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Additional submitted attachment is included below.



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From: Cogentrix Energy Power Management, LLC

Date: May 8, 2017

Subject: **Joint Agency Workshop on Risk of Economic Retirement for California Power Plans**

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Cogentrix Energy Power Management, LLC (“Cogentrix”) is pleased to submit these comments on the Joint Agency Workshop on Risk of Economic Retirement that convened on April 24, 2017 in addition to the comments provided at the workshop during the panel discussion. The comments are focused on the pace of change on the grid, surprising trends in supply, clarifications around the current Resource Adequacy market and identification of needed resources going forward.

I. The Pace of Change and the Ability to Respond

Although there is general agreement that the demands on the grid are changing rapidly and that existing market structures do not provide adequate price signals to the generating resources that will be needed through this transitional period of renewable integration, the pace of change has outstepped the pace at which both information is flowing and rules can be changed. Cogentrix has stated this in the past in multiple venues, but it cannot be overstated. There is a general agreement, based on materials presented and comments made on the panel at the workshop, that there is a risk of capacity insufficiency (or availability of only the wrong type of capacity) in the next 2 to 5 years. It is surprising to Cogentrix that there is not a corresponding sense of urgency around major initiatives and market structure changes to address this concern considering that such initiatives and changes generally take greater than 2 years. Remarkably, there were no pointed or specific next steps to conclude the workshop discussion on reliability and retirement. Rather, the existing CAISO FRACMOO2 Stakeholder Process and CPUC IRP proceeding are being relied upon, by default, as the primary initiatives to respond to the concerns presented at the workshop. At the current pace of response, it will be too late to prepare for avoidable supply

events that could occur in the 2 years. The most optimistic conclusion of both the CAISO stakeholder process and CPUC proceeding is 2019, and they have become intertwined such that a delay in one will be a delay in the other.

It is particularly illustrative to consider events and actions that occurred even since the April 24 workshop:

First, On May 3, CAISO issued a Stage 1 System Emergency Notice that was originally effective from 19:01 through 23:59. There were several causes of these emergency conditions. One was the weather changing more rapidly than normal, causing a forecast misses of 2,000 to 3,000 MW or more across the ISO. In spite of the gross level of capacity available on the grid, the CAISO simply lacks sufficient fast start resources. This is evident to most market observers and was highlighted by the recent emergency, which was CAISO's first since 2007. With sufficient quick start (for the sake of discussion 10 or 15 minute start times) generation available, the emergency could be mitigated in 30 minutes or less. Instead, on May 3rd there was \$750 to \$1,000/MWh pricing across all of CAISO for 90 minutes that was not alleviated by supply coming in; the high pricing was only alleviated by load declining late at the end of the day. Another cause of the events of May 3 was an inability (or unwillingness) of demand response resources to perform as committed. Unfortunately, this explanation indicates that some of the efforts that are being relied upon for ability to manage supply intermittency may not be as effective as hoped. Fast start flexible resources across the grid were instrumental in helping to mitigate this emergency, including ones whose future availability is highly uncertain due to the lack of a functional market for recovery of those resource's fixed costs.

Second, on May 1 the CAISO posted the FRACMOO2 "Short Term Solutions"¹ revised straw proposal. The revised straw proposal frames out a "least-regrets," "short-term" approach to improving price signals to flexible generation. Even on a least-regrets basis, and with only two fundamental recommendations, the straw proposal reduces the flexible resource reserve margin across the CAISO from 123.8% to 8.3% based on the 2018 flexible need identified by the CAISO². This recognition of a more realistic definition of flexible resource eliminates 18,192 MW of long-start generation from the 2016 EFC list. The elimination of these "flexible" resources was caused only by excluding resources with start times and min-run times in excess of 4.5 hours. The proposed eligibility criteria still includes many resources with start times in excess of three hours as "flexible" capacity, despite their contribution to over-generation situations and their inability to mitigate conditions such as those experienced on May 3.

¹California Independent System Operator, "Flexible Resource Adequacy Criteria and Must Offer Obligation – Phase 2: Revised Straw Proposal – Short Term Solutions," May 1, 2017.

² CAISO, "Final Flexible Capacity Needs Assessment for 2018," May 1, 2017.

Third, the CAISO posted the Final 2022 LCTA³ on May 3. The 2022 LCTA indicates that both the Stockton and San Diego local areas will be short in 2022. While Sierra and Stockton are perpetually in deficiency (a deficiency masked by the averaging together of several local areas in the RA allocation), it is worth noting that San Diego has not been highlighted as deficient in recent years and is shown as sufficient in the 2018 LCTA. Based on the factors influencing supply and load, it is likely that the crossover from sufficiency to insufficiency is closer to 2018 than it is to 2022.

II. Trends in Supply

Several data points provided at the workshop by generators indicate that supply could permanently shut down at a faster rate than expected by the market's regulators. Unfortunately, the regulators and grid operator, including the CPUC, CEC and the CAISO all assume that capacity that is uncontracted (including via short term RA sales) remains available indefinitely despite the lack of fixed cost recovery. By definition that capacity is very much at risk of early economic retirement, even if it is in a local capacity area or provides ancillary services (criteria that incorrectly eliminates resources from CAISO's flawed review of assets at risk of retirement). Some retirements have already been announced and many others are at risk of retirement or intend to reduce capacity in the state. NRG, the largest independent owner of generation capacity in CAISO, indicated that it plans to reduce its fleet on California from 8,500 MW in 2016 to 2,600 MW by 2020⁴. Calpine, the second largest owner of generation capacity in CAISO, has announced the retirement of several plants and intends to continue to retire or mothball plants as they become uneconomic, forcing the CAISO to extend RMRs to assets that are otherwise uneconomic. Calpine has publicly stated that it is not waiting for market solutions to materialize that may reverse these economic decisions. They have called the market and any pending changes "a bust."⁵ Cogentrix's position is not unlike either of these large generators.

Putting actions together with comments from the risk of retirement workshop with the CAISO's supply risk analysis paints an urgent picture. CAISO's preliminary supply risk study, shows that when between 4,000 and 6,000 MW of assets retire, capacity sufficiency issues emerge on a system basis.⁶ The actions and statements of NRG and Calpine alone are enough to demonstrate a capacity deficiency by 2020, before considering the many other generators who considering similar actions over a similar timeframe. While battery storage may serve as a long-term replacement for gas-fired assets, there is no indication that it can be implemented on a scale of 5,000 MW or more by 2020.

³ CAISO, "2022 Local Capacity Technical Analysis – Final Report and Study Results," May 1, 2017.

⁴ Brian Theaker (NRG), verbal comments during the panel discussion, April 24, 2017.

⁵ Mark Smith (Calpine), verbal comments during the panel discussion, April 24, 2017.

⁶ Neil Millar (CAISO), "Economic Early Retirement of Gas Fired Generation – Managing the Risk," pg. 13, April 24, 2017.

III. Trends in the Resource Adequacy Market

Cogentrix believes it is important to highlight three important points about the Resource Adequacy market and the RA data that was presented at the workshop. The data can be easily misinterpreted when taken at face value.

- a. The data is stale – The CPUC presented preliminary 2016 prices at workshop⁷ that represent aggregated prices from 2016-2020. The marginal RA contract, however, is for one year only in the current environment, yet older multi-year deals are included in the 2016 data. The data could be misinterpreted as representing the current (or at least recent) RA market which it does not. It is simply all of the outstanding RA, including legacy contracts. Generators recently off -contract or selling RA year to year do not realize the prices presented in this data – it is not what is available currently in the market.
- b. There is no insight as to annual price trends in the data, trends that have been negative over the past several years. This is masked by aggregating the data.
- c. The data does not represent what generators receive – the weighted average price for all RA sales reported by the CPUC is \$3.10/kW-mo. It does not include RA that generators are unable to sell. To understand what generators actually receive, it is necessary to understand how much capacity was sold on a percentage basis. For instance, if a plant happened to sell RA at exactly the CPUC-reported price for 50% of its capacity, which in an oversupplied market is perfectly plausible, the plant effectively received \$1.55/kW-mo.

IV. The Identification of Needed Resources for Reliability and Maintaining Forward Progress

There is some consensus around the intermediate-term risk of early economic retirements of existing generation plants. The critical missing piece, other than urgency, is how to identify resources needed to be retained for reliability. Cogentrix submits that only the CAISO has access to the complete dataset to make this determination. In its preliminary study performed for the 2016-2017 transmission planning process, it simulated six retirement cases, so there is some data already available as to the effect that various units have on the system when no longer available. Additional simulations and sensitivities are needed to inform all parties as to what resource attributes are needed by the grid.

Cogentrix is attuned to the notion that CAISO is not in the business of picking winners and losers. However, CAISO does not need to give the appearance of showing favor to certain generators to identify needed resources. The identification of needed resources can be data-driven based on which resource attributes provide the most value to the grid for the sake of reliability. This is precisely why Cogentrix recommended a more complete overhaul of the flexible criteria as it will

⁷ Michelle Kito (CPUC), “Joint Agency Workshop on Risk of Early Economic Retirement,” pg. 15, April 24, 2017.

lead to a swifter conclusion to the dilemma over which resources are needed for reliability. Further delays and a new long-term issues initiative (FRACMOO3?) proposed in the most recent revised Straw Proposal in the FRACMOO2 process, as one example, only increase the probability that needed resources exit. What Cogentrix suggests is that the needed resource attributes be studied under a broad set of retirement simulations and prioritized.

Prioritization of attributes is necessary for advancing both FRACMOO2 and the IRP. Doing so paves the way for other improvements to the RA market, including changes under consideration such as multi-year procurement. Identification of the correct attributes and the procurement rules around these attributes are the biggest roadblocks to agreement on multi-year solutions between at least the generation and IOU parties. Attempts to determine the “perfect” definition and procurement tools, however, should not hinder the work and progress on identification of needed resources, as those conclusions about *what* is needed will be an input to any process that determines *how* resources are retained on the grid. For example, LSE concerns over risk exposure created by multi-year RA procurement⁸ can be addressed by the CPUC in parallel to the CAISO’s efforts on identification of needed attributes. Cogentrix suggests, in the case of concerns over multi-year RA, that LSEs be provided forward compatibility of RA meaning that LSE procurement on a multi-year basis is grandfathered and counts towards their requirements for every year of the contract, even if the rules change. It will also be necessary to provide the ability to transfer costs of RA with any load departures. These are the issues the three IOU’s are putting in front of the CPUC now in their recently filed Joint Application of SCE, PG&E, and SDG&E, for Approval of the Portfolio Allocation Methodology for All Customers.

V. Conclusions and Proposed Recommendations

The workshop highlighted several concerns that warrant a response in the FRACMOO2 process and in the IRP. In particular, the CAISO demonstrated that changes on the grid are continuing to outpace expectations. Supply is dropping off of the grid at an accelerating pace, and solutions are needed faster than called for in the timelines of the CAISO process and CPUC proceeding. Cogentrix has consistently advocated for a set of effective and low cost solutions at the CAISO and before the CPUC that address the concern of a rapidly changing grid combined with increasing risks of early economic retirements, which include a one-time, interim, multi-year bridge procurement program for highly flexible resources while the issues mentioned above are resolved.

In addition, the workshop highlighted two other areas where recommendations are warranted. The first is that an essential step in continuing to advance FRACMOO2 and the IRP is the identification of needed resource attributes. It seems that all participants are eagerly awaiting more input from the CAISO on this matter at this point. The second is that one of the biggest

⁸ In particular, Eric Little (SCE), verbal comments during the panel discussion, April 24, 2017.

single roadblocks to continuing to make progress on RA enhancements is LSE apprehension over a durable flexible RA definition that provides the LSEs assurances against being long the wrong product. Determining how the assurances can be provided is a critical next step to continued progress on the ultimate solution that provides for 1) orderly retirement of unneeded resources and 2) adequate retention of needed resources. Continuing on the current path of a disorderly procurement that is unrelated to the long-term needs of the State's electrical grid will not result in the right and most efficient solution for California's consumers and ratepayers.

Respectfully Submitted,

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