California ISO

December 5, 2017

Response to Stakeholder Comments on Draft Tariff Language
Commitment Costs Enhancements Phase 3

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Planned effective date of all the tariff revisions proposed in this initiative	PG&E believes the ISO's initial proposal to implement the tariff revisions in two stages – the first stage sometime in the first few months 2018 and the second stage six months later – is problematic.	This comment has been overtaken by later events. The current plan is to deploy the Opportunity Cost Calculator (OCC) in the spring 2018 release but the proposed tariff effective date for the opportunity costs and resource characteristic changes will be targeted for fall 2018. The only exception to the fall 2018 tariff effective date is that the ISO is planning to deploy and implement in the market the process to automate the validation of Flexible RA Capacity per proposed tariff section 4.6.4(3) in August 2018.
4.6.4	NRG comments poses the question if the ISO expects units to be able to perform to their "design capabilities" independent of age?	The draft tariff language recognizes that resources may be unable to perform to their design capabilities as they age. The language states that the information provided to the ISO is to be "based on the design capabilities of the resource and its constituent equipment, <u>as reasonably adjusted to reflect resource performance over time</u>" (emphasis added).
4.6.4	NRG suggests to delete "non-emergency" before the "market operations." NRG asks if the ISO contemplates normal emergency operations.	The ISO agrees that "non-emergency" should be deleted and has made this change.
4.6.4	NRG questions who determines the "design capability value." If the ISO does determine this value, NRG questions how the value will be determined.	The ISO expects the resource owner (or its agent SC) to provide the design capability value of its resource to the ISO along with supporting documentation. The ISO will either approve the submission and update the Master File with the data or deny the submission if it is not adequately supported or inconsistent with other

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		Master File data. The resource owner would then be able to escalate through the ISO's dispute resolution process.
4.6.4	NRG comments on the issuance of Exceptional Dispatch based on design capabilities of a Generating Unit, regardless of whether the Participating Generator also provides an alternative value. NRG questions as to under what conditions would the ISO issue an Exceptional Dispatch instruction using the alternative values.	The ISO intends that its normal practice will be to rely on the market "alternative values." The policy of this initiative does, however, not include narrowing the ISO's authority to issue Exceptional Dispatch Instructions based on resources' actual physical capabilities and the ISO will do so as necessary.
4.6.4	NV Energy proposes the following change to the draft tariff language: "All information provided to the CAISO regarding the operational and technical constraints in the Master File shall be accurate, complete, responsive to the CAISO's requests, and actually based on the design capabilities of the resource and its constituent equipment, as reasonably adjusted to reflect *resource* ~~degradation~~ in performance over time."	The ISO agrees with the proposed change and has made it.
4.6.4	NV Energy further comments that a resource's performance does not only degrade with time, however it is also possible for the performance to improve after major outages or resource designed upgrades. NV Energy therefore proposes a more general reflection for a resource's performance.	Please see the ISO response immediately above. Also, the draft tariff language accounts for "reasonable adjustments to reflect resource performance over time" and thus encompasses the possibility that the adjustments may reflect improved resource performance.
4.6.4	NV Energy opposes the new proposed requirement for all resources to register a minimum of two starts per day or two transitions	Page 45 of the draft final proposal, which was part of the policy the Board approved, explained that EIM resources that choose to provide alternative Master

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	per day to be inflicted within the EIM. NV Energy further comments that the EIM is an imbalance only market, not a must-offer market, where no such requirements should be imposed on resources. NV Energy states that there is no requirement that these requirements will also be imposed on non-participating resources. NV Energy further comments that section 29 of the ISO tariff for EIM does not reference this section 4.6.4 or any other section for the generator registration requirements within the EIM. Clarification of the requirements that are or will be imposed to both participating and non-participating resources within the EIM has been requested by NV Energy.	File values will – like non-EIM resources – be subject to the requirement of a minimum of two starts-ups or MSG transitions per day. Further, as explained on pages 8-9 of the stakeholder comments matrix attached to the March 2016 Board memorandum, the this tariff change to require a minimum of two starts does not impose a must-offer obligation. An EIM resource will continue to have the option not to bid. However, if the EIM resource chooses to bid, it is reasonable for the resource to be subject to the requirement as the ISO explained in the draft final proposal and elsewhere in the stakeholder process.
4.6.4	PG&E requests that the word “emergency” in “non-emergency” be a capitalized defined term in the ISO tariff outlining what conditions justify the ISO deviating from the alternative market-based Master File values.	As described above, the ISO has deleted the phrase “non-emergency” from the draft tariff language. The deletion also resolves this comment.
4.6.4	PG&E comments that the language (“beyond its useful life”) is stricter than the language from the Draft Final Proposal (“nearing the end of its lifecycle”). PG&E requests that the ISO modify this language to ensure that it is consistent with the Policy.	The ISO agrees and has modified the draft tariff language.
4.6.4	PG&E requests that the ISO provide more specificity on what is meant by the requirement that a resource must provide information that is “responsive to the CAISO’s requests”.	The resource has the information the ISO requires. The specifics of exactly what information the ISO does not have, and therefore requests from the resource, will vary on a case-by-case basis depending on the particular circumstances. It is not possible to provide a

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		generalized description of what information the ISO may have to request from the resource.
4.6.4	PG&E requests that the ISO elaborate on what it means by "automated Exceptional Dispatch tools." PG&E also requests that the language be edited as the following to provide clarity: "The CAISO will utilize alternative Master File values in the CAISO Markets and in automated Exceptional Dispatch tools. However, the CAISO may issue manual Exceptional Dispatches based on the design capabilities of a Generating Unit, regardless of whether the Participating Generator also provides an alternative value for use in the CAISO Markets."	Automated Exceptional Dispatch tools are features in the software the ISO uses to run its markets. As to the suggested edit, the quoted language reads the same as the language the ISO posted for stakeholder review, apart from the proposed addition of the word "manual." However, it would not be entirely accurate to state that the ISO may issue manual Exceptional Dispatch Instructions based on a resource's design capabilities, because such instructions could be either automated or manual.
30.4.1.1.6.1.1	The Six Cities request that the ISO provide an explanation of the meaning of and the basis for the requirement that a use-limited resource must have "the ability to select hours of operation independent of uncontrollable factors".	The quoted language means that the resource's ability to select hours of operation is not dependent on an energy source outside of the resource's control being available during such hours. The ISO has revised the proposed tariff language to make this clearer. For example, a Variable Energy Resource (VER), such as wind- and solar-powered resources, would presumably not be able to select its hours of operation due to its dependence on its energy source. However, if the VER could show that it could select its hours of operation even if its energy source is unavailable during such hours, it would satisfy the quoted and now revised tariff provision.
30.4.1.1.6.1.1	PG&E comments that, prior to submitting its tariff amendment to FERC, the ISO should publish for stakeholder review the specifics of the "sufficient documentation" that the tariff	The ISO will revise the BPM through the regular BPM change management process to include the provisions on documentation. Market participants will have the opportunity to comment on the BPM changes at that

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	section requires a scheduling coordinator to provide in order to show that a resource is use-limited. The location where the provisions on documentation will be found (e.g., the BPM) should also be referenced in the tariff.	time. Draft tariff section 30.4.1.1.6.1 already states that the registration and validation process for use-limited resources, including but not limited to the showing required of the scheduling coordinator under section 30.4.1.1.6.1.1, is set forth in the tariff and the BPM.
30.4.1.1.6.1.1	PG&E requests that the ISO develop a dispute resolution process regarding the scheduling coordinator's documentation requirement and the interim treatment of the resource's use-limited status.	There is no need for a separate dispute resolution process. Tariff section 13 already sets forth dispute resolution provisions that apply to "all disputes between parties which arise under the CAISO Documents" (subject to certain exceptions not relevant here). For purposes of clarity, the ISO has revised draft tariff section 30.4.1.1.6.1.1 to reference tariff section 13 expressly.
30.4.1.1.6.1.1	PG&E requests that the ISO provide more specificity as to what "The applicable market process cannot recognize a resource's limitations" means.	The ISO has revised the draft tariff language to be more specific.
30.4.1.1.6.1.1	PG&E requests that the ISO clarify that the provision be effective three years after the Opportunity Cost model tariff changes go into effect. PG&E also requests that the ISO add the language consistent with the language presented to the ISO Board of Governors (p. 5 of Board Memo) reserving the right to extend the transitional period if deemed necessary. As such, PG&E proposes the following language: "Given the uncertainty of the quantity of capacity that will be captured by the provision, and increasing flexibility needs of the markets, Management cannot fully assess the market	When the ISO finalizes the effective date of the tariff revisions (all of which will now go into effect on the same date as described above), it will update the tariff section to specify the date three years after the effective date. However, the policy reflected in the tariff revisions does not contemplate an extension beyond the three-year period (see page 18 of the draft final proposal). The tariff section can and will be amended, pursuant to a future tariff amendment to extend the transitional period, only if the ISO's evaluation at that time calls for an extension.

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	impacts of extending the provision beyond three years at this time. However, Management does commit to evaluate, prior to the end of the three year period, potential market and reliability impacts if the provision were to be extended at that time.”	
30.4.1.1.6.1.1	PG&E further comments that in the Policy phase, the ISO framed the limitation in the following manner, which the current draft tariff language does not, and it should reflect this: “Conventional resources that, as of January 1, 2015, are on an original long-term contract individually reviewed and approved through a comprehensive regulatory process as a new build **which evaluated cost implications on rate payers with a limitation on starts, run-hours, or output**, will be eligible for an opportunity cost reflective of such limitation, provided sufficient supporting documentation is provided, for up to three years following the effectiveness date of opportunity costs as determined through CCE3.”	The tariff section already specifies that a qualifying long-term contract must have been evaluated for the cost implications of the limitations on the resource’s number of starts, run-hours, or output. Any additional details regarding the nature of the evaluation performed for the long-term contract are more appropriately included in the BPM.
30.4.1.1.6.1.2	NRG requests that the ISO cross-reference the section(s) that are set forth in the time horizon for the applicable Day-Ahead Market processes.	The time horizon for the applicable Day-Ahead Market processes is not listed in the tariff, so there are no tariff sections to cross-reference.
30.4.1.1.6.1.2	With regard to Opportunity Cost being inadequate as set forth in the ISO Business Practice Manual, NRG asks if this is intended to apply to the negotiations or to the determination of the Opportunity Cost.	It applies to the determination of the Opportunity Cost. The tariff language implements the discussion on page 36 of the draft final proposal.

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30.4.1.1.6.1.2	PG&E comments that the ISO should insert language consistent with the SC's ability to dispute the ISO's methodology, which could also lead to the negotiated option.	The ISO's methodology is set forth in the tariff language itself, which means that any dispute of those tariff provisions would need to be made through an FPA 206 complaint with FERC. Any other type of dispute would need to be raised pursuant to the dispute resolution provisions in tariff section 13.
30.4.1.1.6.1.2	PG&E requests that the ISO detail the timing, either in the tariff or the BPM, as to how long the ISO's review process will take.	Details regarding the timing of the review process will be included in the BPM.
30.4.1.1.6.1.2	PG&E comments that the ISO should define a dispute process similar to that for Default Energy Bids for disputes in the negotiated Opportunity Costs process. PG&E further comments that the ISO should also better define what qualifies as "inadequate" in terms of the results of the ISO's Opportunity Cost calculations.	The negotiated Opportunity Costs process already includes a disputes process – see draft tariff section 30.4.1.1.6.3. What qualifies as "inadequate" will be set forth in the BPM, as tariff section 30.4.1.1.6.1.2 states.
30.4.1.1.6.2.1	PG&E comments that the draft tariff language stating that the ISO will calculate opportunity cost adders no more frequently than each month seems too restrictive and that the ISO should have the flexibility to run the calculator more frequently as needed.	The ISO has revised the draft tariff language to provide more flexibility. The revised tariff language states that the ISO plans to perform the calculations and updated calculations once a month, but if circumstances prevent that or suggest there is a basis to update the calculations more frequently, the ISO will prioritize the workload based on opportunity costs that most likely need updating. The revised language reflects the fact that the ISO intends to perform this task on a monthly basis but because this is a new process, the ISO needs some flexibility in the tariff to manage the process i. The ISO also plans to include details in the BPM that can be updated as the ISO gains experience.

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30.4.1.1.6.2.1	NV Energy requests that the ISO provide more transparency for resources waiting for their updated Opportunity Cost.	Please see the response immediately above. Although it is not clear what the specific request is, these details can be further defined in the BPM effort as the ISO gains experience with the opportunity cost calculation process.
30.4.1.1.6.2.1	NV Energy further proposes a process for resources to request an updated calculation to their Opportunity Cost and a listed queue for instances when the ISO is not capable of providing costs for all resources.	The ISO plans to include details in the BPM that can be updated as the ISO gains experience.
30.4.1.1.6.2.1	The Six Cities propose the following modification to the draft tariff language: "Such calculations or updated calculations will actually be used to set the adder ~~will~~ for each validated limitation that can be reflected in a monthly or a rolling twelve (12) month period and will be advisory for each validated limitation that can be reflected in an annual period."	The ISO agrees with the modification and has made it.
30.4.1.1.6.2.2	NRG suggests the following modification to the start of the tariff section: "Each calculation of Opportunity Costs will equal the estimated profits foregone if the Use-Limited Resource had one fewer~~less~~ unit of starts, run-hours, or Energy output . . ."	The ISO agrees with the modification and has made it.
30.4.1.1.6.2.2	NRG suggests the following modification: "In the event of any doubt, the CAISO will assume this most likely to be reached limitation will be . . ."	The ISO agrees with the modification and has made it.
30.4.1.1.6.2.2	The Six Cities request that the ISO explain why ten (10) percent reserve margin will apply only	The ISO determined that the only feasible way that its software can implement the 10 percent reserve margin

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	to "the limitation of the Use-Limited Resource that is most likely to be reached" rather than to each limitation for which Opportunity Cost is being calculated. The Six Cities further comment that it understood that Opportunity Costs for each limitation are calculated independently and are additive. The Six Cities state that if that is the case, it would seem that the reserve margin should apply for each calculation.	is to apply the reserve margin to the limitation that is most likely to be reached. Thus, the ISO will not apply concurrently the reserve margin to every limitation.
30.4.1.1.6.3	PG&E requests that the ISO detail where thorough descriptions of documentation requirement will be located. PG&E further requests that the description be available for review/feedback from Market Participants before the tariff amendment is filed with FERC.	The descriptions of the documentation requirement will be located in the BPM. Please see the ISO's response to PG&E's similar comment above regarding draft tariff section 30.4.1.1.6.1.1.
30.4.1.1.6.3	The Six Cities propose the following revision: "If the CAISO and the Scheduling Coordinator enter into good-faith negotiations, the negotiation period ~~for~~ will be a minimum of sixty (60) days following the provision of all required documentation by the Scheduling Coordinator."	The ISO agrees with the revision and has made it.
30.5.2.7	California Energy Storage Alliance (CESA) comments that the draft tariff language deviates from the ISO's Draft Final Proposal as approved by the ISO Board of Governors. CESA further comments that the draft tariff language removes the capability to bid-in ramp rates on Ancillary Services bids, and CESA believes that the ISO has not authorized this change and that it should be corrected.	The ISO acknowledges and regrets that its policy papers only referred to ramp rate in "energy" bids and not in bids generally. However, that phrasing was unintentionally specific, as the ISO's software design team had always intended that all ramp rates be Master File values and not biddable values, because having all ramp rates in the Master File provides significant implementation benefits.

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		Having all ramp rates in the Master File will give market participants the flexibility to register two Master File values (market-based and design-based). The presence of the market-based ramp rate field in the Master File will allow market participants to provide lower ramp rates than the maximum design capability for use in the market, similar to the flexibility currently offered through the ramp rate field in bids. That flexibility provides a significant benefit. Although it takes somewhat longer to make ramp rate changes through the Master File than through bids, market participants only rarely use the ramp rate functionality in bids to make frequent changes to ramp rates. Market data shows that, although a few resources submit lower ramp rates in bids than their maximum registered ramp rates, those resources rarely use the bid functionality to change the ramp rates more frequently than could be accomplished through the Master File.
30.5.2.7	Western Power Trading Forum (WPTF) comments the current Proposal does not cover the changes proposed in section 30.5.7.2 to remove the ability for a Scheduling Coordinator to submit a bid-in operating reserve ramp rate and regulation ramp rate. WPTF states that it is concerned about the removal of the ability for two reasons: (1) it was not covered in any policy paper or discussion, and this change constitutes a policy change being done through the tariff process; and (2) WPFT is aware that batteries have been using the regulation ramp rate as a means to manage the 4-second ACG jump	Please see response above. The ISO also notes that the market-based ramp rate field in the Master File will allow market participants to submit a regulation ramp rate of their own choosing in order to manage the use of their resources.

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	under certain circumstances as well as have been relying on the energy bid in ramp rates. WPFT further comments that given the increase in expected batteries on the system and their newness of many battery companies to the stakeholder process, WPFT supports reconsideration of the ramp rate proposal in its entirety pending additional stakeholder outreach.	
39.7.1.3.1	NRG asks that under what conditions the ISO would require the renegotiation of a Negotiated Default Energy Bid. NRG states that a party to the Negotiated Default Energy Bid should be able to request negotiations but should not be able to demand them. NRG questions if this was part of the stakeholder process.	The ISO will have a basis for seeking renegotiation of a Negotiated Default Energy Bid of any negotiated value, if the existing value is outdated or possibly erroneous or there has been a change in Scheduling Coordinator. The stakeholder process included this item – please see p. 38 of the draft final proposal.
40.6.8(d)	The Six Cities comment that the reference to Section 30 should be more specific as Section 30 consists of 55 pages and many sub-sections.	The ISO has revised the draft tariff section to include specific cross-references.