

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA



**FILED**

03/23/20  
04:59 PM

Order Instituting Rulemaking to Oversee the  
Resource Adequacy Program, Consider  
Program Refinements, and Establish Forward  
Resource Adequacy Procurement Obligations.

Rulemaking 19-11-009  
(Filed November 7, 2019)

**JOINT OPENING COMMENTS OF  
CALIFORNIA EFFICIENCY + DEMAND MANAGEMENT COUNCIL, CALIFORNIA  
ENERGY STORAGE ALLIANCE, CENTER FOR ENERGY EFFICIENCY AND  
RENEWABLE TECHNOLOGIES, CPOWER, ENEL X NORTH AMERICA, INC.,  
LEAPFROG POWER, INC., OHMCONNECT, INC., SUNRUN, INC. AND TESLA, INC.  
ON ENERGY DIVISION PROPOSAL A: REVISING MAXIMUM CUMULATIVE  
CAPACITY BUCKETS**

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ON ENERGY DIVISION PROPOSAL A: REVISING MAXIMUM CUMULATIVE  
CAPACITY BUCKETS**

The California Efficiency + Demand Management Council, California Energy Storage Alliance, Center for Energy Efficiency and Renewable Technologies, CPower, Enel X North America, Inc., Leapfrog Power, Inc., OhmConnect, Inc., Sunrun, Inc. and Tesla, Inc. (hereinafter the “Joint Distributed Energy Resources (“DER”) Parties”) respectfully submit these Opening Comments on Energy Division Proposal A: Revising Maximum Cumulative Capacity (“MCC”) Buckets in Rulemaking (“R.”) 19-11-009 (Resource Adequacy (“RA”). The Joint DER Parties’ Opening Comments filed and served pursuant to the Rules of Practice and Procedure of the California Public Utilities Commission (“CPUC” or “Commission”); Assigned Commissioner’s Scoping Memo and Ruling, issued on January 22, 2020 (“Scoping Memo”); Administrative Law Judge’s Ruling on Energy Division’s Proposal, issued on February 7, 2020 (“February 7 ALJ Ruling”); and Administrative Law Judge’s Ruling Modifying Track 2 Schedule, issued on February 28, 2020 (“February 28 ALJ Ruling”).

**I.  
SUMMARY**

The Joint DER Parties provide the following comments:

- The Energy Division’s basis for a demand response (“DR”) procurement cap is unsupported.
- Any specific resource procurement limits should be addressed in Track 3.

- A DR procurement cap is discriminatory and would unnecessarily limit DR to an amount close to its current level.
- Further discussion is needed regarding Bucket 4 eligibility.

## II.

### JOINT DER PARTIES' COMMENTS ON THE ENERGY DIVISION MCC PROPOSAL

The Scoping Memo directed Energy Division to submit its proposal on the MCC Bucket regime in Track 2 of this proceeding on February 7, 2020. The February 7 ALJ Ruling attaches the Energy Division Proposal A: Revising Maximum Cumulative Capacity Buckets (“Energy Division MCC Proposal”).

The Energy Division proposes in the Energy Division MCC Proposal its recommended Option 4B to update the MCC Bucket regime to reflect more recent load curves, adjust the percentage caps for some categories, and place a cap on the amount of DR capacity that can be used by a load-serving entity (“LSE”) to meet its RA requirements.<sup>1</sup> The DR MCC category would be capped at 5.3% of each LSE’s RA Requirement based on an assumed 12 hours of dispatch each month. At the March 5<sup>th</sup> RA workshop, the Energy Division stated that one reason for its proposal was to address its concerns that an LSE would take advantage of the absence of a cap on DR procurement to meet all or most of its RA requirements. The Energy Division further clarified that only market-integrated (i.e. Supply Resource) DR resources would be subject to its proposed DR procurement cap, and that the cap would be applied to each LSE, not at the statewide level.

#### **A. The Energy Division’s Rationale for a DR Procurement Cap is Problematic.**

In the problem statement of its proposal, the Energy Division makes a statement that is deeply concerning to the Joint DER Parties and which does not accurately reflect how resources are dispatched. The Energy Division states, “if a resource is only dispatched rarely or not dispatched at all (for example, some import or DR resources), this calls into question how the resource could be considered ‘available’ to meet 1-in-2 loads, consistent with the RA program.”<sup>2</sup>

It is important to recall the purpose of DR resources, including Supply Resource DR. DR was initially developed for the purpose of providing emergency response when there was

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<sup>1</sup> Energy Division MCC Proposal, at pp. 11-12.

<sup>2</sup> *Id.*, at p. 7.

inadequate supply on the system or some other system failure. This is the primary purpose of the Base Interruptible Program (“BIP”) investor-owned utility (“IOU”) DR program and Reliability Demand Response Resources (“RDRR”) in the California Independent System Operator (“CAISO”) market. Later, DR began to be used as a peaking resource as a means of reducing peak demand to minimize the potential for an emergency situation and to minimize exposure to high market prices during peak periods. The load duration curve used by the Energy Division in its MCC Proposal indicate that peak and super peak prices are prevalent for relatively short periods of times (i.e. hours) per year. Most recently, the Commission required dispatchable DR resources to be integrated into the CAISO’s wholesale energy market to be dispatchable on price, with the theory being that peak demand periods would correspond with peak energy prices.

Since DR is an RA resource, peak demand is still the criterion used for determining RA requirements, even though the availability assessment hours (“AAH”) now correspond with the net peak demand period. However, with the penetration of renewable resources, peak demand periods on the grid correspond with peak solar generation periods, and high prices no longer correspond with high demand periods. When the DR Auction Mechanism (“DRAM”) was first launched in 2016-2019<sup>3</sup>, AAH were from 1-6 PM. These were high demand periods, but low net peak periods and low energy price periods, typically. As such, the system was not indicating, by price, that there was a need for an energy-limited DR resource during this time. In fact, in a July 26, 2019 DRAM Working Group presentation, Energy Division DR staff charted gross load during the highest 120 hours with energy prices and found a very low correlation (attached as Appendix A). Slide 5 of the presentation shows a correlation of 0.46 which shows that high demand does not always equate with high energy prices. In slide Therefore, low usage of DR can partially be attributed to a mismatch between its AAHs and the times of greatest grid need as indicated by market prices. It is presumptuous to assume that DR will remain underutilized given the change of the AAH to the 4-9pm period, which better aligns DR availability requirements with periods of higher energy prices.

Furthermore, it is unrealistic and physically impossible for all RA resources to be dispatched under average weather conditions when the RA Requirement is set by the historical peak of 50,270 MW, set in 2006, plus a 15% Planning Reserve Margin (“PRM”). California has

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<sup>3</sup> DRAM resources that were contracted for 2018-2019 were subject to the 1-6 PM AAH; 2019 DRAM resource contracts for the single 2019 year were subject to the 4-9 PM AAH.

not exceeded this peak demand in the 14 years since it was set. With peak system load currently in the 25,000-30,000 MW range, it is difficult to understand how DR is expected to dispatch on a consistent basis when close to half of RA capacity is not needed. Based on the Energy Division's logic, if the load associated with 1-in-2 weather conditions is reached, the Energy Division would presumably believe that all resources, not only DR, would be dispatched. However, that would inject far more energy onto the grid than would be needed which would likely cause overloading on the transmission grid and negative energy prices. DR in California has constantly been subjected to changing expectations.

Setting a procurement cap will ensure a limit on the amount of DR in the State. This seems counter to all of the Commission's and the Legislature's policies and rhetoric. The Commission needs to discuss and define what services DR resources should provide to the grid and clearly define metrics of success that align with those objectives rather than comparing DR resources to continuously shifting objectives.

#### **B. The Energy Division MCC Proposal Preempts Track 3**

The Energy Division MCC Proposal would make several significant changes to the RA regime that are best addressed in Track 3. Though the January 22 Scoping Memo does specify that Track 2 includes modifications to the MCC buckets to address increasing reliance on use-limited resources to meet reliability needs, the Energy Division's proposal carves out some highly significant components of the MCC bucket regime that are best addressed in Track 3 in the context of all use-limited resources.<sup>4</sup> These issues include 1) a cap on DR procurement, 2) limiting DR procurement based on an assumed monthly dispatch level rather than availability, and 3) unclear definition of continuously available non-fossil resources that qualify for Bucket 4. Such significant changes to the MCC bucket regime should not be done in isolation; instead, they should be considered in the context of more comprehensive changes to the larger RA program. The Scoping Memo defines the Track 3 scoping issues as:

1. Examination of the broader RA capacity structure to address energy attributes and hourly capacity requirements, given the increasing penetration of use-limited resources, greater reliance on preferred resources, rolling off of a significant amount of long-term tolling contracts held by utilities, and material increases in energy and capacity prices experienced in California over the past years.

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<sup>4</sup> Scoping Memo, at p. 6.



2. Other significant structural changes to the RA program identified during Track 1 or Track 2 that will require more process and time to develop and implement.<sup>5</sup>

A Track 3 conclusion in Q1 2021 will allow sufficient time to explore these larger issues without being limited by the timeline associated with a June 2020 decision. One staff proposal, one workshop, and one round of comments in Track 2 are simply not enough for such a fundamental aspect of the RA program.

**C. Energy Division’s DR Procurement Cap is Discriminatory, Arbitrary and Highly Problematic.**

RA is based upon a resource’s availability to the system. The Energy Division MCC Proposal provides no explanation for why a resource’s ability to qualify as a Category 1 through 4 resource should be based on that resource’s availability, whereas DR should be subject to the completely different standard – that of a minimum dispatch requirement. The Energy Division presents no evidence to support differential treatment, including why a 12-hour monthly dispatch assumption is appropriate other than the vague statement that it is based on “past performance.”<sup>6</sup> This discriminates against DR resources and ignores the role of the CAISO market to ensure that resources are economically dispatched where and when they are needed. If the Energy Division has evidence that it can contribute to the discussion it should introduce it in Track 3.

If the Commission limits DR procurement based on an assumption of 12 hours of monthly dispatch, it begs the question of why a DR resource should be capable of 24 hours of monthly dispatch. Regardless of the assumptions that go into the DR procurement cap, DR will *still* be required to be available for 24 hours in a given month as an RA resource. This creates an unfair disconnect between DR’s actual RA availability requirements and those used to calculate its MCC bucket cap. The Joint DER Parties do not support a DR procurement cap, but if one is adopted, it should reflect the actual availability of DR resources and not an arbitrary dispatch assumption. DR resources are required to be dispatchable 24 hours per month but their availability is greater than that. At minimum, they must be available from 4:00 – 9:00 p.m. during non-holiday weekdays, which translate into 5 hours/weekday x 5 weekdays/week x 52 weeks = 1,300 hours; compared to 8,760 hours in a year, this translates into 15% availability.

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<sup>5</sup> *Id.*, at p. 7.

<sup>6</sup> Energy Division MCC Proposal, at p. 12.

According to the Energy Division proposal, “available” means “able to operate.”<sup>7</sup> Based on that definition, the 15% minimum availability of DR resources should serve as the basis for a DR procurement cap because DR must be able to operate in any of these 1,300 hours if dispatched.

**D. The Energy Division MCC Proposal Will Cap both DR and DER Procurement at Close to Current Levels.**

The Joint DER Parties are very concerned that the Energy Division MCC Proposal would effectively cap DR procurement at close to current levels. A DR procurement cap is a major policy decision that is completely antithetical to the State’s support of DR and its carbon reduction goals. For every MW of new fossil-fueled capacity procured by the IOUs to meet their 3,300 MW IRP procurement requirements, the associated carbon emissions are locked in for the entire life of the new resource. If the Commission is intent on getting to 100% carbon-free energy by 2045, consistent with SB 100, it must recognize that DR, and all DERs, play a significant role in the resource mix. Capping DR at 5.3% of each LSE’s RA Requirement will only make reaching this goal that much more difficult.

According to the Energy Division’s analysis provided for the March 5<sup>th</sup> RA workshop, the proposed 5.3% cap is based on 2,232 MW of incremental load based on 12 hours per month of dispatch at the top of the Energy Division’s load duration curve. If the 5.3% cap is applied to each LSE’s total RA Requirement, which includes a 15% Planning Reserve Margin, the procurement cap would be  $2,232 \text{ MW} \times 1.15 = 2,567 \text{ MW}$ . The Energy Division has provided no evidence to support that there even should be a DR procurement cap. To the Joint DER Parties’ knowledge, no LSEs have attempted to meet their RA Requirements with a disproportionately large amount of DR capacity, nor has the Energy Division presented any analysis showing any danger to the grid at higher DR procurement levels. At the very least, the DR procurement cap should not be adopted until the Commission is aware of current levels of Supply Resource DR relative to the proposed DR procurement cap.

The Energy Division stated during the March 5<sup>th</sup> workshop that they have not examined current amounts of qualifying Supply Resource DR to see how it compares to their proposed 5.3% cap. The Joint DER Parties attempt to provide a conservative estimate here. The table below shows the amount of DR capacity represented by IOU DR programs and the DRAM in 2019, and the IOUs’ recent Assembly Bill (“AB”) 2514 energy storage procurement. However,

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<sup>7</sup> *Id.*, at p. 7.

these amounts do not include DR capacity procured by the IOUs through IRP solicitations, or in all of the LCR RFO, so the actual amount is likely to be greater.

**Table – Estimated IOU-procured DR**

Utility	DR Programs (MW) (August 2019)	DRAM (MW) (2019)	Energy Storage <sup>8</sup> (MW)
PG&E	337 <sup>9</sup>	163 <sup>10</sup>	10
SCE	901 <sup>11</sup>	176.5 <sup>12</sup>	108
SDG&E	13 <sup>13</sup>	33 <sup>14</sup>	0
Total	1251	373	118
<b>Grand Total</b>		<b>1742</b>	

Based on the above, it is very possible that the proposed DR procurement cap is close to being met. Importantly, the Commission has thus far declined to recognize the value of behind-the-meter distributed DERs beyond their participation in IOU RA Requests for Offers (“RFOs”) and the CAISO market as a DR resource. Thus, the only path to market for DERs is via the DR model. The proposed cap of 5.3% is close to *current* DR penetration levels, thus all but eliminating a path to market for supply-side DERs.

Further exacerbating the problem is that because the 5.3% DR procurement cap would be LSE-specific, if an LSE chooses not to use its DR headroom, no other LSE would be able to procure the excess. It is highly likely that some LSEs will not include DR in their RA portfolios, so the effective DR procurement cap will be even lower, further depressing development of this resource in the State.

**E. Bucket 4 Eligibility Requires Further Policy Development.**

The Energy Division MCC Proposal is predicated on a preference for Bucket 4 resources that are continuously available. The Joint DER Parties are aware that the preference for Bucket

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<sup>8</sup> These data were compiled from recent procurement updates from the IOUs’ AB 2514 energy storage procurement update applications (A.20-03-002, A.20-03-003, A.20-03-004), which were filed on March 2, 2020. These numbers represent the storage projects that count toward the “customer domain” and are contracted as local capacity requirements (“LCR”) resources.

<sup>9</sup> Based on the August 2019 totals from Table B.1 from PG&E’s April 2019 Load Impact Report.

<sup>10</sup> Pacific Gas and Electric (“PG&E”) Advice Letters 5284-E and 5109-E.

<sup>11</sup> Based on the August 2019 totals from Table 5-1 from SCE’s Executive Summary of its April 2019 Load Impact Report; does not include Capacity Bidding Program amounts due to redaction.

<sup>12</sup> Southern California Edison (“SCE”) Advice Letters 3797-E and 3629-E.

<sup>13</sup> Based on the August 2019 totals from San Diego Gas & Electric’s (“SDG&E’s”) Executive Summary of its April 2019 Load Impact Report, Appendix A, p.2.

<sup>14</sup> San Diego Gas & Electric Advice Letters 3095-E and 3218-E.

4 resources is pre-existing and not a new proposal by Energy Division. However, given current and future increasing reliance on GHG-free resources, the retention of 100% preference for Bucket 4 must be more thoroughly examined. At the March 5<sup>th</sup> workshop, Energy Division further explained its proposal for Bucket 4. While the explanation was useful, it left a host of questions unanswered, and made clear that more policy development is needed.

The eligibility for Bucket 4 requires further discussion and policy development. The Joint DER Parties raise this issue, as Bucket 4 represents a significant part of the proposal, and is inherently linked to the proposed cap on use limited resources and DR. One very important issue that should be discussed more thoroughly is the Energy Division's definition of "available", which the Energy Division defines as "able to operate."<sup>15</sup> The Joint DER Parties interpret this definition to indicate when a resource is able to operate as indicated by its bids into the CAISO market (e.g. Monday through Friday, 12:00-9:00 p.m.), whereas the Energy Division appears to interpret it in some instances as the number of hours per month that a resource is capable of operating. The Energy Division's interpretation of "available" would disqualify many DERs that are available around the clock. This issue should be discussed more thoroughly in Track 3.

Energy Division's March 5<sup>th</sup> presentation highlighted the non-fossil resources eligible for Bucket 4, which includes solar and wind, as well as nuclear, hydro, biomass, biogas, geothermal, CHP and imports. As the Joint DER Parties understood that presentation, the requirement would be that 56.1% of total RA resources would be made up of the non-solar or wind resources from this list. While this clarification is appreciated, it raises a number of questions, some of which are listed below:

1. What is the cost-effective development potential for new resources of the fuel types that Energy Division listed for Bucket 4? What is a reasonable timeline for achieving that development potential, considering realistic timelines for transmission development, permitting, and interconnection timelines?
2. Is that cost-effective resource potential sufficient to provide half or more of energy capacity as the state achieves its 2045 greenhouse gas emission reduction goals, which will undoubtedly include transportation?

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<sup>15</sup> Energy Division MCC Proposal, at p. 7.

3. Energy Division's list of Bucket 4 resources includes nuclear, yet the State's last nuclear plant is slated to retire in several years and no new nuclear can be permitted per state law. Does Energy Division anticipate increased nuclear imports?
4. If solar and wind are Bucket 4 resources, and other resources are meant to support integration of solar and wind, is storage eligible for Bucket 4 and, if not, why not?
5. Are non-DR distributed energy resources eligible for Bucket 4 and, if not, why not?
6. Are hybrid resources eligible for Bucket 4 and, if not, why not?

All of these questions point to the need to fully address the Energy Division MCC bucket proposal in Track 3 of this proceeding.

### **III. CONCLUSION**

The Joint DER Parties appreciate this opportunity to comment on the Energy Division MCC Proposal.

Dated: March 23, 2020

Respectfully submitted,

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# **APPENDIX A**



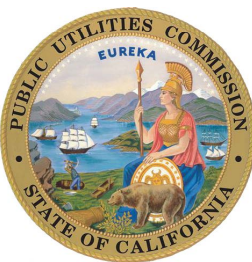
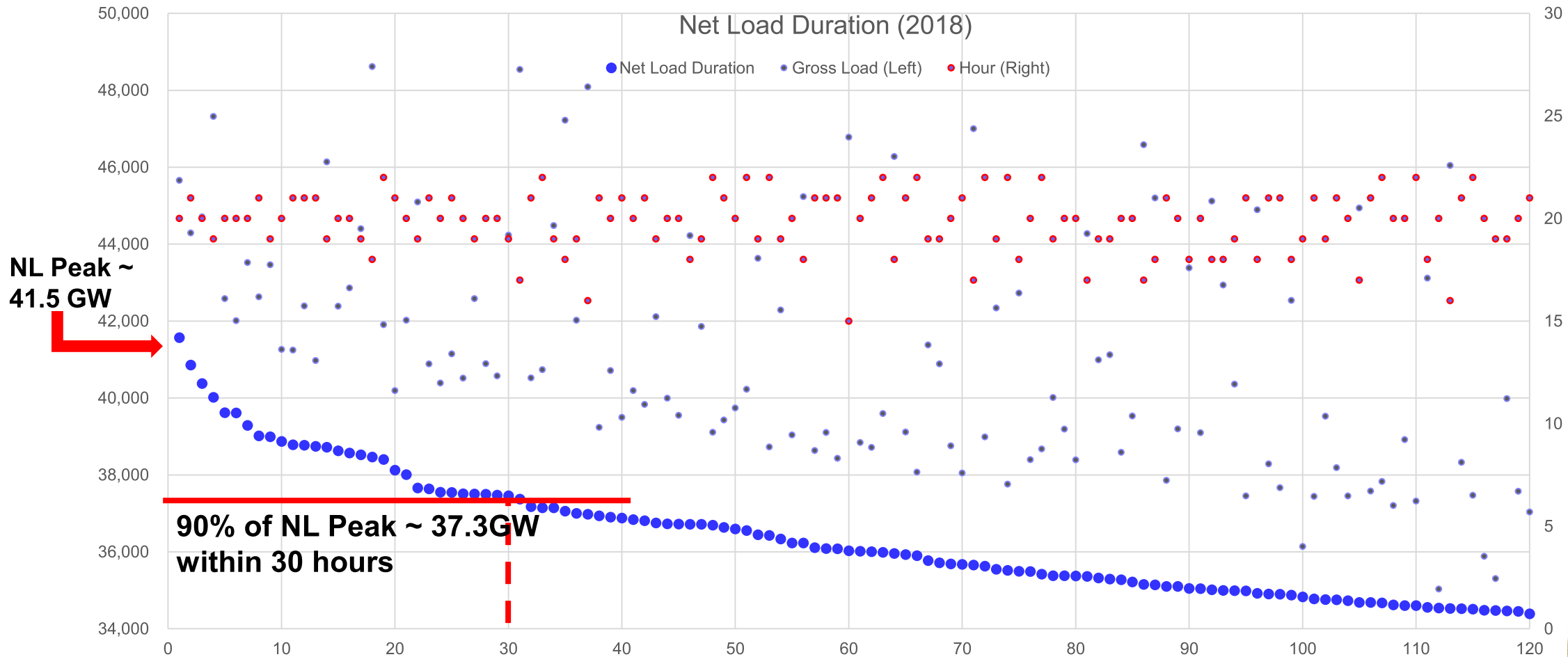
# DRAM Working Group: 2018 Peak Related Data

Energy Division  
July 26, 2019





# Net Load (NL) Duration – CAISO 2018 (Highest 120 hours)



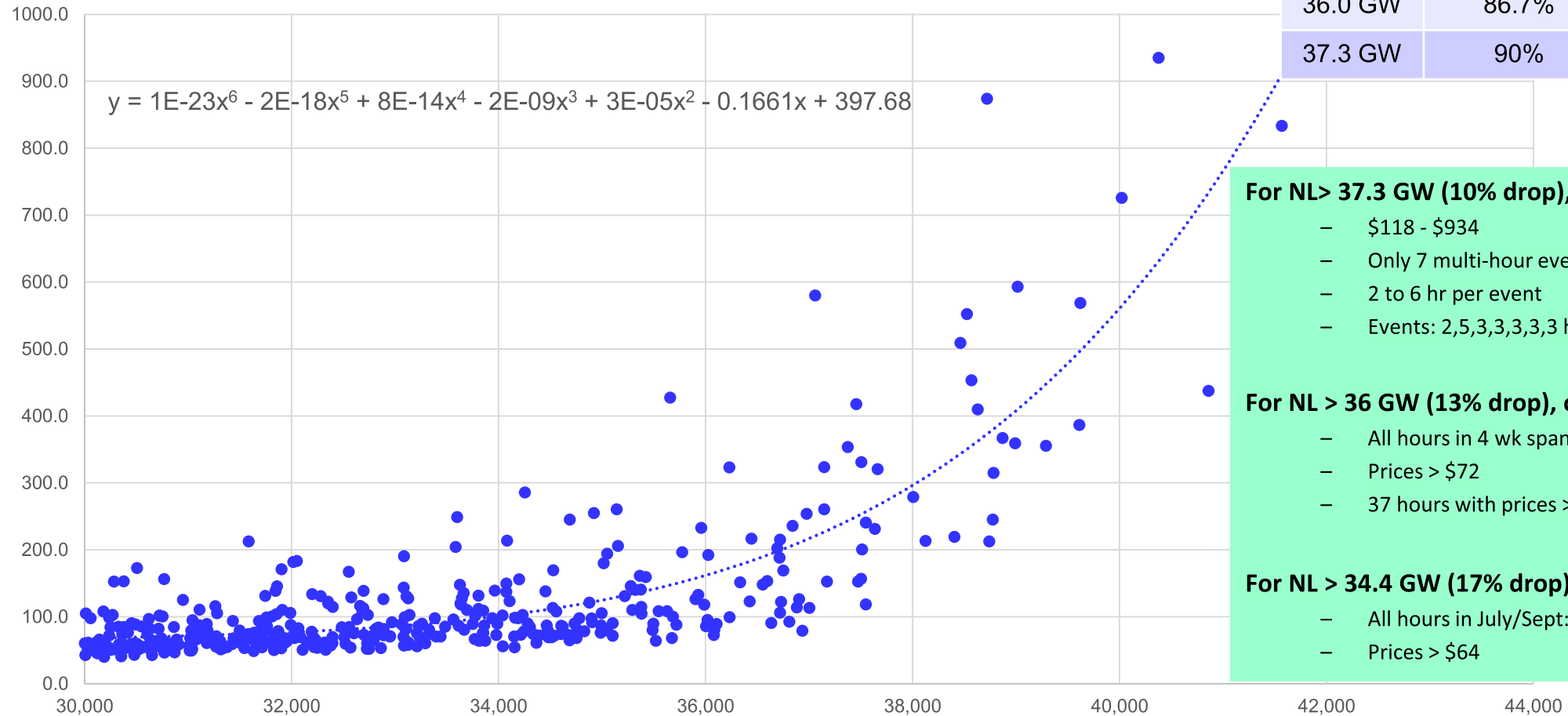




# CAISO DA Price (\$/MWh) vs. Net Load (MW) - 2018

> NL	% of Max NL	Correlation
Min NL	16.7%	63.9%
30.0 GW	72.3%	67.5%
34.4 GW	82.9%	75.0%
36.0 GW	86.7%	<b>77.2%</b>
37.3 GW	90%	68.4%

DAM Price vs. Net Load (2018)



**For NL > 37.3 GW (10% drop), only 30 hours**

- \$118 - \$934
- Only 7 multi-hour events w/ 22 hours
- 2 to 6 hr per event
- Events: 2,5,3,3,3,3,3 hour duration

**For NL > 36 GW (13% drop), only 60 hours**

- All hours in 4 wk span: 7/6 to 8/10
- Prices > \$72
- 37 hours with prices >\$200

**For NL > 34.4 GW (17% drop), only 120 hours**

- All hours in July/Sept: 7/6 to 9/27
- Prices > \$64

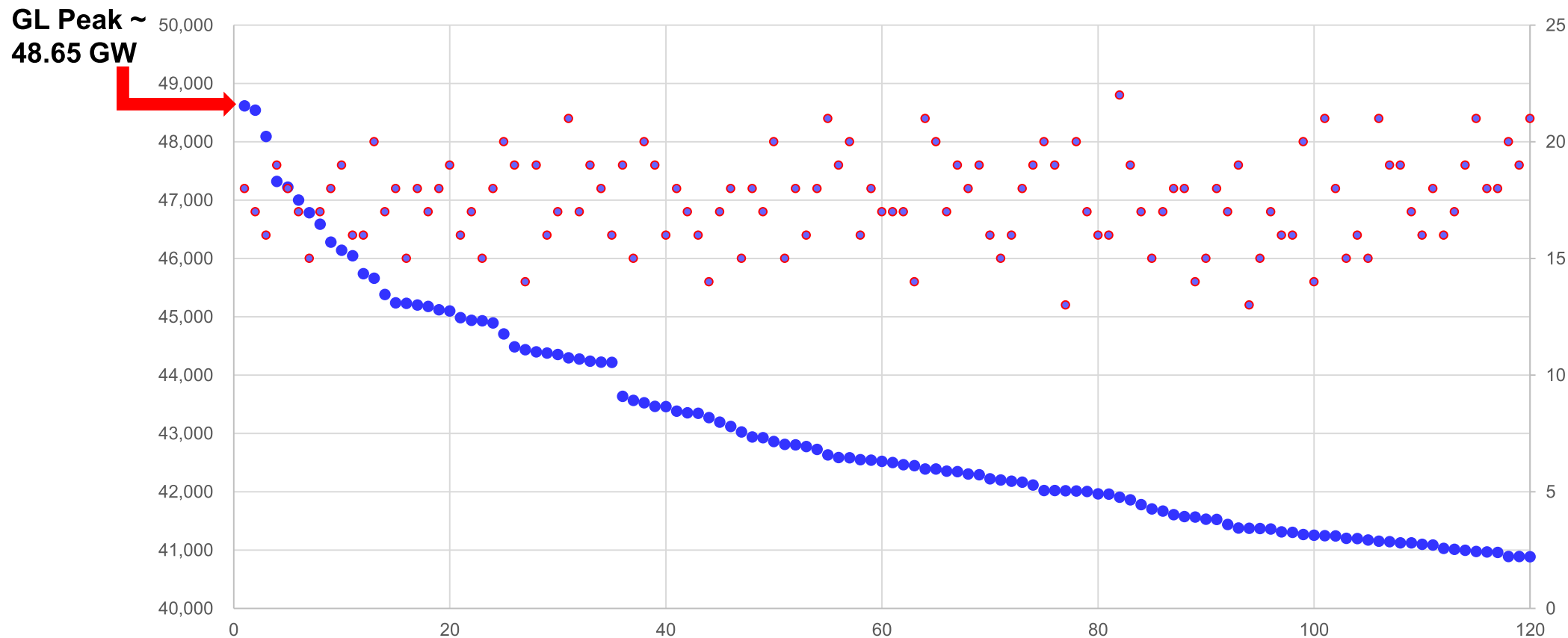




# Gross Load (NL) Duration – CAISO 2018 (Highest 120 hours)

Gross Load (GL) Duration (2018)

● Gross Load ● Hour (Right)





# CAISO DA Price (\$/MWh) vs. Gross Load (MW) - 2018

