SDG&E's Comments on the Flexible Resource Adequacy Criteria and Must-Offer Obligation

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Determining the Requirement

SDG&E recommends the CAISO coordinate with the LRA when requesting the data so that the data requests are not duplicative. As mentioned in SDG&E's previous comments, there are several reasons for this recommendation:

1. the IOUs already submit such data in the granularity requested by the CAISO to its LRA, the CPUC, on a regular basis;
2. the frequency at which the IOUs submit such data is greater than only twice a year proposed by the ISO; and,
3. the ISO ultimately will send procurement requirements back to the LRA which would contain the same information the IOUs have already submitted.

To the extent the ISO has updated information that can be used to update the requirements, the ISO should have the opportunity to recalculate the requirement and allow a true-up process much like that of the current CPUC Local RA true-up process.

SDG&E would like the ISO to clarify its proposal to immediately backstop a recalculated flexibility capacity requirement based on "inaccurate data" submitted by an LSE. SDG&E notes that the data requested and submitted to the ISO in January, 2014 and updated again in August 2014 for a resource which may not come online until middle of 2015 is at best an estimate and is the most accurate data at the time of the submittal. If a resource comes online sooner than expected, then its contribution to the flexibility requirement should be recalculated but this did not mean the LSE submitted "inaccurate data". The construction schedule is not within the control of the buyer. SDG&E believes the ISO should not immediately backstop the new flexibility requirement and should allow all LSEs to have the opportunity to self-supply the new flexibility requirement. On the flipside of the "inaccurate data" is when a resource comes online later than forecasted. The ISO is not proposing to reimburse for the sunk costs which that LSE had to purchase to meet its original flexibility requirement from another LSE whose share of the requirement is greater. The ISO assumes that "inaccurate data" does not increase the overall flexibility need and would be a redistribution of the same need. That assumption is only one of three possibilities. ISO's proposal to reallocate cost of over procurement is one sided.

SDG&E wonders what happens if LSE A sells LSE B energy output from an intermittent resource during the year. Would the ISO propose to transfer the associated flexibility requirement onto the new LSE? What if the sale is only for RA from that intermittent resource?

Again, SDG&E recommends the ISO to consider a true-up process similar to the Local true-up process administered by the CPUC. This process allows all LSEs to re-optimize their portfolios during the year due load shift.

Must Offer Obligation for Dispatchable Gas-fired Use-limited Resources

A number of dispatchable gas-fired resources are subject to environmental use-limitations, typically restricting a resource's run hours, number of starts, and/or total energy production on a daily, monthly or annual basis. Despite these environmental limitations, dispatchable gas-fired resources are highly flexible and provide the CAISO considerable operational flexibility. Without some modification, requiring these resources to strictly adhere to the proposed economic bid requirement could prematurely exhaust the resource's start, run time or energy output allowance, preventing the resource from provide continued flexibility during the RA compliance month or year. The consequence of being "unavailable" exposes both the resource to higher incentive penalty risk and the resource's SC to increased replacement cost/risk – a combination that potentially keeps otherwise flexible resources from providing flexibility through the RA program. To manage this outcome, the CAISO proposes to help dispatchable gas-fired use-limited resources manage limitations by incorporating start-up, run hours, and total output limitations into the opportunity cost calculation of a resource's default energy bid. To avoid the appearance of economic withholding, the CAISO or an independent entity – and not the resource owner – will calculate the revised opportunity cost using a yet-tested methodology. If a monthly limitation is reached and the resource has (1) economically bid-in up to that point all of its flexible capacity for at least 90% of Standard Flexible Capacity Product (SFCP) hours, (2) economically bid in at least 20 days over the month, then the resource is exempt from availability penalties for the remainder of the month. Similarly, if a resource's annual limitation is reached within a month, and the resource has economically bid-in up to that point at least 90% of SFCP hours, then it is exempt from SFCP obligations. However, if substitute flexible capacity is not procured and the resource is shown on subsequent monthly RA showings, the resource will be subject to SFCP availability penalties.

SDG&E believes the proposal has merit assuming the methodology yields results that appropriately value the cost of the particular limitation. That said, SDG&E is troubled by inconsistent treatment of the obligation to replace and the exposure to incentive penalties between intra-month deficiencies and whole month deficiencies. On the one hand, if a monthly limitation is reached and the resource has (1) economically bid-in up to that point all of its flexible capacity for at least 90% of SFCP hours, (2) economically bid in at least 20 days over the month, then the resource is exempt from availability penalties for the remainder of the month, and there is no obligation to replace that flexible capacity. If the CAISO requires additional flexibility for the other 8 to 11 days, which might not be consecutive days, of the month, it will presumably procure additional capacity using its backstop authority to which will be a 30 to 60 day term (as seen by FERC's decision for RRSGO). Because flexibility is a system attribute, and because there is no discrete obligation on the resource to replace, the costs of

such backstop will spread to all LSEs. One the other hand, whole month deficiencies – for example, a resource hitting its annual run time limits in November and therefore unable to provide any flexibility in December – require replacement by the resource's SC to avoid SFCP penalties for December. Costs for this replacement, or exposure to the penalty, are borne by the SC for resource alone.

In both cases, the resource likely prematurely reached its run limits because the revised DEB methodology failed to appropriately value the opportunity cost of the limitation. The proposal spreads the risks/costs of this failure across the entire market for intra-month deficiencies, but unjustifiably requires SCs for resources to absorb the risks and costs of the methodology failing and causing whole month deficiencies. SDG&E requests the CAISO acknowledge the primary driver for reaching a limitation in each instance is the opportunity cost methodology as well as the systems that dispatch the resources, and not require replacement or exposure to penalties for either intra-month or whole month deficiencies resulting from reaching a limitation.

The ISO should require all resources to bid in for all of the flexible MOO hours that resource is required even if the resource has reached its limitation. The ISO systems must be able to recognize the limitation and not dispatch the resource accordingly. Providing special bidding exemptions to different types of resources only increases the complexity of daily operations for each resource owner to as far as settlement validation for the incentive mechanism.

Flexibility Availability Incentive Mechanism (FAIM)

In the ISO's preferred adder method, there would be two availability targets for a generator to meet. The first is the current generic RA availability target and the second is the flexible RA availability target. SDG&E would like the ISO to clarify if the self-schedule which makes a resource un-available is in the day-ahead market, or real time market, or both, for most flexible resources. (The proposal has an exemption for long start resources such that if there is no day-ahead award, the obligation for that resource is complete.) However, SDG&E believes that the definition of the flexible availability is missing a derate of a ramp rate. The resource may be able to reach its PMAX but may take an additional 90mins which would ultimately affect the EFC value. Could there be any other situations where the flexible availability is affected? Does fuel supply affect availability or is the concept similar to the current non-availability incentive mechanism where only mechanical failure would be assessed a charge.

SDG&E reiterates its request for the ISO to provide stakeholders an estimate of the flexible RA availability target based on some historical data. The ISO could use bidding and outage data from the past few years of dispatchable resources in the day-ahead market while ignoring the real time market bidding data for the moment. The ISO could assume that all dispatchable RA resources sold the capacity as flexible and bid into the day-ahead market as such. The ISO should net out the Pmin portion of the RA capacity and only use the remainder portion from the (1x1) Pmin to the RA sold for combined cycles generators. For other ULRs, the ISO could start with the assumption that all ULRs operated as flexible resources and assess the bidding behavior based on the MOO hours in the proposal.

SDG&E is concerned with the ISO's preferred adder method for calculating the availability incentives and charges. This primarily stems from the fact that the adder method is a new charge that was never written, since these terms did not exist in the Tariff at the time of contracting, into SDG&E's contracts where SDG&E is the SC for the resource. SDG&E is the SC for many resources for power purchase tolling agreements. Pure RA transactions do not need SDG&E to become the SC for the resource. While the SDG&E receives all capacity attributes (local, system and now flexibility) in the contract, SDG&E does not have the ability to pass through the newly proposed flexible non-availability charges due to plant performance. This mechanism will increase rate payer costs for generator performance that is not the fault of SDG&E. In this case, SDG&E urges the ISO to give both generators and LSEs the option to grandfather contracts from the financial penalties of the MOO. SDG&E believes that rate payers are held harmless for non-utility owned generator performance that SDG&E would be held liable for in CAISO settlement statements.

SDG&E's Alternative Approach to Buckets and Adders

SDG&E proposes that the ISO consider combining the bucket and the adder approaches. Make the flexibility adder (as the ISO considers it) a portion of the current CPM value. Using the same values presented by the CAISO, the current CPM price of $67.50/kW-yr is comprised of the flexible RA SFCP of $23.25/kW-yr and the generic RA SCP $44.25/kW-yr. SDG&E believes this may avoid the need to grandfather existing contracts. The incentive mechanism's name shall not need to change. If flexible target is not met, the ISO would only charge flexibility adder portion of the CPM price. At no time, should the price of both flexible and generic RA be greater than that of the most current CPM. Since there is no additional increase to the CPM price for non-availability, no party can argue increased monetary risk from a change to the CPM price. In fact, a resource that is generic only has less monetary risk. SDG&E also believes this will aid in lowering the cost of backstop procurement discussed later on.

SDG&E strongly disagrees with the ISO's approach of calculating the adder. First, the current CPM rate has been designed to value flexible capacity just the same as generic. SDG&E would argue that the CPM'ed resource did not self-schedule into the ISO's DAM for the 30 or 60 day time period. Thus the ISO has received flexible capacity in its markets at the $67.50/kW-yr price just as a non-flexible resource that was CPM'ed. Second, the publically available report data used by the CAISO from does not provide any granularity to allow CAISO to make any assessment regarding the price of RA contracted from a flexible resource. SDG&E would argue that the higher price capacity was more for a local resource rather than a system resource. ORA made stakeholders aware that it has certain confidential data that could help CAISO determine a more precise value for flexible resources.

SDG&E does not believe the increase of $0.96/kW-yr cost from 2010 to 2011 is representative of the overall market for RA. This price should not be used as a projection of increase in value of flexibility.

With regards to resources on planned outage and the exclusion of hours from the non-availability calculation, SDG&E believes the ISO should "standardize" its own tariff between flexible and generic non-availability standards. If the ISO has a new method of calculating the

availability percentage for flexibility, then the generic calculation should be changed to match that of the new method.

EFC Value Changes

How does the ISO manage the EFC value change risk? Several questions come to mind:

1. Will the ISO update the EFC list monthly similar to how it updates its current NQC list?
    a. This keeps LSEs and Generators informed of the changes to EFC values and if ULRs have exhausted its EFC capability due to CAISO dispatches.
2. Is the LSE obligation complete as long as the Flexible RA Compliance plans and the Flexible Supply plans are matched and validated by the CPUC and CAISO?
    a. If the generator and submits one value for the Flexible Supply Plan that matches that of the LSE, but then changes its ramping capability in the RDT, will the flexible non-availability calculation be based off the updated RDT what was not updated in the EFC list? Or will the CAISO use the original EFC value and is unable to capture this change in its systems?
    b. Would the ISO freeze the RDT for ramp rate changes at T-75 or earlier for monthly EFC list updates similar to how the ISO currently updates its NQC list and any changes to the ramp rate that happen within the T-74 or later window will require an outage card in SLIC/OMS which would be used in the availability penalty calculation?

Backstop

During RRSGO policy and tariff development, ISO proposed to backstop a resource that was contracted with an LSE for replacement and charge the LSE(s) that was contracted with the generator that was on outage. Ultimately, the ISO abandoned this method because first, this seemed to give LSEs priority of a backstop first rather than all generators equal opportunity for backstop procurement and second, ISO admitted that it ultimately looked at only resources without a supply plan. While the goal to limit the financial impact to the LSEs is honorable, SDG&E does not recommend for the ISO to adopt this method.

SDG&E proposes a backstop on the bundling principle and pricing based on its alternative approach. First, ISO should have all partial-RA and non-RA resources at its disposal for backstop and not give preference to certain resources over others. Second, there should not be a need to allow LSEs to voluntarily provide a list of RA resources under contract. This only adds to the complexity for implementation. Finally, the cost shall be based on the need, if the ISO needs generic capacity, then the generic portion of CPM should be used; if the ISO needs flexibility, the entire CPM rate should be used. The ISO has the ability to see how much flexibility is contracted for each resource via its supply plan. If the resource is currently contracted for generic RA as well as flexible RA, the supply plans will provide the ISO with that information. If the same resource has surplus flex RA not committed on a supply plan while all of its generic RA is committed, the ISO should have the ability to backstop only that surplus flexible RA and the resource should be paid for its new FRACMOO. It is standard contract language that the buyer receives all CPM revenue from the seller for up to the contract quantity. The ISO must stay neutral to which LSE it chooses to backstop for its need and only

select from the generator that it will ultimately backstop. Let the parties of the contract figure out who is eligible to the CPM revenue. Likewise, if in order for the ISO to backstop flexibility it must backstop the generic non-RA portion, then that is only due to one of two scenarios:

1. LSE(s) chose not to commit all of its generic AND flexible capacity procured so that the LSE may use that resource for unit substitution for a forced outage. Then the generator that accepts the CPM designation usually has to give the buyer the CPM revenue.
2. The resource did not fully sell its generic and flexible capacity. This should again be left to the counterparties of the contract. The ISO should only CPM the resource and not determine who is eligible for the CPM revenue in this complicated situation.

RRSGO is a good example of a policy designed without understanding implementation complexity. The ISO has the ability to see how a resource has sold its capacity. However because of the requirement for LSEs to replace, the ISO requests all LSEs to replace up to the outage MW of the RA plan. This increased complexity and sources of replacement by several folds. SDG&E wishes not to have the ISO repeat these mistakes.