

December 21, 2018

The Honorable Kimberly D. Bose
Secretary
Federal Regulatory Energy Commission
888 First Street, NE
Washington, DC 20426

**Re: California Independent System Operator Corporation
Response to Deficiency Letter
Docket No. ER18-2498-_____**

Dear Secretary Bose:

The California Independent System Operator (“CAISO”) provides the following responses to the Deficiency Letter issued in this docket on November 21, 2018.¹

The CAISO respectfully requests that the Commission approve the tariff revisions submitted in the CAISO’s original filing effective, as requested, on November 27, 2018.² In that filing the CAISO proposed making a number of critical changes to its Transmission Plan Deliverability and allocation process.³ The CAISO’s November 27, 2018 proposed effective date is aligned with its annual study and tariff deadlines. A later tariff effective date will prevent these enhancements from being effective as planned. Moreover, because no party commented on those revisions, the CAISO, transmission owners, and interconnection customers have reasonably assumed that these tariff revisions would be effective November 27, 2018 and planned accordingly. Further, the CAISO notes that the Transmission Plan Deliverability and allocation process enhancements is not the focus of any question in the Deficiency Letter, nor has the CAISO proposed any amendment herein that would require a new 60-day notice period. All parties have had the full 60-day notice period as required under the Federal Power Act. As such, no party will be prejudiced by maintaining the CAISO’s original requested effective date. As such, the CAISO respectfully requests that the Commission accept the CAISO’s tariff revisions effective November 27, 2018.

¹ Pursuant to the Deficiency Letter, the CAISO has attached a tariff record to this filing.

² To the extent required, the CAISO requests waiver of the 60-day notice requirement set forth in Section 35.3 of the Commission’s regulations, 18 C.F.R. § 35.3, pursuant to Section 35.11 of the Commission’s regulations, 18 C.F.R. § 35.11. Good cause exists to grant the requested waiver for the reasons explained above.

³ *California Independent System Operator Corp.*, “Tariff Amendment,” Section II.L (Deliverability Allocation Process), Docket No. ER18-2498-000 (September 27, 2018).

Turning to the specific questions in the Deficiently Letter, the CAISO responds as follows. The CAISO has separated some questions into distinct parts to address each issue in detail.

Generator Interconnection Agreement Suspension

1.A. CAISO's proposed tariff revisions do not include language about mitigating the impact of the suspension but instead state that the suspension will only be approved if the project meets the criteria specified in (a) and (b) (which specifically indicates that the suspension will not result in a Material Modification). Please explain, or reconcile CAISO's proposed tariff language and the description of the revision in the transmittal, which suggests that the interconnection customer will be required to bear the costs of mitigating the impact of a Material Modification prior to suspension approval.

Appendix A to the CAISO tariff defines a Material Modification as "A modification that has a material impact on the cost or timing of any Interconnection Request or any other valid interconnection request with a later queue priority date." If an interconnection customer has agreed to mitigate the potential impact its modification presents to other projects, there is no impact, and therefore the modification is not material. In other words, under the CAISO tariff, mitigation already is part of any material modification assessment; it is not a separate step after the modification has been deemed material. An interconnection customer's requested modification (including suspension) would only be deemed a material modification where the interconnection customer elects not to mitigate the impact of its modification (assuming there is an impact).

Specifically, as part of any material modification assessment, the CAISO and transmission owner first evaluate whether the proposed modification would negatively impact another project. If it does not, the modification is not material, and would be approved. If it does negatively impact another project, that does not necessarily mean that the modification is material. As part of the material modification assessment, the CAISO and transmission owner would present the impact to the interconnection customer requesting the modification, as well as any potential solutions that would mitigate the impact.⁴ The most common example for milestone extensions (the most probable result of suspension) is that the interconnection customer continues to finance its share of a network upgrade to which the requesting interconnection customer and

⁴ See Section 6.2 of the CAISO Business Practice Manual for Generator Management: "the modification will not adversely impact the timing or cost of other Interconnection Customers' Interconnection Facilities that are dependent on the Network Upgrades or Interconnection Facilities of the Interconnection Customer requesting the change *unless the Interconnection Customer requesting the modification is willing to mitigate its impact, e.g., by continuing to meet its security and payment obligations on the schedule in its Generator Interconnection Agreement with respect to those Interconnection Facilities or Network Upgrades*" (emphasis added).

other interconnection customers all need to interconnect, but work ceases on all other network upgrades the requesting interconnection customer alone requires. The interconnection customer then notifies the CAISO whether it will accept the proposed mitigation. If it does, the material modification assessment approves the modification and includes the agreed-upon mitigation.⁵ If the interconnection customer elects not to mitigate its impact on other projects, then the modification assessment concludes that the modification is material. The CAISO provides a detailed example in question 1.B(2), below.

For this reason the CAISO and its stakeholders—all of whom supported the CAISO’s proposal on suspension—did not include separate language on mitigation: The CAISO’s transmittal letter merely explained that the CAISO and transmission owner only would determine that a suspension would “result in a Material Modification” where the suspending interconnection customer had already refused to mitigate any negative impact on other projects.⁶

1.B(1). Please explain how CAISO and the Participating TO will quantify material impacts on cost and timing, and correspondingly, what is required of the suspending interconnection customer in the event that a Material Modification is identified.

Interconnection customers’ cost responsibilities and construction schedules are established in their interconnection studies and their generator interconnection agreements (“GIAs”), which are based on the CAISO’s generator interconnection tariff processes. If an interconnection customer requests a modification, the CAISO and the transmission owner evaluate whether that modification will increase the costs or delay the construction schedule of other interconnection customers, as established in their interconnection studies and GIAs. As explained above, if it does, the interconnection customer can elect to mitigate those impacts so that the other interconnection customers maintain the *status quo* set forth in their studies and GIAs.

As discussed above, the most common example of a potential impact that interconnection customers requesting suspension must mitigate is financing a network upgrade on the original timeline where the upgrade is needed for another interconnection customer. The mitigation would consist of continuing to finance the interconnection customer’s share of that shared facility, as established in its GIA and interconnection studies. Alternatively, some interconnection customers may elect to

⁵ See Section 6.4.8.2 of the CAISO Business Practice Manual for Generator Management: “A modification request that is approved under specific conditions outlined in the CAISO response to the Interconnection Customer is approved with mitigation. The Interconnection Customer must explicitly agree to the mitigation for the request to be considered final and approved. If the Interconnection Customer does not provide its concurrence within the timeframe specified in the letter, the requested modification will be deemed to be denied.”

⁶ Article 5.16 of Appendix EE, as revised by the CAISO’s original tariff amendment in this proceeding.

shorten their suspension request so as to not impact other interconnection customers. The CAISO provides a detailed example in question 1.B(2), below.

1.B(2). Please explain how the proposed revision in requiring the interconnection customer to request suspension is just and reasonable in light of language in section 5.16 of the pro forma LGIA, which “reserves the right, upon written notice” for an interconnection customer to suspend all work.

The CAISO does not seek to prevent or curb suspensions. Under the CAISO’s proposed tariff revisions, interconnection customers maintain the right to suspend progress on their projects. The purpose of the CAISO’s tariff revisions is to evaluate and mitigate the impact of those suspensions on other interconnection customers *before* the suspension occurs rather than *after* (when mitigation frequently is impossible). The CAISO’s tariff currently does not require interconnection customers to provide an estimate of how long they will suspend their construction schedule. Thus, until the interconnection customer terminates its suspension, the CAISO and transmission owner are unable to determine whether that interconnection customer will need to modify its own construction schedule, as established in its GIA. If an interconnection customer needs to modify its construction schedule, it must submit a modification request, which evaluates whether the modification request negatively impacts other projects and whether those impacts can be mitigated. However, by now mitigation may be impossible because the other projects have already experienced the impact (in the form of delay or increased costs). In the CAISO’s interconnection cluster study process, a suspension can have significant adverse consequences on projects studied in the same area. For this reason, the CAISO and its stakeholder believed that adverse impacts should be assessed *before* other projects may be harmed.

For example, consider an interconnection customer with an anticipated commercial operation date of December 2024 that seeks to suspend all construction starting now, in December 2018, for an anticipated two years. Assume the interconnection customer’s GIA provides the following financing responsibilities and milestones for the transmission owner to construct:

- a) Transmission owner interconnection facilities: \$2 million, construction from January 2019 to July 2020;
- b) Transmission line: \$5 million, construction from January 2021 to December 2023; and
- c) Substation upgrades: \$3 million, construction from March 2020 to March 2021.⁷

⁷ For discussion purposes in this example “construction” assumes engineering development, procurement, construction, testing, and energization.

Assume that only the suspending interconnection customer requires facility (a), but that later-queued interconnection customers rely on the completion of the transmission line (b) and substation upgrades (c) to meet the construction schedules established in their GIAs.

With the CAISO's proposed tariff revisions, the CAISO and transmission owner would know beforehand that a two-year suspension of (a) will not negatively affect other projects because only the suspending interconnection customer needs it to interconnect. The CAISO and transmission owner also will be able to determine that the two-year suspension of (b) does not impact other projects because the construction would not commence until the suspension is over. The CAISO and transmission owner also will be able to determine that if the project is still suspended in March 2020, the transmission owner will still have to construct substation upgrades (c) so that the transmission owner still complies with the construction schedule established in the other interconnection customers' GIAs. As such, as part of the material modification assessment, the CAISO can notify the interconnection customer that it may suspend its GIA for two years so long as it finances its share of the construction of substation upgrades (c) beginning in March 2020. Without such financing, the transmission owner would either have to delay the construction schedule of the other interconnection customers who depend on substation upgrades (c), or finance substation upgrades (c) itself without the suspending interconnection customer's financial security posting. This latter option presents substantial risk to the transmission owner because if the interconnection customers that need the substation upgrades all withdraw after the transmission owner has begun construction, the transmission owner will have to abandon the construction and consider all of its own funds expended as a loss.

In short, the CAISO's proposed enhancements are just and reasonable and align with the cluster study process because they recognize the reality that other interconnection customers frequently rely on the construction of facilities as shared or precursor network upgrades, and that the only way to ensure suspensions do not materially harm other projects is to evaluate suspension's impact before they occur rather than after.

1.B(3) Please provide examples, beyond the need for an interconnection customer's continued financing common network upgrades, of how a suspension's impact on other interconnection customers' projects has impaired or could impair the efficiency of CAISO's interconnection procedures, or has resulted in uncertainty or a lack of transparency for other interconnection customers. Explain how the proposed revisions requiring a material modification assessment in Section 5.16 address these issues.

Since the CAISO began tracking interconnection requests in 1999, the CAISO has had over 1,644 interconnection requests in its queue. Of those, 1,170 have withdrawn, 160 have achieved commercial operation, and 286 are still active in the

queue.⁸ With 286 active interconnection customers in queue, the vast majority of interconnection customers have both shared facilities with other interconnection customers and *iterative* facilities necessitated by higher-queued customers. Although shared network upgrades are an obvious issue, *iterative* facilities, *i.e.*, facilities needed for later-queued projects because earlier-queued projects are using existing facilities or new facilities that will be constructed first, arguably are the more complex and costly issue. For example, assume a substation currently has four bays and all but one bay are utilized by existing generators. Assume one 2009 interconnection request seeks to interconnect at or near this substation, four 2010 interconnection requests seek the same, and two 2011 interconnection requests also seek the same (in total: seven interconnection requests at the same point of interconnection). The fourth existing bay would be assigned to the highest queued interconnection customer, the 2009 interconnection request. Subsequent CAISO studies would then assume that the substation is filled, and would thus require a new substation with four more bays, which would be assigned to the four 2010 interconnection requests. The 2011 interconnection customers' studies would then assume that the 2009 interconnection request will take the existing substation bay, the 2010 interconnection requests will occupy all the available bays for their new substation, and so the 2011 interconnection customers also will require a second new substation with at least two more bays.

This scenario—which is extremely common—demonstrates the complexity, uncertainty, and costs involved when interconnection customers suspend construction of the facilities their projects trigger. The CAISO and its ratepayers may not actually need two new substations. If two of the five interconnection customers ahead of the 2011 interconnection customers ultimately withdraw, then the later-queued interconnection customers all “move up,” and the second new substation is completely avoided. Because over 90 percent of all interconnection requests ultimately withdraw, it is likely that both new substations will be avoided and only the existing substation bay is utilized.

When, however, earlier-queued interconnection customers suspend their interconnection requests, they retain priority on the existing and earlier-planned upgrades. To remain in compliance with the later-queued interconnection customers' GIAs, the transmission owners must continue to procure, engineer, and construct facilities that ultimately may not be needed if those earlier-queued interconnection customers withdraw after their suspension. Moreover, interconnection facilities and network upgrades are not “plug and play” facilities that can be easily adapted to the next interconnection customer in line, even when the generators use similar technology. On the contrary, each withdrawal requires considerable reassessment and re-engineering to ensure reliability and safety for each unique generator interconnection. This problem can compound when reassessments require different routes or equipment that cause

⁸ These figures do not include interconnection customers seeking to interconnect to the distribution grid by participate in the wholesale markets, which are studied by the CAISO's participating transmission owners under their wholesale distribution access tariffs.

permitting or construction issues.

To be sure, a number of these issues can result from project withdrawals, modifications, and extensions even without a suspension. But suspensions are unique in that currently the CAISO and transmission owner cannot evaluate the impact until *after* the suspension, which can be three years later. The CAISO's proposal simply puts suspensions on level ground with other interconnection request changes by allowing the CAISO and transmission owner to assess whether the suspension necessarily will require modifications to construction schedules, and determine whether those modifications will negatively affect other interconnection customers, as explained above in 1(B)(2).

2. ***With regard to proposed revisions that would allow a customer to convert to Energy-Only status and have the ability to reduce its financial security posting if such upgrades are determined to be no longer necessary, please quantify the impact of this late decision on other interconnection customers. In other words, to what extent have delivery network upgrade financing obligations been shifted to transmission owners when interconnection customers fail the commercial viability or deliverability retention criteria solely for the purpose of converting to Energy-Only status in order to reduce the amount of money lost upon withdrawal from the interconnection queue?***

The CAISO's proposal seeks to close the loopholes discussed in the CAISO's original filing *before* transmission owners and other interconnection customers. The commercial viability criteria have only been in place since 2016, and only apply to a minority of interconnection customers (*i.e.*, those that have been in queue beyond seven or ten years). As such, there has been limited opportunity for interconnection customers to try to exploit the commercial viability criteria to reduce their financial security postings before withdrawal. Interconnection customers have attempted to do so already; however, in these instances construction had already commenced on delivery network upgrades such that financial security postings could not be recouped. Because this will not always be the case, the CAISO proposed to prevent such attempts in the future.

To illustrate the risk this issue presents, the CAISO provides an example using typical figures for delivery network upgrades. In this example, assume Interconnection Customer One purposely fails the commercial viability criteria to be converted to Energy Only to reduce its interconnection financial security posting before it withdraws its interconnection request. Assume the participating transmission owner ("PTO") and Interconnection Customers Two, Three, Four, and Five must assume the costs for delivery network upgrades that are no longer being funded by Interconnection Customer One.

Project Name	Delivery Network Upgrades	Total Upgrade Cost	Cost Allocation	Project Allocated Cost	Effect on Other Customers	Original Allocation	Revised Allocation	Original Allocated Cost	New Allocated Cost	Notes	Impact to PTO (\$000)	Impact to IC (\$000)
One	Re-conductor "A" 230 kV Line	\$3,000	50%	\$1,500	Project Two: Re-conductor "B" cost allocation increased. Re-conductor "A" removed in reassessment.	50%	Upgrade Removed	\$1,500	Upgrade Removed	One upgrade cost allocation increased and another upgrade cost was removed. Net impact a cost reduction.		-\$214
						20%	28.57%	\$3,000	\$4,286			
	Re-conductor "B" 230 kV Line	\$15,000	30%	\$4,500	Project Three: Re-conductor "B" cost allocation increased.	10%	14.29%	\$1,500	\$2,143	Protected by cost cap, cost increase falls to PTO	\$643	
					Project Four: Re-conductor "B" cost allocation increased.	15%	21.43%	\$2,250	\$3,214	Protected by cost cap, cost increase falls to PTO	\$964	
	Re-conductor "C" 230 kV Line	\$5,000	50%	\$2,500	Project Five: Re-conductor "B" cost allocation for two upgrades increased.	25%	35.71%	\$3,750	\$5,357	The cost increase that fits under the cost cap goes to the IC, amount that exceeds the cost cap goes to the PTO.	\$1,607	
				50%		100%	\$2,500	\$5,000				\$2,500
Total Impact											\$3,214	\$2,286
Grand Total Impact											\$5,500	

In the example, Interconnection Customer One was assigned 50 percent (\$1.5 million) of the total costs for re-conductoring line A (\$3 million); 30 percent (\$4.5 million) for re-conductoring line B (\$15 million); and 50 percent (\$2.5 million) for re-conductoring line C (\$5 million). Interconnection Customer One's total interconnection financial security posting for its delivery network upgrades is \$8.5 million.

Assume Interconnection Customer Two was assigned a share of A and B; Interconnection Customers Three and Four were assigned a share of B alone; and Interconnection Customer Five was assigned a share of B and C. Assume that when Interconnection Customer One converts to Energy Only, it obviates the need to re-conductor line A, so those costs are removed for everyone. Re-conductoring lines B and C is still required, so Interconnection Customers Three, Four, and Five inherit higher cost allocations up to their established cost caps, and the PTO covers all costs remaining above those cost caps (but without the interconnection financial security that would have been provided by Interconnection Customer One). In this example, Interconnection Customer Two reduced its overall posting due to the loss of A, despite an increase in its share of B; Interconnection Customers Three and Four received a higher share of B, but were protected by their cost caps; and Interconnection Customer Five received higher shares of B and C, some of which was protected by its cost cap.

Based on these shares and the remaining interconnection customers' cost caps, the table above demonstrates the potential impact of these late conversions. Even with the complete removal of one upgrade, the total impact to the other interconnection customers and the PTO is \$5,500,000. The PTO must finance the \$3,214,000 that exceeded Interconnection Customers Three, Four, and Five's cost caps. Although Interconnection Customer Two had its costs reduced by \$214,000, Interconnection Customer Five inherited an additional \$2,500,000 financing obligation, for a total impact to interconnection customers of \$2,286,000. Although interconnection studies notify interconnection customers of the risk of inheriting those costs, inheriting them late in the interconnection process can be extremely problematic. For this reason the CAISO provides opportunities to convert to Energy Only without repercussion early in the interconnection process, and seeks to mitigate the impact of late conversions with its proposed tariff revisions.

Although the actual cost impacts can vary based on all the factors discussed above,⁹ the CAISO expects similar results if interconnection customers retain the ability to abandon their assigned shares of delivery network upgrades by converting to Energy Only before withdrawal (which generally does not occur where interconnection customers merely withdraw).¹⁰ For this reason, the CAISO and its stakeholders agreed that interconnection customers should only be able to convert to Energy Only and reduce their delivery network upgrade interconnection financial security postings late in the interconnection process where those upgrades would no longer be needed.¹¹

3.A. CAISO proposes two revisions intended to address modifications for interconnection customers that have remained in the queue beyond the seven/ten year timeline specified in the tariff. First, CAISO proposes to apply the commercial viability criteria to all modifications that require a material modification assessment where the interconnection customer has exceeded its anticipated tariff timeline. Second, CAISO proposes to prohibit fuel-type conversions under certain circumstances for interconnection customers that have exceeded their timelines. Please describe and quantify how modifications by interconnection customers that have exceeded their anticipated timelines have impacted later-queued customers' ability to acquire deliverability.

The CAISO has not asserted that interconnection customers' proposed modifications after exceeding their anticipated timelines have impacted later-queued customers' ability to acquire deliverability. If a modification itself negatively impacted a later-queued interconnection customer's schedule or budget, the CAISO would reject it as a Material Modification regardless of that interconnection customer's time in queue.¹² The impact on later-queued interconnection customers stems from non-viable interconnection customers' lingering in queue while retaining deliverability. This results in either less available deliverability for potentially more viable projects or the need to construct additional delivery network upgrades to create deliverability for viable projects.

The purpose of the commercial viability criteria, which the Commission approved in 2016,¹³ is to require evidence of viability by having financing, permitting, and a GIA in good standing. Interconnection customers that satisfy these criteria may continue to

⁹ E.g., the cost of the upgrades, the allocated cost shares, cost caps, whether upgrades are removed or still necessary, etc.

¹⁰ See Section 11.4.2 of Appendix DD to the CAISO tariff (detailing what portion, if any, of interconnection financial security is refundable based upon when the interconnection customer withdraws).

¹¹ As explained in the CAISO's original filing, interconnection customers have a number of opportunities to convert to Energy Only earlier in the study process without restraint.

¹² As explained above, this presumes the interconnection elects not to mitigate such an impact as part of the material modification assessment.

¹³ *California Independent System Operator Corp.*, 154 FERC ¶ 61,169 (2016).

modify their projects beyond the seven or ten years in queue *and* retain deliverability.¹⁴ There are currently 13 interconnection customers currently beyond their 10-year anticipated tariff timeline, and 22 interconnection customers beyond their 7-year anticipated tariff timeline.¹⁵ These two groups have been allocated 4,372.8 MW and 3,720.5 MW of deliverability, respectively. In total the CAISO currently has 35 interconnection customers with 8,093.3 MW of deliverability in queue that have exceeded their anticipated tariff timelines.¹⁶ Any of these interconnection customers' withdrawals likely would free-up deliverability for later-queued projects or reducing those projects' needs to construct additional delivery network upgrades, as explained in 1.B(3), above. EDF Renewable Energy argued the same point in its protest of the GIA amendment allowing AltaGas to modify its project and retain deliverability after having already been in queue for 15 years:

[EDF's] Desert Harvest is a 150 MW solar facility with an executed LGIA. SCE and CAISO have determined that Desert Harvest must finance over \$25 million of the \$60 million cost for a new transformer at Red Bluff Substation (as a Delivery Network Upgrade ("DNU")) in order to receive FCDS.

[EDF's] Almasol and Desert Harvest are two lower-queued projects that are being directly impacted by the attempt in this most recent amended LGIA to allow [AltaGas's] Project Q17 to retain its FCDS. Project Q17 is located along the same transmission path as Almasol and Desert Harvest. If Project Q17 was converted to Energy-Only, as required by the CAISO's Tariff and Project Q17's current LGIA, so far as EDF RE is aware, (i) Almasol would receive FCDS without waiting for WoD completion, and thus avoid any risk that SCE may not complete the WoD by 2021, and (ii) Desert Harvest would no longer be responsible for financing the costly \$25 million upgrade (and CAISO ratepayers would be spared the overall \$60 million reimbursement expense),

¹⁴ Interconnection customers that do not satisfy the criteria after exceeding their tariff timelines convert to Energy Only but still may make their modifications so long as they are not material. The criteria are triggered only when the interconnection customer requests a modification. In other words, an interconnection customer that has been in queue for six years and has a commercial operation date eight years from its interconnection request would not have to demonstrate viability the first day it exceeded seven years in queue; only if it seeks to modify its project after that day.

¹⁵ All CAISO generator interconnection queue data are available on the CAISO's public website: <https://rimspub.caiso.com/rim5/logon.do>.

¹⁶ The CAISO's peak load in 2018 was 50,116 MW. See CAISO Peak Load History, available at <https://www.caiso.com/Documents/CaliforniaISOPeakLoadHistory.pdf>.

because the need for that DNU would be removed.¹⁷

Moreover, during the Interconnection Process Stakeholder initiative, stakeholders expressed that it is unfair to allow projects that have lingered in queue for such a long time to make fuel-type modifications and still retain their queue position. For example, in their joint comments on the CAISO's issue paper, the Large-Scale Solar Association, EDF Renewable Energy, and SPower stated: "The Generators believe that generation projects should be prohibited from technology changes once the 7/10-year tariff development deadline has passed. Even if the change would technically not be material, it would be clear at that point that the original project was simply not viable as proposed and should exit from the queue."¹⁸

3.B. In addition, please provide data on the extent to which interconnection customers that have requested modifications under these circumstances have achieved commercial operability.

The CAISO has had 61 interconnection customers exceed their tariff-anticipated timelines of seven or ten years.¹⁹ Of these, 12 interconnection customers have withdrawn, 43 remain in queue, and six have achieved commercial operation. Only one of these six requested to modify its fuel type, but ultimately elected not to. All six interconnection customers that achieved commercial operation requested various modifications after their seven/ten years, but these modifications generally consisted of delaying their commercial operation and construction milestones, phasing their commercial operation,²⁰ and altering inverters, turbines, and transformers. As the CAISO has noted in other proceedings, modification requests generally outnumber interconnection requests each year, which means that every interconnection customer that reaches commercial operation is likely to have made several modifications.²¹

¹⁷ Southern California Edison Co., "Protest of EDF Renewable Energy Inc.," pp. 20-21, Docket No. ER18-156-000 (November 15, 2017).

¹⁸ <http://www.caiso.com/Documents/LSAComments-InterconnectionProcessEnhancements2018-IssuePaper.pdf>.

¹⁹ Ten years for interconnection customers under the CAISO's serial study process (*i.e.*, projects that submitted interconnection requests before the CAISO moved to a cluster process in 2008); seven years for interconnection customers under the CAISO's cluster study process.

²⁰ The CAISO allows interconnection customers to come online in "phases" where possible. For example, a 300 MW solar farm could request to bring 100 MW online in one year, 100 MW online in the second year, and the final 100 MW online in the third year. Interconnection customers elect to do so for a variety of reasons: availability of financing, power purchase agreement requirements, network upgrade sequencing, etc.

²¹ See California Independent System Operator Corp., "Answer to Comments," p. 15, Docket No. ER16-693-000 (February 4, 2016) (noting that the CAISO received 94 modification requests compared to 83 interconnection requests in a year). Unlike fuel-type modifications, this latter-type of modifications is unsurprising given the time required to develop a generator that reaches commercial operation.

Respectfully submitted,

/s/ William H. Weaver

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CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon all of the parties listed on the official service list for the above-referenced proceeding, pursuant to the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California, this 21st day of December, 2018.

/s/ Grace Clark
Grace Clark