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Attachment 2
Proposals for Working Group 1
Topic 1.2 Dispatch Hours

A.17-01-012 et al
Demand Response Auction Mechanism (DRAM) Working Groups Proposals Pursuant to Administrative Law Judge Hymes' January 23, 2019 Ruling

Working Group 1

Proposed Improvements for Performance and Accountability

Sub-Topic 2

Dispatch Hours

Proposals Included:

- JDRPs
- OhmConnect
- Olivine
- PG&E

February 6, 2019

Working Group 1.2 – Dispatch Hours

Problem Statement: Should there be an energy component/requirement to the DRAM Product? Energy Division is concerned that DRAM is not being dispatched during high demand hours. Energy Division suggested that DRAM resources could be dispatched for 30 hours between May and October. Other parties have suggested 20 hours. However, Energy Division has also not analyzed how highly correlative high demand hours are with high prices. The Joint DR Parties suspect that energy prices may have been low even during peak demand periods because of the correlation of these hours with high solar generation, especially when the availability assessment hours were between 1 and 6 PM. DRAM integration into the PDR module of the CAISO has relied upon energy market prices to signal when resources may be needed. If prices are not high, DR will likely not be dispatched by the CAISO because the value to the customer of not being dispatched is higher than energy market clearing prices. Requiring DRAM to be dispatched for reasons other than energy market clearing prices is a fundamental modification to DRAM. This will require some discussion to define conditions for dispatch and will also require modifications to the DRAM contract to effect that change. Arbitrary requirements for dispatch may result in irrational dispatches to hit the target that are not the highest, best use of the resource.

Proposal: DRAM is fundamentally a resource adequacy product. Resource adequacy is fundamentally the availability of capacity to meet system conditions. System conditions, in an energy only market, are indicated through energy market clearing prices. Until the Commission fundamentally changes the DRAM and calls for it to provide an energy benefit and associated value for that benefit, instead of the current RA tag program, no minimum dispatch should be required. If the Commission wants to focus on an energy aspect, no arbitrary value of dispatch hours should be set. Instead the Commission should identify what issue it is seeking to address with these requirements – and look at what resource conditions capture that: demand at a particular level or at a % of an all-time peak demand, emergency conditions, or other system conditions.

Discussion

- Others have suggested an energy expectation in bidding, which looked to be near impossible to value during bid selection.
- Pure minimum dispatch hours are arbitrary and administratively difficult to track and may result in late in year dispatches of a resource at times that the ED might not have sought to see dispatch simply to meet contract minimums.

ohmconnect

Working Group 1.2 (Sub-Topic: Dispatch Hours)
Proposal: Energy Dispatch Requirement for DRAM Resources

A. Problem Statement

Energy Division's evaluation of the DRAM Pilot found that DRAM resources were the least active (as measured by their collective market "scheduling rate") among all types of market resources that support CAISO peak load. In particular, the IOUs' CAISO-integrated DR programs received proportionally more dispatch hours via the CAISO's Day-Ahead Market than did the third-party resources in the DRAM Pilot. Commission Staff is therefore contemplating whether there should be any expectation set for the activity level of future DRAM resources.

B. Description of Methodology

Staff proposes to require DRAM resources to be dispatched at least 30 hours between May through October, during the hours most beneficial to the grid. Like many other stakeholders, OhmConnect has yet to take a position on Staff's proposal. Nevertheless, we submit for consideration by stakeholders and Staff an alternate proposal that would set an *energy dispatch* requirement in lieu of a *dispatch hours* requirement.

The energy dispatch requirement would be based on a DRAM Seller's average monthly Supply Plan Capacity for the months of May through October multiplied by some number of hours, X (to yield a MWh target). For example, if average Supply Plan Capacity from May to October is 5 MW and X = 20 hours, the Seller's energy dispatch requirement would be 100 MWh. To satisfy this requirement, the Seller would need to receive for its supply plan resources a set of Day-Ahead Market (DAM) and/or Real-Time Market (RTM) dispatches (each with Total Expected Energy greater than zero) during the months of May through October and during the CAISO's RA Availability Assessment Hours that sum to at least 100 MWh in total.

In the event the Seller falls short of the requirement (or below some threshold – e.g. 90 percent of its requirement), the Seller would be assessed a penalty for each MWh of energy dispatch for which it is deficient. The total collected penalties could then be distributed as credits to other Sellers that satisfied the requirement (if any), as is the practice for the CAISO's Resource Adequacy Availability Incentive Mechanism (RAAIM).

C. Discussion

An energy dispatch requirement might be preferable to a dispatch hours requirement insofar as the latter necessitates that resources be dispatched at full RA capacity (i.e. Supply Plan Capacity) in order to count towards the requirement. The grid conditions that enable economic dispatch of all supply plan resources at full RA capacity – for example, high system loads and/or wholesale market prices – might not occur with sufficient frequency to meet the requirement. However, conditions that enable *partial* dispatch of

some or all supply plan resources are likely to occur with greater frequency. Thus, DRAM Sellers would have greater flexibility to meet an energy dispatch requirement than a dispatch hours requirement.

D. Pros/Cons

Operational efficacy: In principle, the proposed energy dispatch requirement will increase the market "scheduling rate" of DRAM resources, while affording Sellers greater flexibility than would be the case under a dispatch hours requirement.

Verifiability: Whether or not a Seller has met the proposed requirement would be determined from its monthly Supply Plan Capacity and its CAISO dispatch history. The former is visible to both the Seller and the IOU, whereas the latter is visible only to the Seller.

Costs: The proposed energy dispatch requirement would be revenue-neutral: all penalties collected from Sellers that fail to meet the requirement would be credited to other Sellers that meet the requirement.

Impacts on new entrants: The proposed energy dispatch requirement would treat new and existing DRAM Sellers equivalently.

Impacts on good actors: DRAM Sellers that meet the proposed energy dispatch requirement would not only avoid penalties, but receive as a credit a proportion of the penalties assessed to other Sellers that fail to meet the requirement. In principle, it could be the case that *all* Sellers fail to meet the requirement, perhaps due to circumstances beyond their control (e.g. unusually mild weather in the summer months).

Parties' positions (for and against): Many stakeholders have expressed concern that any dispatch hours or energy dispatch requirement would be difficult to administer in practice. The IOUs have remarked that they would not be able to determine if Sellers are complying with the requirement until late in the contract year, and that they would require access to confidential Seller dispatch data in order to verify compliance. DRAM Sellers have remarked that the requirement may necessitate uneconomic dispatch of their DR resources and thereby result in customer attrition.

E. Dependencies

A separate issue under consideration by stakeholders and Staff is when, and how often, DRAM Sellers should be required to establish monthly Demonstrated Capacity (e.g. for purposes of invoicing) based on the results of a CAISO test or dispatch. The adoption of either a dispatch hours or energy dispatch requirement could have implications for this issue.

Dispatch Hours (1.2)

Olivine Proposal

Description

Olivine proposes that for a 2020 DRAM, that a dispatch hour requirement is not introduced, particularly due to the various issues that need to be resolved before such a plan could be finalized and also due to the addition of energy to the current capacity only contract.

If dispatch hours are added for 2020 or in the future, the following issues would need to be resolved:

- How are the dispatch hours distributed throughout the contract period (e.g., per year, month, etc.)?
- If the intention is particularly to offset GHGs by reducing the use of peaker plants, do dispatch hours need to be aligned with higher prices or is any dispatch sufficient?
- How would exceptions be handled if the clearing prices for the resource do not exceed the NBT?
- What are the penalties for not meeting the dispatch hours requirement?
- What kind of oversight or reporting would be required to enforce these requirements?

DRAM: Dispatch Hours Sub-WG

Problem Statements (PS):

1. Before considering an expansion of DRAM beyond RA to also be an energy product, are DRAM resources meeting RA requirements today? Specifically:
    a. As an RA-only product, do DRAM resources have the capability and intent to respond to reliability events?
    b. As an RA only product, are incentives/penalties structured for a DRAM resource to meet their must offer obligation if they are under 1MW?
2. Beyond RA, should DRAM resources also provide an energy service and be economically-dispatched, thereby reducing the need for natural gas plants and lowering the cost of energy in the highest-priced hours?

Existing Requirement

- PS 1a. CAISO's penalty for not meeting the must offer obligation (MOO), the Resource Adequacy Availability Incentive Mechanism (RAAIM), is only applicable for resources over 1MW.
- PS. 1b. Demonstrated capacity testing or an actual event call provides an assessment of ability to perform.
- PS 2. DRAM today procures RA-tags only.

Today's Concerns

Energy: The issue of "Dispatch Hours" has been scoped, as Energy Division and CLECA have proposed to set a requirement for a number of dispatch hours. Energy Division's DRAM Evaluation also included a section on DRAM bidding competitiveness which included narrative on the benefits of DRAM being dispatched more frequently to displace natural gas plants. However, requiring a number of dispatch hours goes beyond the requirement of DRAM procuring RA tags, where providing RA only requires that the resource be bid per its must offer obligation. Therefore, to require a certain number of dispatch hours is to require that DRAM also provide an energy service and economic dispatch.

RA: The current RA construct applied to DRAM does not provide sufficient transparency that a resource has the intent to perform and the ability to show up when called in response to a reliability event. Current demonstrated capacity testing does not provide a sufficient or consistent indication of the resources ability to perform when it is needed in response to reliability events. Without sufficient penalties for resources under 1MW (RAAIM) or any transparency that a real resource is behind its bids, PG&E sees two RA/reliability shortfalls/misaligned incentives.

1. **Exemption of RAAIM for resources under 1MW:** CAISO's penalty for not meeting the must offer obligation (MOO), the Resource Adequacy Availability Incentive Mechanism (RAAIM), is only applicable for resources over 1MW. Today, most DR resources are under 1MW. This loophole incentivizes resources to be under 1MW if they cannot meet their MOO and want to avoid being penalized.

2. **Reasonableness of Bids:** A must offer is a bid requirement, but the only restriction is the current bid cap of $1,000/MWh. There is no reasonableness test of a DRAM resource bid to validate its intent to perform or ability to be dispatched. A resource can meet its MOO, but bid at CAISO's price cap. There can be two reasons for bidding at the price cap:
    a. Their bid reflects their true marginal and opportunity cost, or
    b. There is no intent or ability to perform or ability to respond to a dispatch from CAISO and their high bid reflects this risk they are taking in the market. Under this scenario, the DRAM resources playing the odds with no intent to perform create a reliability problem that very high bids are unlikely to clear the market. In the chance their bid does clear the market, they hope the cost of any imbalance energy for non-performance is less than the capacity payment.

Today there is no means of determining which scenario reflects reality. While the latter scenario does not represent all DRAM resources, rules should be in place to prevent such behavior. FERC rules on market manipulation prohibit biding a resource that is not available.[1] The problem is detection of such behavior and enforcement, particularly if the goal is to increase the amount of RA MW procured through DRAM.

Specific Proposals

PG&E's Proposal: 2020 DRAM

First, PG&E recommends that DRAM contracts for 2020 delivery continue to only procure RA-tags.

Second, to ensure that a resource has the ability and intent to meet their must offer obligation (MOO), PG&E recommends requiring reporting metrics that are audited ex post.

- **Establish reporting requirements to provide insight into a resource's intent to perform and ability to dispatch.**
  A DRP should provide the following information to support an audit:
    - A DRP should provide an auditing entity the following information on a rolling monthly basis during the DR season:
        - ✓Their marginal cost and the rationale for it;
        - ✓Rationale for situations when they did not dispatch when the market clearing price is lower than their marginal cost
- **Audit the information provided to ensure the resource has the ability and intent to respond to a reliability event based on its bids.**
  The audit function should act as a check to ensure that the resources had the intent and ability to respond to market dispatch signals, provide a check of their bids as reasonable, and an opportunity for DRPs to provide context for their bidding behavior. The results of this would be used to determine which resources, if any, do not have the ability or intent to be dispatched in response to a reliability event.
    i. **Who**: The audit could be performed by the CPUC and / or a third-party mediator to ensure protection of confidential, market sensitive data.
    ii. **Cadence**: PG&E recommends monthly reporting throughout the DR season as well as an annual summary of the audit findings.

[1] https://www.ferc.gov/enforcement/market-manipulation.asp

PG&E's Proposal: Post 2020 DRAM:

Fixing RA further: PG&E recommends that the Commission penalize resources that do not meet their MOO and are exempt from RAAIM based on their size. Details on this recommendation:

- **RAAIM for resources under 1MW:** The CPUC should issue a penalty for resources that do not meet their must offer agreement and are under 1MW. PG&E recommends the penalty should correlate to the RAAIM for the month where they were short in the market. Any penalty should also be cognizant of developments of more accurately accounting for weather-sensitive DR.

Procuring RA and Energy: If DRAM were also being used to procure energy, it would mean DRAM would be economically dispatched and could have the potential to provide environmental benefits from displacing natural gas plants and cost benefits from lowering the cost of energy in the highest-priced hours. If this is the goal, the Commission should:

1.) Update the policy goals of DRAM to specify DRAM is for RA and energy, and
2.) Provide a means of assuring that a resource has the intent and ability to be economically dispatched.

If the Commission determines that DRAM is also a mechanism for energy, it could move forward with Energy Division's proposal to require a set number of hours. However, this would not necessarily displace plants. To require a set number of hours could result in a resource optimizing being dispatched for a set number of hours, rather than being used when the grid most needs it. If the objective is to use DRAM resources when the grid most needs it (i.e., high priced/high heat rate intervals), the Commission should impose similar least cost dispatch (LCD) principles that are applied to the IOUs programs as a part of the Energy Resource Recovery Account (ERRA) reporting proceeding.

All IOUs are required to justify DR opportunity costs and when DR programs are not called as a part of ERRA LCD reporting. For example, CBP has a price trigger of $95 per MWh and PG&E must provide information to the CPUC on why a program was not dispatched with the trigger price was met. A similar approach could be taken with DRAM to include ex-post reporting metrics of a DRAM resources bid price, their marginal cost along with the rationale for why they did not dispatch when market conditions would indicate they were needed.

Pros / Cons

This section only assesses the pros and cons of PG&E's proposal to ensure that DRAM resources procured as RA have the intent to perform and the ability to be dispatched in response to a reliability event.

Pros:

- Reporting Metrics:
  - Provides an after the fact assessment if a resource had the intent and ability to be dispatched
  - Allows DRPs to prove that their bids reasonably reflect their marginal cost and opportunity costs
  - Does not affect the contracting process
  - Mirrors a subset of reporting requirements LSEs follow
  - Provides metrics that can also be used to continue to evaluate DRAM as a mechanism that could support reliability
- RAAIM Penalty Administered by the CPUC:

- Closes an existing loophole that the CAISO has no plans to resolve.
- Administration and enforce

Cons:

- Reporting Metrics:
  - Data reporting and administration costs to DRPs
  - Costs to administer and enforceability of an ex-post audit of metrics
- RAAIM Penalty Administered by the CPUC:
  - Administration and enforcement of the penalty by the CPUC
  - Data reporting and administration from DRPs to the CPUC

Which aspects of the problem statement are addressed?

Operational Efficacy

Verifiability

Costs

Impacts on new entrants

Impacts on good actors

Parties Positions (for and against)

Other

This proposal addresses verifiability issues with the problem statement.

Dependencies (other WG and Policy)

- The IOUs proposal to increase the dispatch capacity testing (Topic 1.1) provides additional test of the ability and intent to dispatch. This proposal is not dependent on that proposal, rather this proposal provides additional information on the resource ability and intent to respond to reliability events when they are dispatched by the market and not by test events.

Other Proposals:

- Require DRAM resources to be dispatched at least 30 hours between May through October, during the hours most beneficial to the grid. (ED Staff)
- Allow a voluntary bid offer parameter indicating the minimum market dispatch activity level that the DRP is willing to commit to for the resource capacity it offers to a DRAM auction (ED Staff)
- Establish minimum dispatch requirement (suggest 20 hours) (CLECA)
- Add 'energy delivery' requirement proportional to average monthly contract capacity (OC)
- Do not set an annual dispatch level (Leap, JDRPs)