility needs of California in a manner that is cost-effective and fully consistent with the State's environmental and GHG-reduction policies.

III. RESPONSES TO THE SPECIFIC QUESTIONS IN THE RULING

1. Do you believe that there could be reliability challenges as soon as 2021? Why or why not? Include comments on any concerns you have about the staff analysis presented in Section 2.1 of this ruling and cite to publicly available data to support your analysis.

The California grid faces rapidly growing reliability risks, and California could experience a significant reliability event, potentially even sooner than 2021. Notably, as reflected in Table 1 below, a review of historical data from recent summers details how California has had to rely on short-term purchases to supplement the resources committed through the current System Resource Adequacy program to maintain reliability.

		CEC 1-in-2 Forecast Peak[1] (MW)	*plus* 15% PRM (MW)	**RA Target[2] (MW)**	Actual Peak Hourly Load[3] (MW)	Required Contingency Reserve[4] (MW)	**Total Capacity Required (MW)**	RA Surplus (Deficiency) (MW)	Unit Outages[5] (MW)	**Resource Adequate?**
2016	June	39,625	5,944	**45,568**	44,454	2,590	**47,044**	(1,476)	(7,152)	***No***
	July	44,364	6,655	**51,018**	45,981	2,716	**48,697**	2,322	(6,222)	***No***
	August	46,848	7,027	**53,875**	43,812	2,548	**46,360**	7,515	(5,944)	***Yes***
	September	42,388	6,358	**48,747**	42,810	2,460	**45,270**	3,477	(7,309)	***No***
2017	June	41,834	6,275	**48,109**	44,184	2,659	**46,843**	1,266	(9,454)	***No***
	July	45,259	6,789	**52,048**	45,374	2,627	**48,001**	4,047	(7,088)	***No***
	August	45,967	6,895	**52,862**	47,297	2,778	**50,075**	2,787	(6,151)	***No***
	September	45,489	6,823	**52,312**	49,909	2,871	**52,780**	(468)	(5,885)	***No***
2018	June	37,596	5,639	**43,235**	37,803	2,594	**40,397**	2,838	(7,228)	***No***
	July	43,080	6,462	**49,542**	46,487	3,026	**49,513**	29	(4,780)	***No***
	August	44,923	6,738	**51,661**	45,021	2,734	**47,755**	3,907	(6,181)	***No***
	September	42,579	6,387	**48,966**	38,536	2,374	**40,910**	8,056	(5,275)	***Yes***

1 2016 monthly values are from CPUC 2016 RA Report, Tbl. 3 (for CPUC-jurisdictional LSEs only) scaled to "Total CAISO Coincident Peak" for 2016 from final CEC Mid-Baseline Mid AAEE Savings forecast in 14-IEP-1
2017 values from https://www.caiso.com/Documents/AgendaandPresentation_2018AnnualReviewofAvailabilityAssessmentHoursJun6-2017.pdf (at 32);
2018 values from http://www.caiso.com/Documents/Presentation-CapacityProcurementMechanismSignificantEvent.pdf (at 4, "CAISO-RA")

2 Equal to CEC 1-in-2 peak forecast plus PRM; does not reflect reductions due to demand response or other factors, and hence may exceed the System RA that LSEs are required to show.

3 From CAISO OASIS, "CAISO Demand Forecast" for "Actual" process and "CAISO-Total" region.

4 From CAISO OASIS, "AS Requirements" of Spin and Non-Spin for "AS_CAISO_EXP" region during hour of peak load for respective month. Does not include Reg-Up, which is approximately 350 MW during peak hours.

5 From CAISO report "Curtailed and Non-Operational Generators in California" on day of peak load in respective month. http://www.caiso.com/market/Pages/OutageManagement/UnitStatus.aspx.

Traditionally, CAISO could rely on short-term voluntary imports supported by residual surplus capacity from neighboring regions through CAISO's day-ahead and real-time markets. For example, imports during hours of high CAISO load in 2018 ranged from a maximum of 9,309 MW to a low of only 3,448 MW, and CAISO recognized that "system reliability depends on the certainty of a certain range of net imports from neighboring balancing authority areas,

particularly during CAISO system peak hours."[6] Fundamental changes in the resource mix outside of California, however, are significantly increasing the likelihood that the capacity historically made available through the short-term energy markets will no longer be available to help maintain reliability within California. Notably, at the same time that California is facing growing reliability challenges, other states and provinces throughout the West are increasingly experiencing their own capacity and flexibility challenges due to the retirement of significant quantities of thermal resources, and at the same time that they are seeking to increase their use of renewable generation resources.

For example, Alberta has stated its intentions to completely phase out coal-fired generating facilities by 2030 and has started retiring and mothballing significant quantities of its coal fleet. Approximately 1,300 MW of coal generation was retired and/or mothballed in 2018, and an additional 300 MW of coal resources are expected to be retired by the end of this year. The Oregon Public Utilities Commission directed PacifiCorp to pursue the potential retirement of a portion of its coal fleet as part of its integrated resource planning process. PacifiCorp acknowledged that the retirement of its existing coal fleet has the potential to stress system reliability and currently is evaluating a portfolio of options to try to maintain system reliability while complying with these mandates. In Washington, the Centralia Steam Plant, the only coal-fired generation resource, is slated for retirement by 2025, with one of the two units at the plant expected to go offline in 2020. Talen Energy, the operator of Colstrip Steam Electric Station, recently announced that Talen and Puget Sound Energy will permanently retire the 614 MW associated with Colstrip Units 1 and 2 at the end of this year.

[6] CAISO, *2019 Summer Loads & Resource Assessment* at 13-14 (May 8, 2019), *available at*: http://www.caiso.com/Documents/Briefing-2019-SummerLoads-Resources-Assessment-Report-May2019.pdf.

Tightening supply conditions in the West are dramatically increasing the reliability risks associated with California continuing to rely on short-term imports. As supply conditions continue to tighten, there is growing competition among LSEs across the West that are systematically short on capacity to secure forward commitments of the existing limited surplus capacity and flexibility in the West. Numerous LSEs outside of California already are taking steps to secure seasonal, yearly and multi-year commitments of energy and capacity from suppliers with remaining surplus capabilities. Absent steps to secure commitments of the excess capacity and flexibility available in the West, at least on a year-ahead basis and at least for a seasonal duration (i.e. summer or winter season), California and other regions that have historically relied on the availability of short-term imports to compensate for shortfalls in their Resource Adequacy or Integrated Resource Planning processes will increasingly be exposed to being unable to procure sufficient capacity and flexibility through the short-term markets to maintain reliability.

2. Are you concerned about increasing reliance on imported capacity for meeting resource adequacy requirements? Why or why not?

Imports should not be viewed as inherently "risky" or incapable of playing a substantial role in meeting California's reliability needs. To the contrary, Powerex and other suppliers that source their deliveries from the large storage hydro systems in the Northwest have a long history of reliably supplying clean energy to California, primarily acting as a source of competitively-priced clean energy that is surplus to the needs of the Northwest region's domestic needs. The large storage hydro systems of the Northwest represent dependable supply that can be counted upon to meet delivery obligations even during stressed conditions.

The problem is not that *all* imports are *inherently* risky or that *all* external suppliers cannot be counted upon to perform. Rather, the reliability risks associated with the non-delivery

on import Resource Adequacy commitments result from a limited subset of suppliers, particularly energy market intermediaries, that have entered into import Resource Adequacy contracts without the capacity and firm transmission necessary to support their commitments or that have notionally supported their commitments with capacity that is simultaneously relied upon by other regions to meet their own reliability needs. These arrangements do not result in the commitment of dependable physical capacity that will be available to meet California's needs, but rather shift reliance on short-term markets from the CAISO to an intermediary. In addition, since these speculative suppliers can avoid the costs of securing the forward physical capacity and transmission necessary to perform, they can "crowd out" genuine forward commitments of physical supply offered by reliable physical suppliers. Collectively, the result has been to increase reliability risks by increasing the likelihood that a portion of the resources that California is counting upon to meet system peaks will fail to deliver when called upon by the CAISO.

The Commission has correctly raised concerns regarding the reliability of import Resource Adequacy contracts. However, the Commission should distinguish between speculative supply and reliable external suppliers with the capacity and transmission investments that genuinely support their forward capacity commitments. While continuing to allow speculative supply to count towards meeting System Resource Adequacy needs will only increase reliability risks, the surplus capacity of Northwest hydro entities has the potential to assist California in efficiently and cost-effectively meeting its reliability needs while continuing to progress towards achieving the state's environmental goals.

California's ability to unlock the benefits of Pacific Northwest hydro storage resources will depend on its ability to establish a forward procurement framework that allows it to compete

to secure commitments of the limited surplus capacity and flexibility that exists in the West (while also preventing the participation of speculative supply). This will require moving away from a framework premised on month-ahead, month-at-a-time procurement, which is likely to continue to put California LSEs at a significant disadvantage when competing with external LSEs offering to purchase seasonal, yearly or multi-year capacity commitments. Continued reliance on month-ahead procurement also is likely to limit the quantity of surplus capacity and flexibility that could be made available to California, as month-ahead procurement is unlikely to provide Northwest hydro storage entities with the lead time or certainty necessary to allow them to plan their systems in a manner so it maximizes the capacity and flexibility that can be made available to be provided to California in the peak summer season.

This objective could be achieved by moving towards a framework that requires LSEs to meet Resource Adequacy requirements on a seasonal basis (i.e., with contracts that, at a minimum, cover the summer or winter season) and on at least a season-ahead or year-ahead basis. Establishing a seasonal procurement requirement, with sufficient lead time, would also reduce the current risks associated with errors in forecasting the precise month in which the summer peak load in California occurs. At the same time, enabling seasonal contracts rather than requiring full year-long contracts will continue to allow California LSEs and California ratepayers to benefit from regional diversity in peak load between California's summer-peaking system and external regions that experience a peak load in the winter. Such a framework would ensure that California LSEs can take advantage of this regional diversity and reduce the total costs of meeting California's reliability needs. At the same, establishing at least a year-ahead procurement requirement would give the operators of storage hydro systems adequate lead time

to plan their systems to increase the amount of committed capacity and flexibility they can provide to California.

In order to ensure that all import Resource Adequacy contracts do not represent speculative supply and can be relied upon to meet California's System Resource Adequacy requirements, the Commission can take steps to ensure that all contracts are backed by the physical capacity and balancing reserves necessary to ensure delivery with a high degree of confidence. Specifically, the Commission should require the supplier to:

1) identify the source BAA and e-Tag source generation unit (or physical system) at the time of execution of a System Resource Adequacy commitment;

2) submit an e-Tag identifying the same source BAA and generation source that was designated in the contract during each hour of the delivery period;

3) include contract language affirming that *at the time that the supplier enters the commitment* it has a reasonable expectation that the capacity supporting the contract is not needed to meet any other capacity obligations in the source balancing authority area; and,

4) include contract language confirming that it will carry sufficient operating reserves—including sufficient spinning, non-spinning and balancing reserves—and will procure sufficient firm transmission rights necessary to ensure that the resource can deliver energy in accordance with any associated energy delivery commitments.

3. Should the Commission be concerned about specific local and/or flexible resource adequacy needs, or only the system needs identified herein?

While there is room to enhance CAISO's Flexible Resource Adequacy program to ensure that California has sufficient flexible resources available to meet California's needs, improving the Flexible Resource Adequacy program is less urgent than System Resource Adequacy and the Commission should focus on System Resource Adequacy needs. Powerex has no comments regarding California's local Resource Adequacy program.

4. **If a need for system reliability resources in the near-term is identified within this proceeding, will there be sufficient time to bring new resources online to meet the need? If not, should the Commission pursue delays to the OTC retirement schedules to bridge this short-term gap? Why or why not? If the Commission pursues OTC retirement date delays . . . which plants and for how long should we request the delays?**

Given the time needed to develop a new resource, sufficient in-state resources likely cannot be built to meet California's short-term reliability needs. It is likely that delaying the retirement of some once-through-cooling resources may be necessary to maintain reliability within California. However, California can reduce the quantity of once-through-cooling and thermal resources that need to be retained to meet short-term reliability needs by taking steps to enhance the System Resource Adequacy framework to allow California LSEs to more effectively compete to obtain forward commitments of the surplus capability of Pacific Northwest hydro entities and other external suppliers and increase the quantity of this capacity that may be made available to California to meet its needs. By reducing the need to defer retirements of once-through-cooling resources, the forward commitment of capacity and flexibility from Pacific Northwest hydroelectric entities can ensure that California's short-term reliability needs are met both cost effectively and in a manner that is more consistent with California's long-term environmental goals.

5. Comment on the proposed requirements in Section 2.2 of this ruling for 2,000 MW of new resource adequacy capacity procured and online by August 1, 2021, procured on a proportional and all-source basis by all jurisdictional LSEs. Parties may propose an alternative requirement.

No comment.

6. Is the requirement for a commercial online date of August 1, 2021 sufficiently clear or are other requirements needed? Explain.

No comment.

7. Comment on how demand-side resources included in this new resource procurement should be counted (e.g., as part of a reduction in the System Resource Adequacy requirement as part of the IEPR, etc.)?

All resources, including demand resources, should only be counted towards meeting System Resource Adequacy requirements if they can be relied upon to perform during critical hours. Recently, the CAISO DMM expressed concern that proxy demand resources counted towards fulfilling System Resource Adequacy requirements may not actually be capable of meeting system needs. In particular, the CAISO DMM noted that proxy demand resources are regularly bid into the CAISO market at prices that ensure that they will not be dispatched except in extreme conditions. In addition, when these resources were dispatched, only a fraction had even a partial response to CAISO's dispatch instruction.[7] For that reason, to the extent the Commission allows demand resources to count towards meeting short-term procurement requirements, the Commission should establish requirements to ensure that such resources are willing and capable to perform to their full System Resource Adequacy commitment levels when called upon by the CAISO.

8. Comment on the Proposed Requirement in Section 2.2 of this ruling that SCE contract for 500 MW of existing resource adequacy capacity from a resource or resources that do not have contracts extending past 2021, for 2-5 years, with cost allocation addressed through a modified CAM mechanism. Parties may also propose an alternative approach.

No comment.

9. Should any procurement from existing resources be focused on resources that have formally notified the CAISO and the Commission of an intention to retire? Why or why not?

No comment.

[7] *See* CAISO, *2018 Annual Report on Market Issues and Performance* at 41-45 (May 2019), available at: http://www.caiso.com/Documents/2018AnnualReportonMarketIssuesandPerformance.pdf.

10. If individual LSEs are unable to procure their responsible share of the authorized procurement, should an interim backup mechanism and role be established to ensure the procurement needs are met and that all LSEs pay their fair share? Could this interim backup mechanism be developed and implemented in time to get resources procured and online by August 1, 2021? If yes, describe implementable solutions?

The Commission should maintain a backstop procurement mechanism to ensure that LSEs procure their allocated share of system needs. However, continued reliance on a backstop procurement mechanism that procures capacity on a month-ahead basis and/or for one month at a time is likely to prove unworkable. The prospect of a commitment and associated compensation for just a single month will not induce the development of a new resources nor will it encourage external hydroelectric entities to plan the operation of their systems to ensure that they have excess capacity and flexibility available for California. In addition, continued reliance on monthly procurement will greatly limit California's ability to compete to obtain commitments from external resources, as buyers outside of California typically offer seasonal, yearly, or multi-year contracts. Further, any backstop procurement mechanism must be sufficiently robust to avoid giving California LSEs an "economic option" not to procure the capacity necessary to meet system needs. In that regard, the existing Capacity Procurement Mechanism ("CPM") soft offer cap, when applied to monthly contracts, is arguably too low to avoid giving California LSEs the economic incentive to under-procure, particularly during their peak demand month(s).

Under the existing CAISO Tariff, the costs associated with procuring backstop capacity pursuant to the CPM is allocated to the deficient LSE or LSEs. The compensation given to a resource procured through the CPM, however, is limited by the CPM Soft Offer Cap (equal to $6.31/kW-month or $75.68/kW-year). Currently, the CPM soft offer cap is based on the annualized cost of a new entrant, *but pro-rated over 12 months.* Importantly, this cap applies to a 1-month contract, even if the seller of the capacity receives no other Resource Adequacy

contract or capacity compensation in the remaining 11 months of the year. The effect is to limit the compensation provided to the resource to approximately 1/12 of the going forward costs of a new resource. The current soft offer cap (in combination with the Commission penalty of $6.66/kW-month) thus creates an economic incentive for California LSEs to under-procure the capacity necessary to meet System Resource Adequacy requirements in the peak demand months where there System Resource Adequacy requirements are highest, as the allocated cost of a CPM procurement and Commission penalty, applied to only one or a few peak demand months, is likely to be significantly below the costs associated with building or procuring new capacity.

For that reason, any backstop procurement mechanism established should be sufficiently robust to allow California to commit the resources necessary to maintain reliability and avoid creating an economic incentive for LSEs to fail to meet their procurement requirements. The backstop procurement mechanism currently employed by the Southwest Power Pool is an example of a mechanism that California could implement to promote robust forward procurement by LSEs.

Notably, in SPP, LSEs must meet seasonal Resource Adequacy requirements. Failure to meet the summer season Resource Adequacy requirements results in the assessment of a deficiency payment that increases with the magnitude of system shortages. More specifically, in SPP, a deficiency triggers the application of a penalty equal to annual cost of new entry ("CONE"), currently set at $85.61/kw-yr, multiplied by a penalty factor that ranges between 125% and 200%.[8]

[8] *See* SPP OATT, Attachment AA, Section 14.2, available at: https://www.spp.org/documents/58597/attachment%20aa.pdf.

11. If the Commission is unable to develop and implement an interim backup mechanism in time to meet peak system resource adequacy needs in 2021, what type of compliance mechanism will be needed to ensure that LSEs comply with their share of the procurement responsibility?

No comment.

12. Is a Tier 3 advice letter for the appropriate mechanism to secure Commission approval for contracts associated with the proposals in this ruling, for LSEs who require such approval? Why or why not? Provide an alternative proposal, if desired.

No comment.

13. Provide any other comments you think the Commission would find relevant to its consideration of system resource adequacy issues and potential procurement by 2021.

This proceeding provides a significant opportunity to work with Pacific Northwest hydroelectric entities and other external suppliers to modernize California's Resource Adequacy program and ensure that it is able to meet the challenges of a rapidly changing grid – both within California and the West. If successful, this effort can generate significant benefits and savings for California ratepayers by allowing California to continue to transition the grid towards increasing reliance on renewables and other clean resources, without having to sacrifice these objectives to maintain reliability. Adopting a robust forward procurement framework that allows California to compete with other regions to obtain commitments of the surplus capacity and flexibility of clean hydroelectric resources will ensure that California can reliably and cost-effectively achieve its renewable and GHG-reduction goals.

Respectfully submitted,
/s/

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