Multi-Year Resource Adequacy Requirements/Central Buyer Local Capacity Procurement/RA Reform

RA Workshop

February 22, 2018

WebEx and Teleconference Info

Call in info: Phone Number: 866-811-4174, Participant Passcode: 4390072#

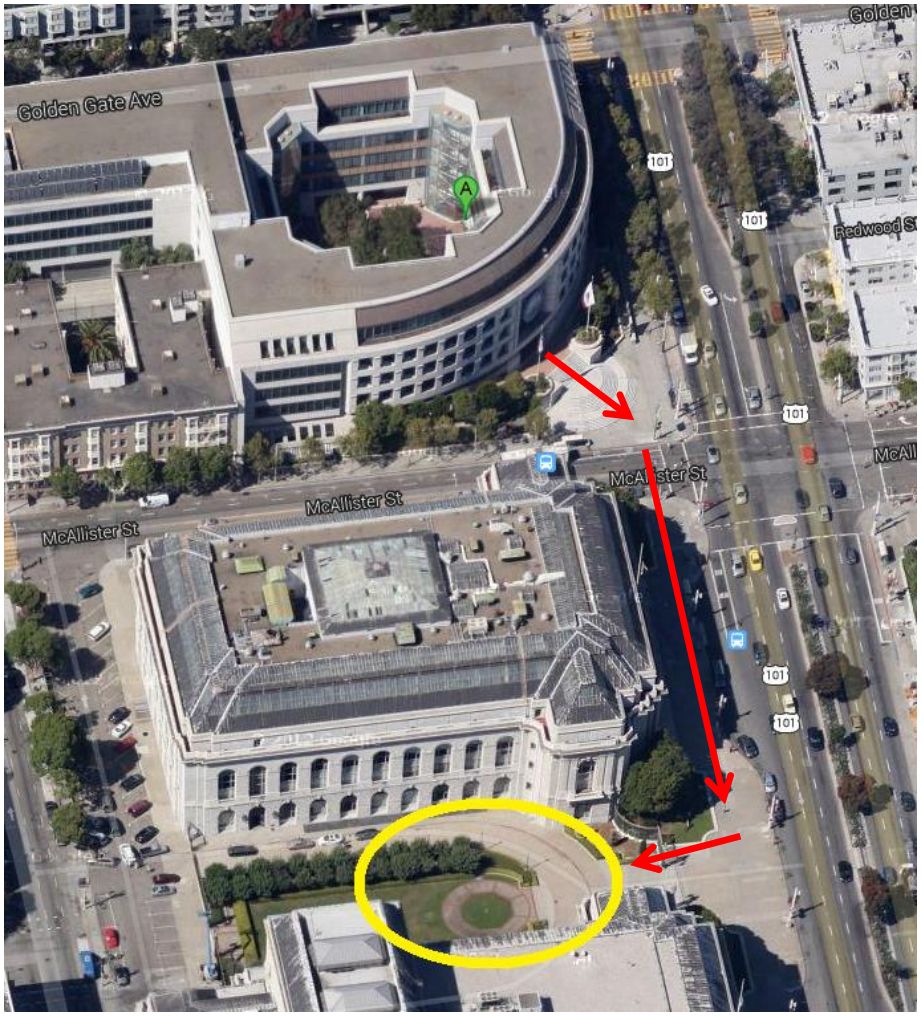
WebEx:
https://centurylinkconferencing.webex.com/centurylinkconferencing/j.php?MTID=m553919a50f6221e9a23767755538a762
Meeting number: 714 723 963 , Meeting password: !Energy1

Note: All phones will be in listen only mode. Please raise your hand through WebEx if you have a question or comment.

Restrooms & Evacuation Procedure

Restrooms are out the hearing room doors and down the far end of the hallway.

In the event of an emergency evacuation, please cross McAllister Street, and gather in the Opera House courtyard down Van Ness, across from City Hall.



Workshop Purpose and Goals:

- **The overarching goal of this workshop is to provide parties with greater clarity and understanding of the Phase 1 proposals.**
- **This workshop provides an opportunity for parties to**
  (1) address concerns and seek clarifications
  (2) provide additional analysis that may help others to better understand proposals.

  The intent is to encourage discussion and collaboration leading to comments which are due on March 7, 2018.

Agenda

10:00 - 10:10 am	**Introduction & Ground Rules, Review Agenda and Goals**	*Energy Division*
10:10 - 10:15 am	**Opening Comments**	*Commissioner Randolph*
10:15 am - 12:00 pm	**Multi-year Requirement/Centralized Local Capacity Procurement/RA Reform**	*Energy Division* *ORA*
12:00 - 1:00 pm	**Lunch**	
1:00 - 3:45 pm	**Multi-year/Local/Reform, cont.**	*PG&E* *Joint CCAs* *AReM* *IEP* *WPTF* *Middle River*
3:45 - 4:00 pm	**Wrap up, Next Steps**	*Energy Division*

Current Trends in California's Resource Adequacy Program

Staff Proposal (Working Draft)

- **Issue Overview and Purpose of the Paper/Proposal**
- **History**
  - Legislation
  - RA program
  - Multi-year
  - Central procurement (CAM, RMR, CPM, DR)
- **Results of Contract Data Analysis**
- **Emerging Issues**
  - Less forward procurement
  - Growth in out of market procurement
  - Growth in CCA formation
  - Trends in Local Procurement by LSE Category
- **Proposed Solutions**

Issue Overview and Purpose of the Paper/Proposal

Issue Overview and Purpose of the Paper/Proposal (cont.)

- **Significant structural changes and emerging issues**
  - Integrating greater numbers of intermittent renewable resources
  - Retiring or repowering significant amount of resources that utilize Once Through Cooling (OTC) technology
  - Growing number of conventional generators that have/will surpass their design life
  - Rapid Community Choice Aggregator (CCA) expansion
  - Recent increase in CAISO backstop procurement
  - Year ahead local deficiencies waivers filed

Issue Overview and Purpose of the Paper/Proposal

- **January 18, 2018 Scoping Memo (R.17-09-020) scopes Track 1 to include "Top priority modifications to the RA program" which included:**

  RA program reforms necessary to maintain reliability while reducing potentially costly backstop procurement. These may be addressed via staff and party proposals, and may include central buyers, a multi-year procurement framework for Local RA (and associated cost allocation), as well as other proposals to address out-of-market procurement and increase transparency;

- **Decision (D).17-06-027 at p.18:**

  In addition, the Commission's Energy Division is currently authorized to: "...gather and disseminate information regarding expected electric resource availability and the forward contracting of such resources, and make such information available to the public." (D.16-01-033 at 1 and 9.) Energy Division has already issued two such reports, and we encourage continued monitoring and reporting on this issue.

History - Legislation, RA Program, Multi-Year, & Centralized Procurement

Legislation History

- **Assembly Bill (AB) 1890 (Brulte, 1996**) – Deregulation was passed with the purpose of reducing electricity rates, created the CAISO and the Power Exchange, IOUs were forced to sell off most of their generation fleet. Customer choice was opened.
- **AB 1X-1 (Keeley, 2001)** – Authorized the Department of Water Resources to enter power purchase contracts with suppliers for the purpose of selling electric to utility retail customers.
- **AB 57 (Write, 2002)** – Established a regulatory framework that required the three large IOUs to resume full procurement responsibilities, and to file procurement plans with the Commission that included assessments of portfolio price risk, existing and proposed contracts, open positions to be served by the spot market transactions, ext. The framework also included an expedited review process and timely cost recovery.
- **SB 380 (Nunez, 2005)** – Added PUC Section 380 with requires the Commission in consultation with the CAISO to establish RA requirements for all LSEs.

Public Utilities Code 380 (a),(h), and (i)

(a) The Commission in consultation with the CAISO shall establish RA requirements for all LSEs.

(h) In establishing these requirements the commission shall determine and authorize the most efficient and equitable means for achieving all the following:

1. Meeting the objectives of this section
2. Ensuring that investment is made in new generating capacity
3. Ensuring that existing generating capacity that is economic is retained
4. Ensuring that the cost of generating capacity and demand response is allocated equitably
5. Ensuring that community choice aggregators can determine the generating resources used to serve their customers
6. Ensuring that investments are made in new and existing demand response resources that are cost effective and help to achieve electrical grid reliability and the states goals for reducing emissions of greenhouse gases.

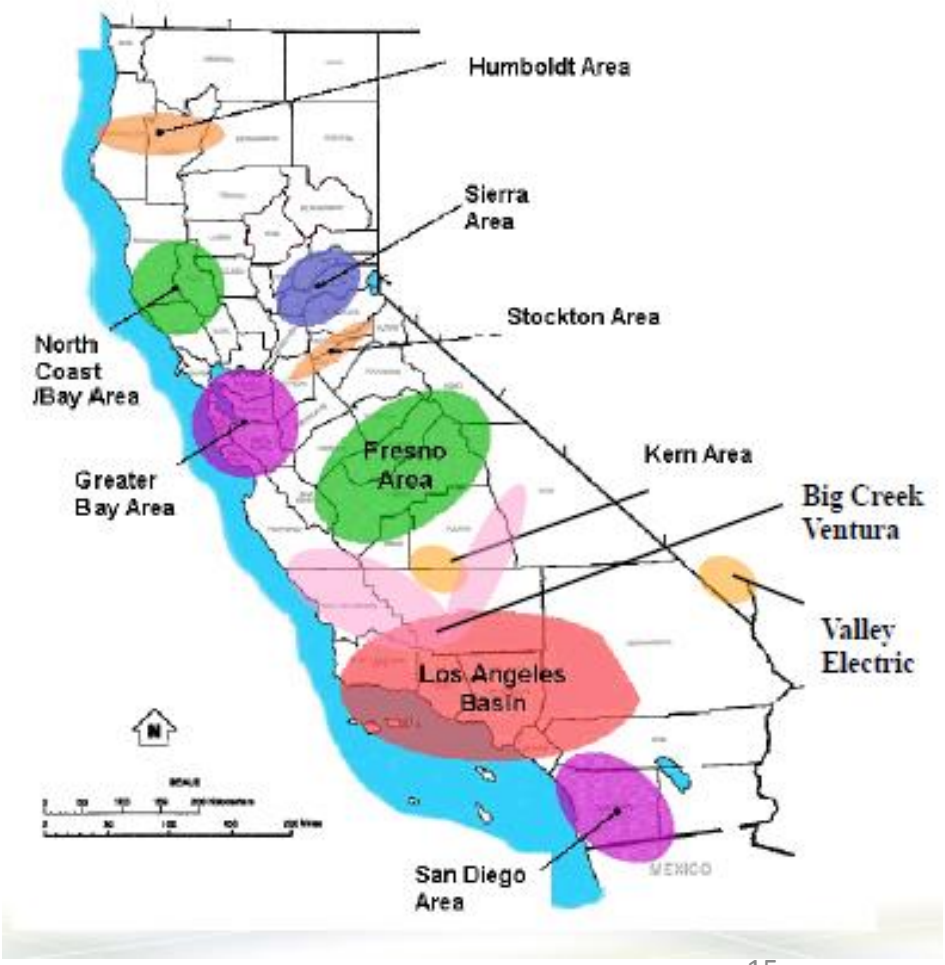
(i) In making the determination pursuant to subdivision (h), the commission may consider a centralized resource adequacy mechanism among other options

History of the RA Program

History - Resource Adequacy (RA) Program

- **The initial program implemented in 2006 (system)**
- **Local requirements added in 2007**
- **Flexible capacity requirements added in 2015**
- **Designed to ensure that CPUC-jurisdictional load serving entities (LSEs) have sufficient capacity to meet:**
  - **Peak load with a 15% planning reserve margin (PRM)**
  - **Local area reliability needs**
  - **Flexible ramping needs associated with renewable integration**
- **One-year forward requirement**

History- RA program
Local Capacity Requirements (LCR)



- CAISO performs an annual LCR study, based on a 1-in-10 weather year and a N-1-1 contingency
- Total of 45 sub local areas make up 10 Local areas.
- CPUC aggregates six local areas (Sierra, Fresno, Humboldt, North Coast, Stockton, and Kern) into one called "PG&E Other Areas" to address market power.
- The five local areas requirements (Bay Area, Other PG&E Areas, LA Basin, Big Creek-Ventura, and San Diego) are allocated based on CPUC-juridical load share in each TAC area. Annual compliance is based on these allocations
- Local true-up performed once mid-year. Incremental Local requirements are aggregated by TAC

History- RA program
Local Capacity Requirements (cont.)

- **CAISO validates annual and monthly LSE local requirements by TAC area (3 areas)**
- **CAISO bases annual local Capacity Procurement Mechanism (CPM) decisions and RMR need analysis on sub-local requirements/needs, as seen this year**

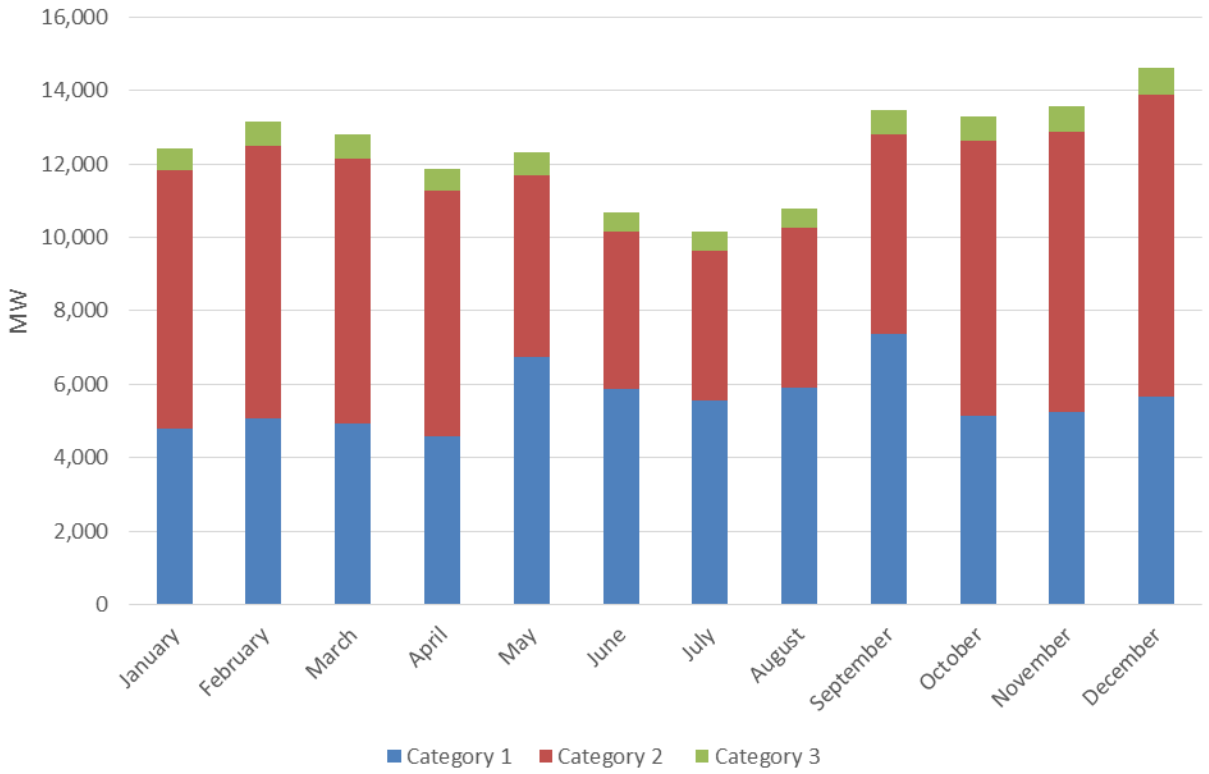
Local Areas	# of Sub-Areas	2018 Resources Total (MW)	2018 LCR Need Total (MW)	2018 LCR Need/ Resource Total	2022 Resources Total (MW)	2022 LCR Need Total (MW)	2022 LCR Need/ Resource Total
Humboldt	1	210	169	**80%**	210	169	**80%**
North Coast/North Bay	3	869	634	**73%**	869	440	**51%**
Sierra	8	2,125	2,113	**99%**	2,125	1,967	**93%**
Stockton	4	605	719	**119%**	605	702	**116%**
Greater Bay	6	7,103	5,160	**73%**	6,879	5,315	**77%**
Greater Fresno	6	3,579	2,081	**58%**	3,579	1,860	**52%**
Kern	2	566	453	**80%**	566	123	**22%**
LA Basin	3	10,735	7,525	**70%**	8,138	6,022	**74%**
Big Creek/Ventura	5	5,657	2,321	**41%**	3,860	2,597	**67%**
San Diego/Imperial Valley	7	4,915	4,032	**82%**	4,572	4,643	**102%**

History- RA program
Flexible Capacity Requirements

- **An "interim" flexible capacity framework was adopted in implemented in 2015**
  - Annually CAISO determines the quantity of economically dispatched resources necessary to meet largest monthly continuous 3-hour ramp
  - CPUC determines LSE requirement based on load-ratio
- **A "Flexible Resource" is defined by its ability to ramp and sustain energy output for 3 hours**
- **Interim was intended to be in place for only three years, however developing a durable product has proven to be challenging.**
- **FRACMOO 2 Initiative currently at the CAISO is looking at elements such as: shorter duration ramps, eligibility of imports, and the need for related market reforms.**

Flex RA Requirements

- **Where we are today:**



Multi-Year Framework History

Multi-Year RA Framework History

- **R.05-12-013 Track 2 considered multi-year RA procurement requirements and centralized auction mechanism administered by the ISO.**
  - D.10-06-018 determined that there were “significant reasons not to proceed with a multi-year procurement mandate” because new programs such as the RA program, the renewable portfolio standard, and the CAISO’s locational marginal pricing, “were expected to encourage new development.” (p. 34-35). This decision also determined the bilateral approach vs a centralized auction approach, best met the current RA program objectives.
- **Joint Reliability Plan agreed to by the CPUC and the CAISO Board of Governors, led to the Commission opening R.14-02-001. Three tracks included:**
  - Track 1- considered two and three-year RA requirements
  - Track 2- considered a long term joint reliability planning assessment with CAISO and the CEC
  - Track 3- considered CAISO development of a market-based backstop mechanisms to replace its Capacity Procurement Mechanism
-

Multi-Year RA Framework History (cont.)

- **In October 2014 a *Joint Reliability Plan Track 1 Staff Report* was issued, aimed at supporting the determining whether procurement policies should change in response to uncertainty around sufficiency of the present reliability framework**
- **Four Pivotal Issues Identified-**
  1. Whether the current reliability framework is sufficient to ensure reliability
  2. Whether the availability of flex capacity at that time was uncertain
  3. Whether the commission should be concerned about the potential for inefficient resource retirements
  4. Whether the observable pattern of LSE forward procurement justified concern
- **The report analyzed contracts executed as of May 2014, covering the January 2014 through December 2024 timeframe. <u>The analysis indicated that system Aug. RARs was nearly 95 % contracted for August 2015.</u>**
- **D.16-01-033 closed Track 1 and track 2 stating "the RA proceeding has the permanent flexible capacity scoped, and that effort needs to be finalized before a two or three year RA requirement can be determined" (p. 6)**

Multi-Year RA Framework History (cont.)

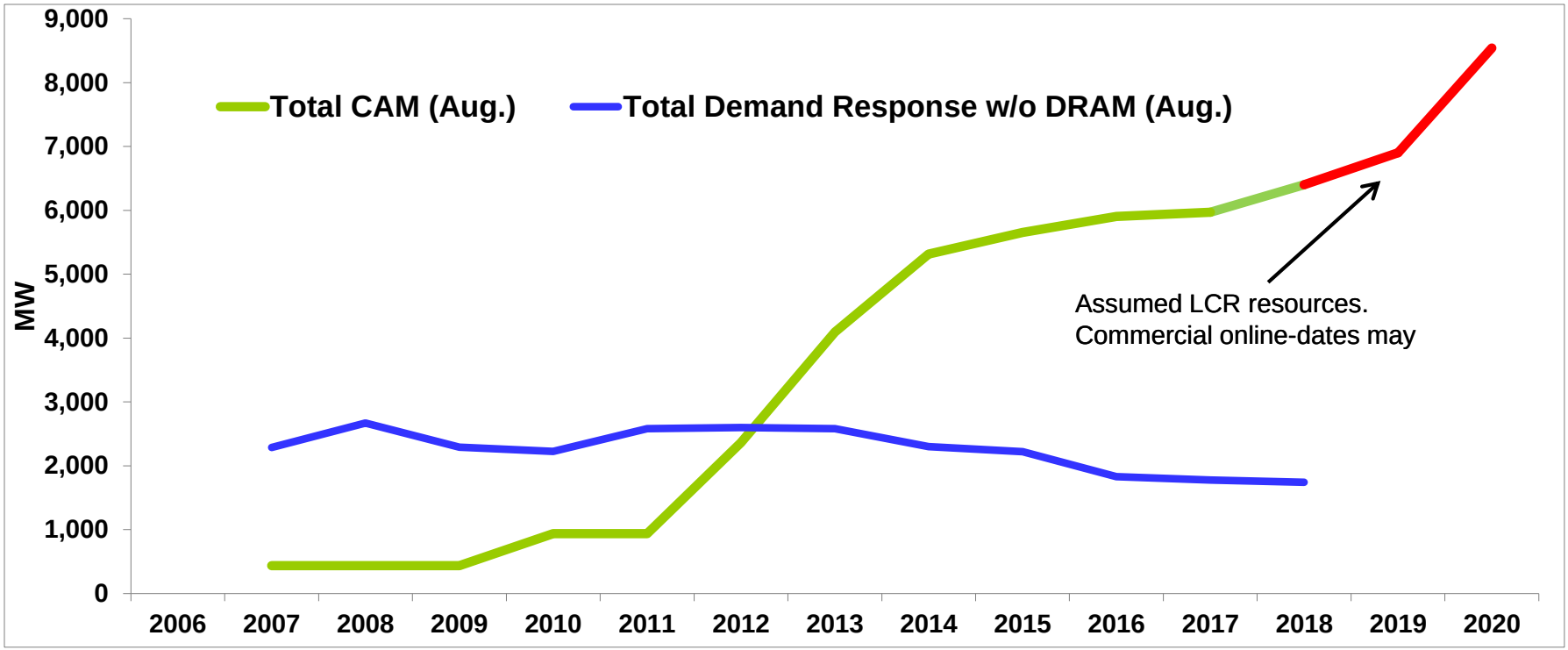
- **R.14-10-010, Scoping Ruling granted a motion by the Independent Energy Producer (IEP) to consider multi-year RA requirements and directed Energy Division Staff to issue a report addressing the status of forward capacity procurement to help inform the parties and record of the proceeding.**
- **Staff report issued on December 22, 2016- An Assessment of Capacity Under Contract. The report served as a follow up to the 2014 JRP Track 1 report. The report concluded that the analysis demonstrated that forward contracting practices had remained stable since the prior report.**
- **D.17-06-027 opted to not adopt multi-year due in part because it did not adopt a durable flexible framework**

History – Central Procurement

History – Central Procurement
Cost Allocation Mechanism (CAM), Combined Heat and Power (CHP), and Demand Response

- **CAM was adopted in D.06-07-029 to support the development of new generation resources to ensure electric reliability. At the time both IOUs and ESPs were unwilling to sign long term contracts because they were too risky.**
- **The Commission designated the IOUs to procure new generation through long-term power purchase agreements, and the costs and benefits of the centrally procured resource to be shared by all benefiting customers in the IOUs service territory.**
- **D.10-12-035 adopted the Qualifying Facility settlement agreement that requires the IOUs to procure a minimum of 3000 MW of CHP over the program period. It also established a mechanism nearly identical to CAM.**
- **CAM treatment has also been extended to storage resources that the Commission deemed necessary to mitigate the Aliso Canyon Gas shortage reliability issue.**
- **Demand response resources also go through a similar cost allocation mechanism, where the utility passes costs through a distribution charge and the RA benefits are allocated annually based on load ratio shares.**

Central Procurement History (CAM and DR)

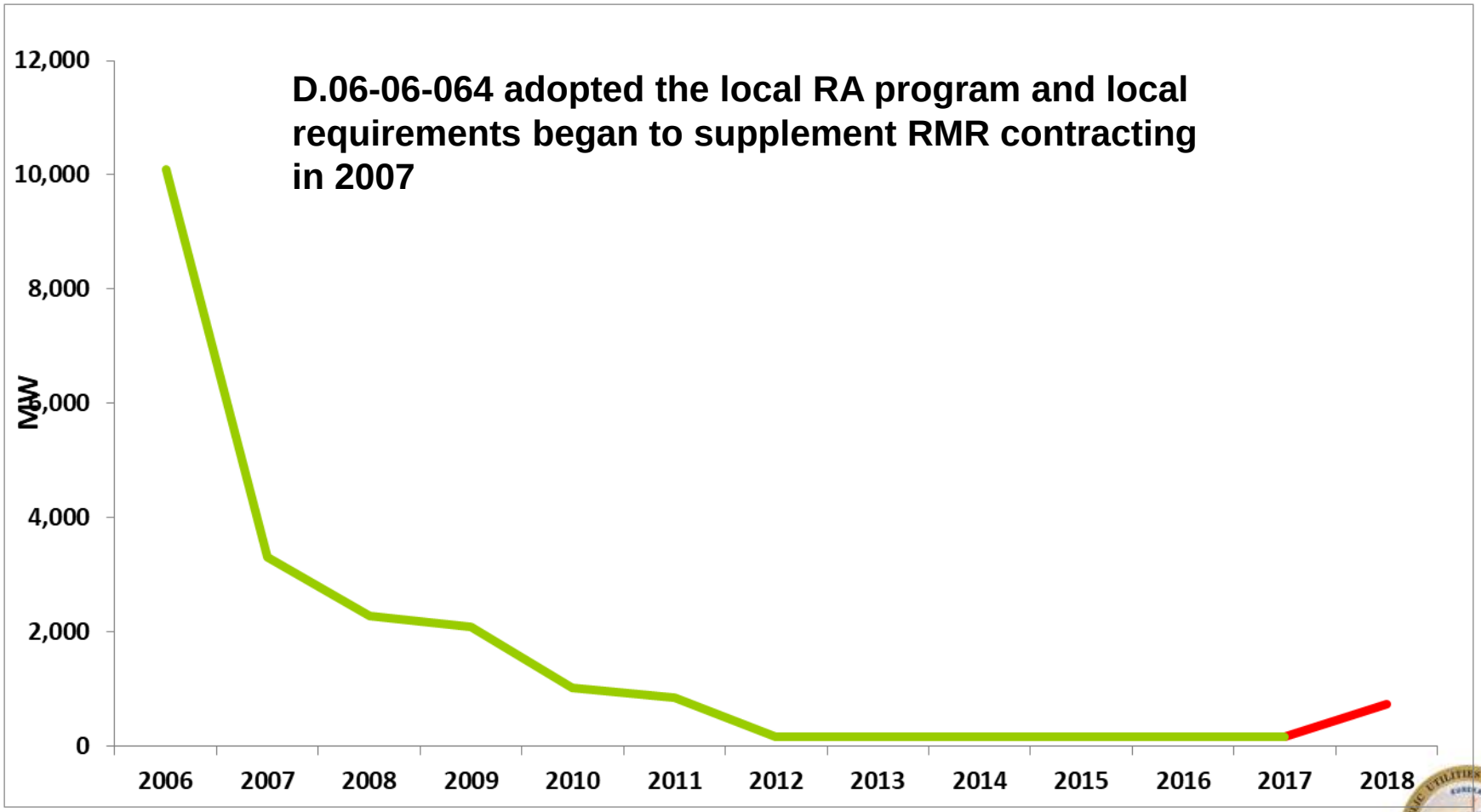


- **~6,400 MW of CAM resources will count toward Aug. 2018 System obligations. This will increase to over 8,500 MW for August 2020.**
- **Recent Growth in CAM is connected to the replacement of conventional generation that will retire due to OTC policy (~7,100 MW).**
- **DR programs account for more than 1,700 MW of system August 2018 requirements. (not including load modifying DR)**

Central Procurement History
Reliability Must Run (RMR)

- **Prior to implementation of the Local RA framework the CAISO relied on the LARs process to designate resources as RMR for reliability- this process included a competitive solicitation which considered transmission and preferred alternatives.**
- **RMR resources are compensated based on their cost of service price approved by the Federal Energy Regulatory Commission (FERC). These costs were considered expensive.**
- **Concerns about CAISO's reliance on RMR contracts led to the development of the current Local RA framework- The Commission determined that the benefits Local RARs would outweigh the costs**

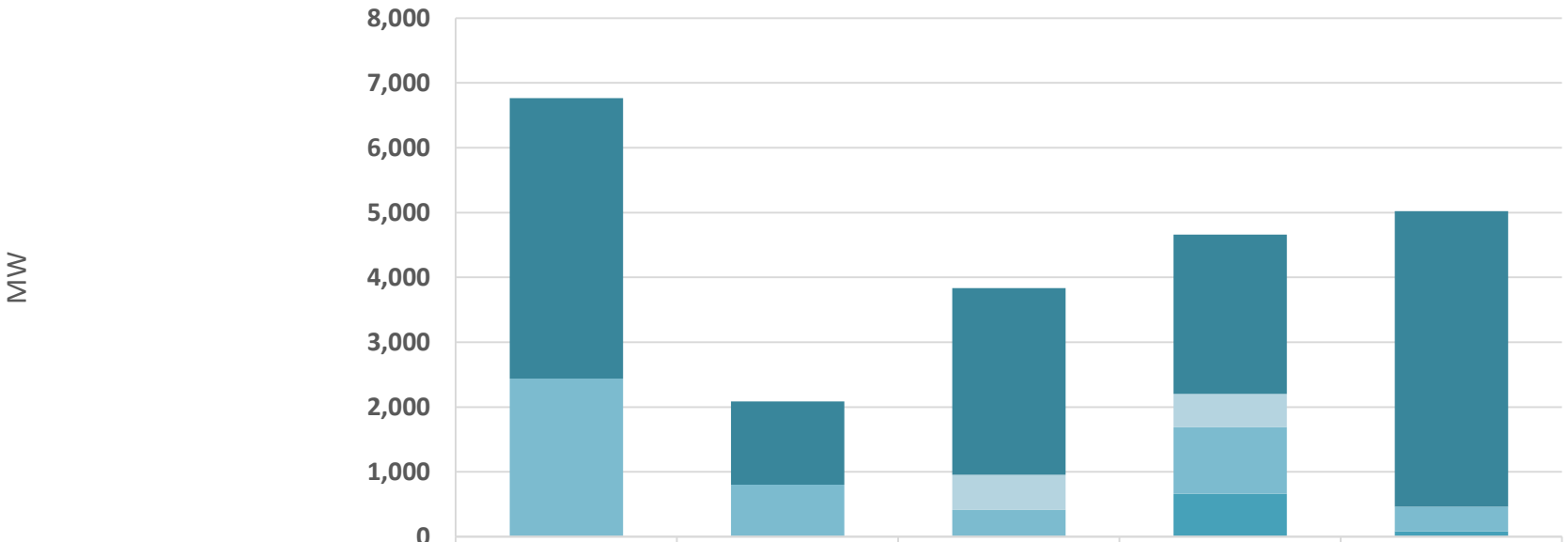
Central Procurement History
RMR Trends



Central Procurement History
Capacity Procurement Mechanism (CPM)

- **Under CAISO's current CPM tariff authority it can contract with resources to provide capacity services**
- **Beginning in Nov. 2016, CAISO transitioned from a administrative rate to a unit specific rate based on a competitive bidding process subject to a soft offer cap of $75.68.kW year ($6.31 kW/month)**
- **2018 marks the first year CAISO has used its CPM authority for an annual local RA deficiency.**

2018 Centralized Local Procurement stacked against Local RA Requirements



	LA Basin	Big Creek-Ventura	San Diego-IV	Bay Area	Other PG&E Areas
Remaing Local Requirement	4,329	1,285	2,877	2,457	4,562
CPM			545	510	
CAM (includes LCR preferred credit)	2,438	802	411	1,030	379
RMR				664	82

Multi-Year Contract Analysis

Analysis: History and Purpose

- **2014**: *Joint Reliability Plan Track 1 Staff Report*
  - R.14-02-001
- **2016**: *An Assessment of Capacity Under Contract*
  - R.14-10-010
- **2018**: *Current Trends in California's RA Program*
  - R.17-09-020
  - Examine forward contracting activity among LSEs, particularly for system and local

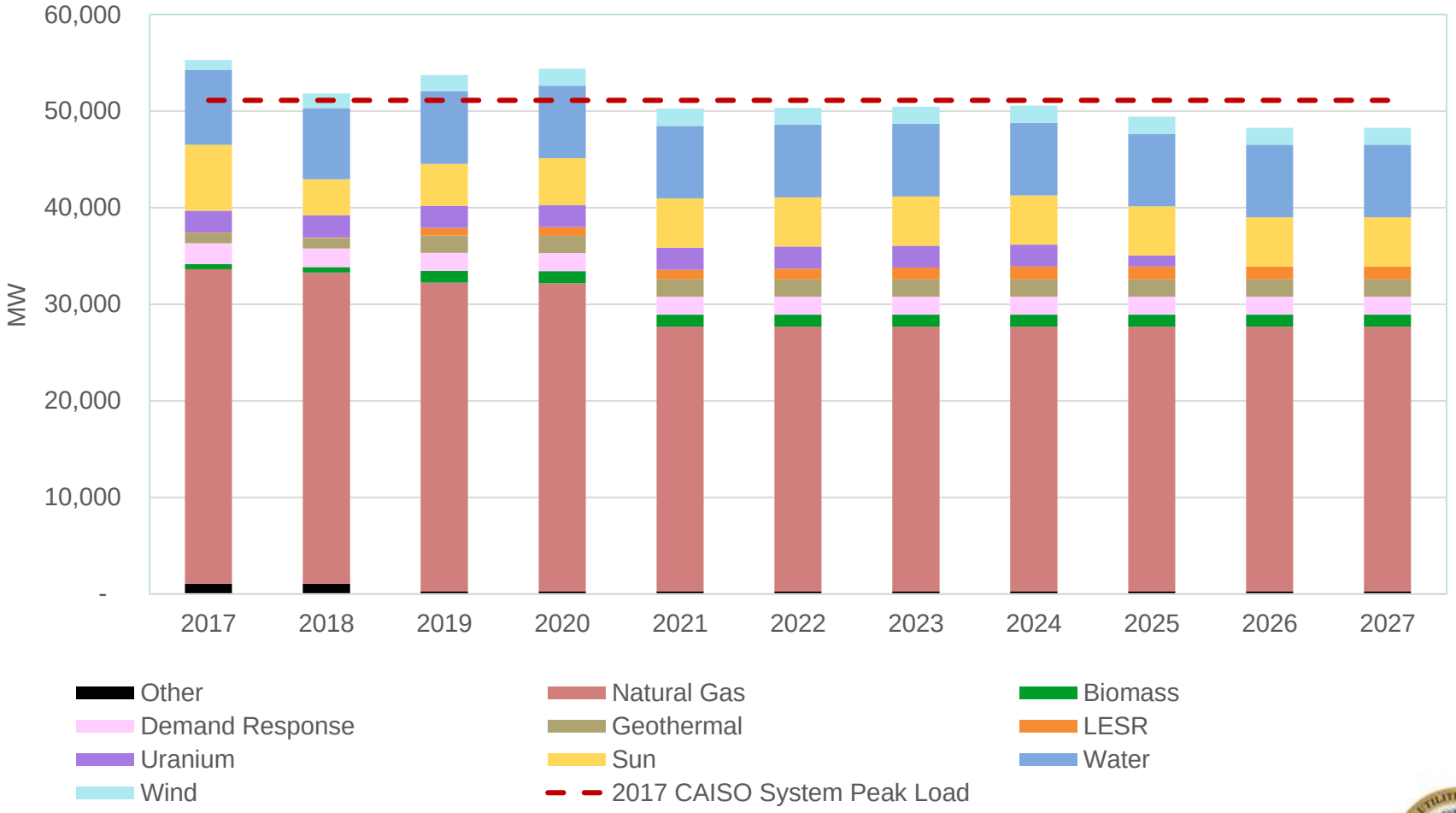
Comments on 2016 Report

- Summary information on respondents, contracts
- Apparent drop in forward procurement since 2014 report
- Effects of ELCC
- Effects of CCA load growth
- Risk of retirement
- Local procurement by resource area
- Sensitivity analysis / including a range of outcomes
- Components of flex contracts

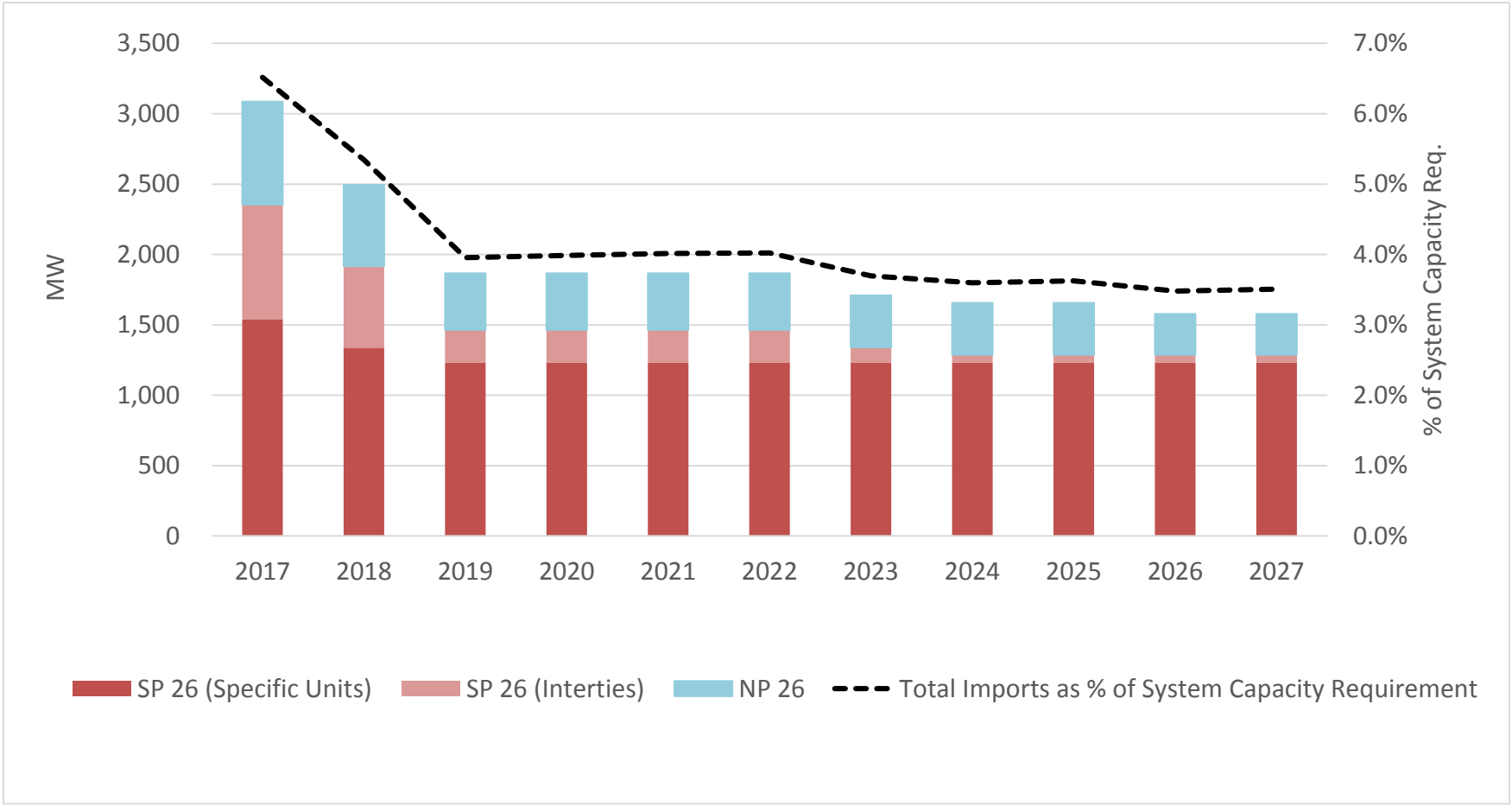
Data Overview

- Mar. 1 – Apr. 3, 2017
- System, local, flex contracts covering Jan. 2017 – Dec. 2027
- 20 LSE respondents (24 sent request)
  - 97% of August 2017 system requirement
- Contracted capacity: 1,039 unique contracts, plus supply-side DR and unreported behind-the-meter LCRs
  - 1,010 reported; 29 added (DRAM)
- Available capacity: NQC lists, RESOLVE baseline
  - Factors in OTC compliance and replacements, authorized procurement
- Detailed methodology in Appendix 2
- All numbers below are for August

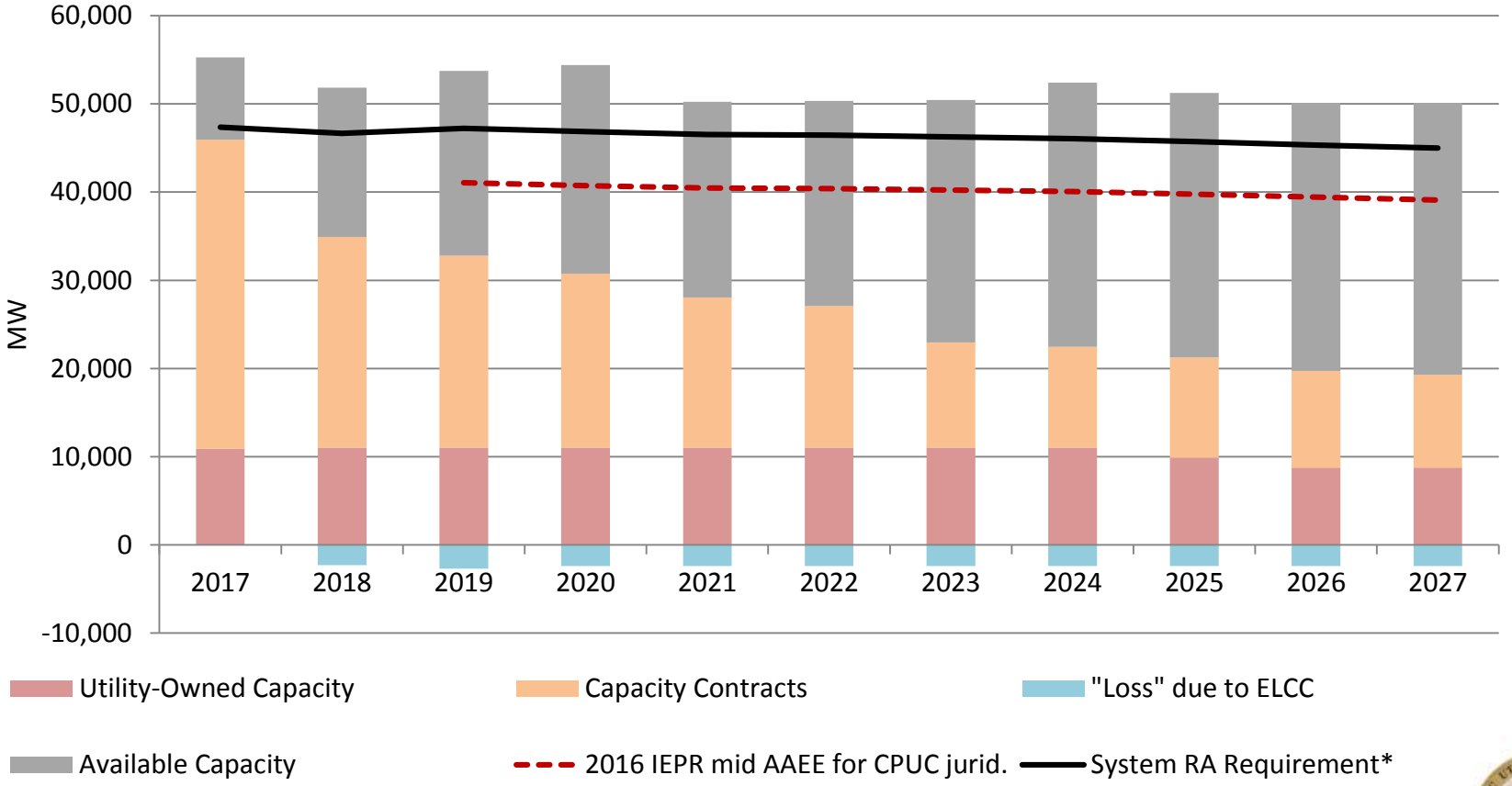
System Capacity by Fuel Type



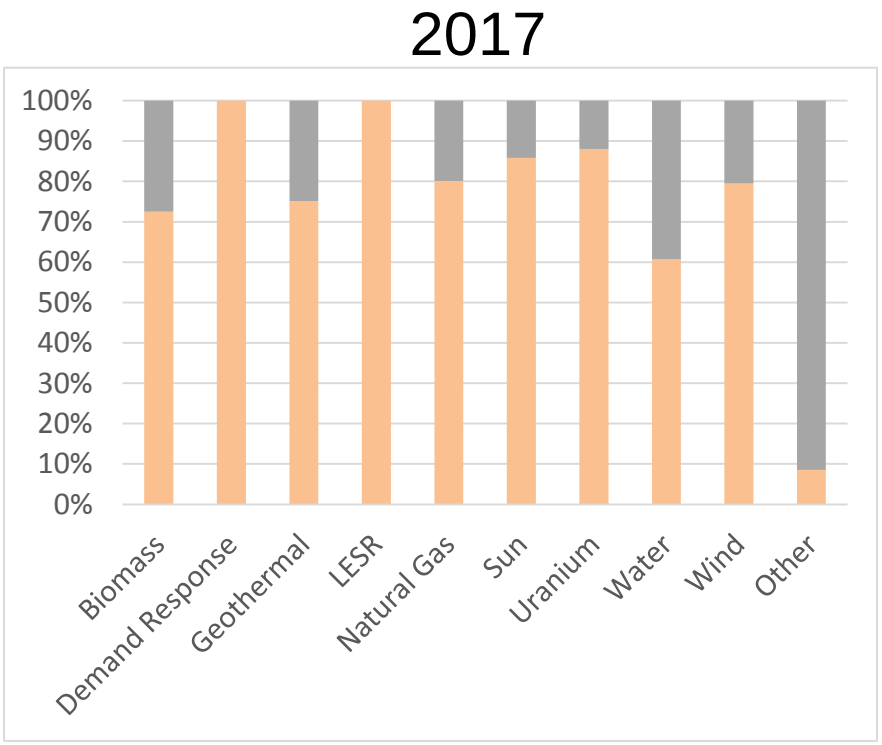
System Capacity: Imports

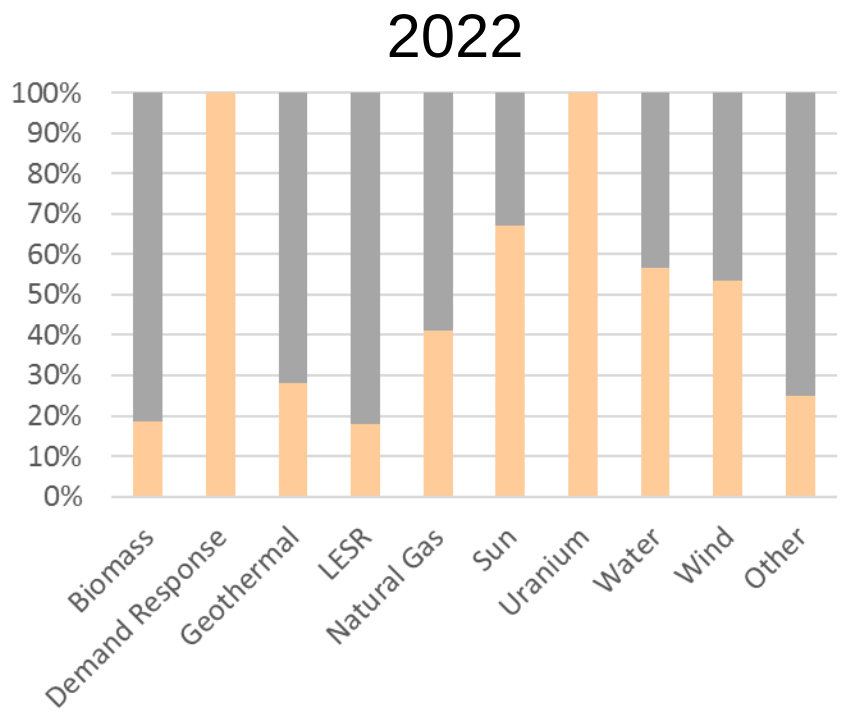


System Capacity: Available vs. Contracted



System Capacity by Fuel Type: Available vs. Contracted



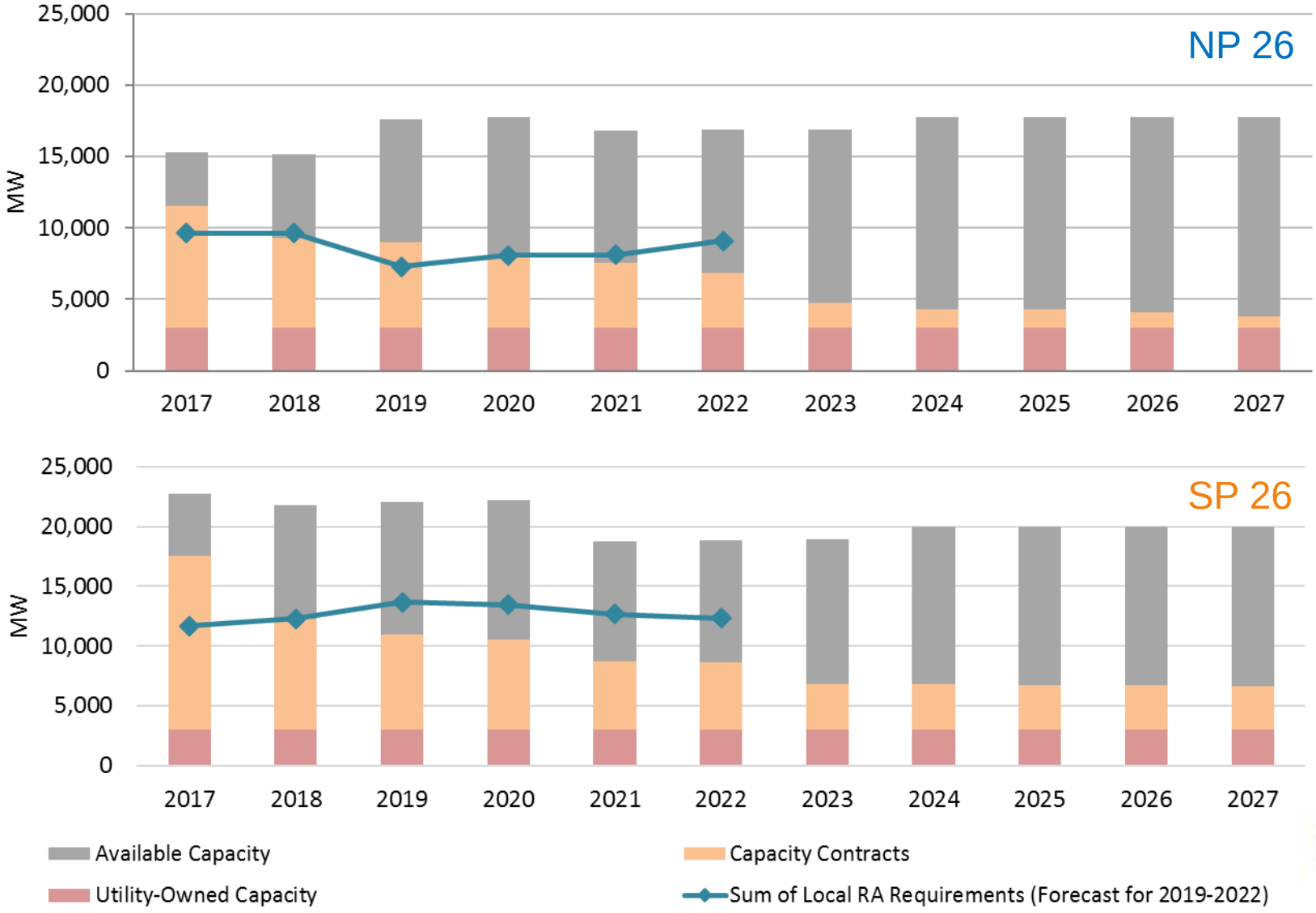


Key: Available Under Contract

System Capacity: Conclusions

- System capacity not significantly “overbuilt” in California
  - Imports: ~8% of requirement in 2017 (actual), ~3% of requirement in 2027 (as of April 2017)
- Requirement ~75% contracted one year out
  - Decrease compared to 2014 report, even when adjusting for ELCC effects
- Solar and wind: ~15% of capacity in 2022, over 50% contracted
- Natural gas: ~55% of capacity in 2022, 41% contracted

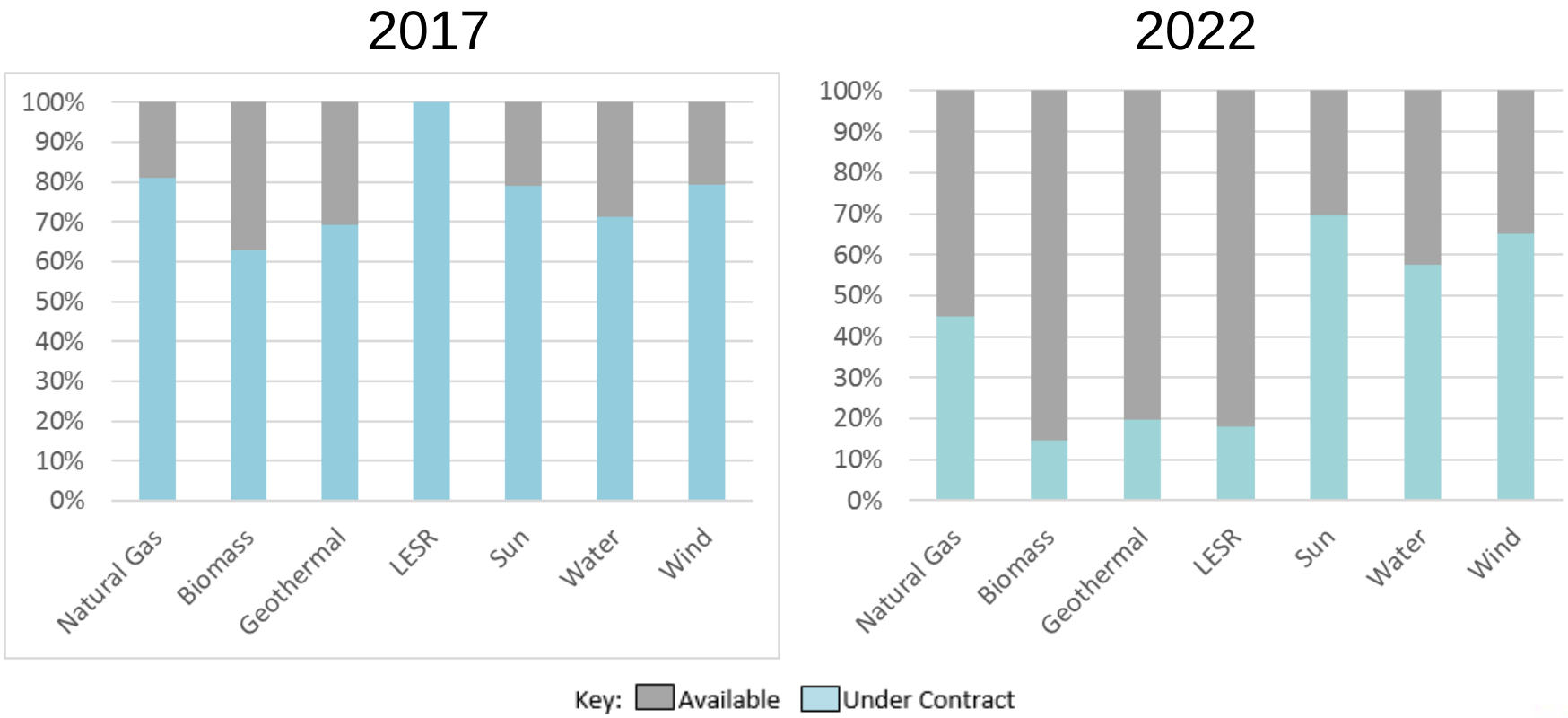
Local Capacity: Available vs. Contracted



Sub-Local Capacity and Requirements

		2018 LCR Need Based on Category C				2022 LCR Need Based on Category C			
Local Areas	Sub-Areas	Resources Total (MW)	LCR Need Total (MW)	LCR Need/ Resource Total	Load Total (MW)	Resources Total (MW)	LCR Need Total (MW)	LCR Need/ Resource Total	Load Total (MW)
Sierra		2,125	2,113	99%	1,818	2,125	1,967	93%	1,814
	Placerville	30	78	257%		30	0	0%	
	Placer	108	85	79%		108	77	71%	
	Pease	105	101	96%		105	86	82%	
	Bogue	92	0	0%		92	0	0%	
	South of Rio Oso	740	787	106%		740	770	104%	
	Drum-Rio Oso	674	575	85%		674	0	0%	
	South of Palermo	1,429	1,625	114%		1,429	0	0%	
	South of Table Mountain	2,125	1,826	86%		2,125	1,905	90%	
San Diego/Imperial Valley		4,915	4,032	82%	***4,924***	4,572	4,643	102%	***5,119***
	El Cajon	101	75	74%		101	40	40%	
	Mission	4	28	757%		4	0	0%	
	Esco	163	8	5%		163	30	18%	
	Pala	105	23	22%		105	28	27%	
	Border	180	50	28%		180	62	35%	
	Miramar	96	0	0%		96	0	0%	
	San Diego	3,198	2,157	67%		2,840	2,502	88%	

Local Capacity by Fuel Type: Available vs. Contracted



Local Capacity: Conclusions

- Requirement ~100% contracted one year out
  - 70% - 75% five years out
- Local “overbuild” does not mean requirements are met
  - Sub-local requirements drive local requirements
- Same trends for renewables, natural gas as with system capacity

Emerging Issues

Emerging Issues Overview

- **Less Forward Procurement**
- **Local Reliability Concerns (deficiency waivers filed for 2018 YA RAR showings)**
- **Growth in out of market procurement (Backstop procurement)**
- **Community Choice Aggregator (CCA) Growth**

Emerging Issues- Less Forward Procurement

- **The 2014 *JRP track 1 staff report* (May 2014 snapshot) indicated that 95% of August 2015 system requirements had been procured and 85% of August 2016 system requirements.**
- **The recent contract analysis (April 2017 snapshot) indicates that 75% of August 2018 system requirements had been procured and 69% of Aug. 2019 system requirements. This include the effects of ELCC which is ~5 % points.**
- **Staff concludes that there has been a ~15% decrease in forward procurement activity since 2014 excluding the effects of ELCC.**

Emerging Issues- Local Reliability Concerns

- **D.06-06-064 adopted a local waiver process to mitigate market power (the trigger price is $40 kW/year)**
- **Prior to the 2018 year ahead RA showings LSE had only ever filed two local waivers**
- **Of the 27 LSEs that filed 2018 year RA filings, eleven filed waiver requests to cover local deficiencies totaling 270 MW**

Emerging Issues- Growth in Backstop Procurement
(Costs of backstop compared to bilateral contracts)

CPM Unit designated for 2018	MW	CPM Price ($kW-month)
Moss Landing Unit 2	510	$6.19 for 490 MW $6.31 for 20 MW
Encina Unit 4	272	$6.31
Encina Unit 5	273	$6.31

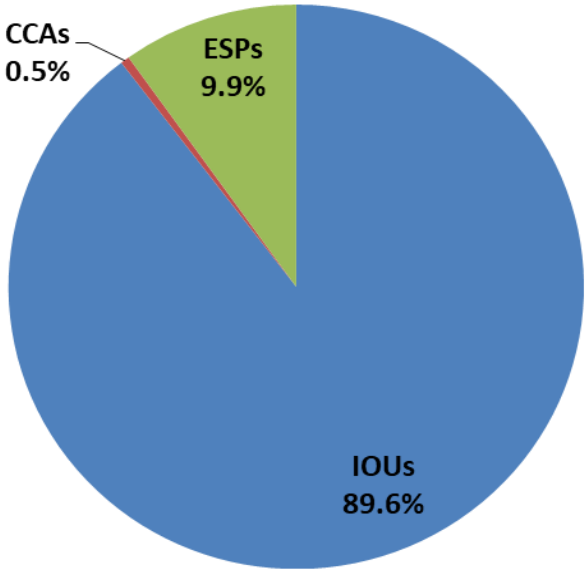
RMR Unit designated for 2018	August 2018 NQC value (MW)	Potential Cost of RMR contract ($kW-month)
Metcalf	580	$10.41
Yuba City	47.6	$7.81
Feather River	47.6	$7.76

Capacity Prices by Local Area, 2016-2020	85% of MW at or below ($/kW-month)
LA Basin	$3.65
Big Creek/Ventura	$4.34
Bay Area	$3.00
Other PG&E Area	$2.50
San Diego-IV	$4.33
CAISO System	$3.00

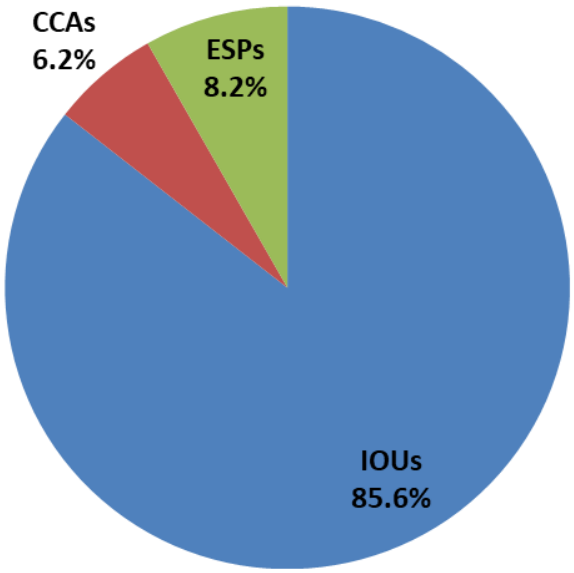
Emerging Issues- Growth in CCAs

(CPUC Jurisdictional LSE Breakdown)

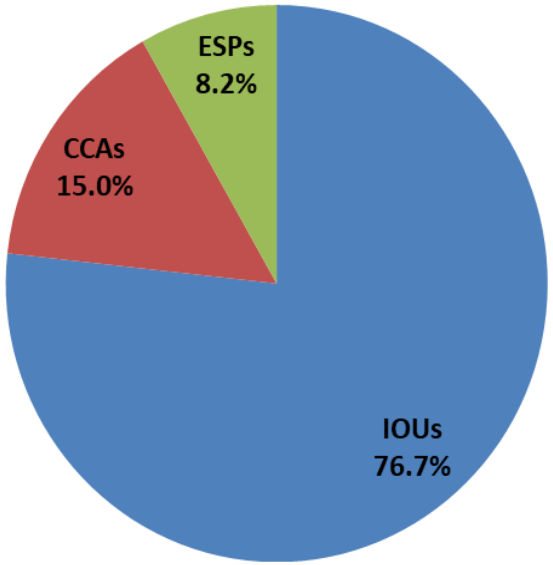
In 2008, there were a total of 15 LSEs serving load (3 IOUs, 12 ESPs). This number has climbed to 36 LSEs for the 2018 compliance year (39 LSEs if we include CCAs that filed implementation plans after Dec. 8th 2017).



Based on 2014 year ahead load forecasts (MWs) from the CEC



2018 CEC YA Load forecast



Potential 2018 based on YA forecast and Implementation plans (12-8-17)

Emerging Issues-Trends in Local Procurement by LSE type

- **Percentage of total local RA requirements under contract by LSE type:**

	2017	2018	2019	2020	2021	2022
IOU	124.27%	95.00%	94.79%	86.31%	78.22%	72.22%
CCA	3.39%	0.44%	1.08%	1.05%	1.33%	1.29%
ESP	7.62%	0.11%	0.12%	0.15%	0.16%	0.15%

- **CCA and ESP procurement for 2017 roughly matches the load ratio shares of each LSE type for that period**
- **There is significant over procurement by IOUs in 2017 (partly due to the need for system capacity)**
- **Proportional drop in procurement one year out is greater for CCAs and ESPs than for IOUs**
- **This seems to suggest that CCAs and ESPs are engaging in a lower level of long term local procurement for their existing load.**

Proposed Solutions

Proposed Solutions
Integrated Resource Planning (IRP) Coordination

- **Any future multi-year RA framework will need to be coordinated with IRP planning efforts.**
- **Each LSE is required to plan in adherence with a system reference plan that guides procurement planning efforts necessary to achieve SB 350 GHG reduction goals.**
- **The IRP resolve model assumes all that the existing natural gas fleet will remain available through the modeling period. IRP Staff have identified that there is a need to refine this assumption in future IRP cycles.**
- **<u>IRP staff has proposed to work with CAISO to study options for ensuring the ongoing viability for renewable integration and RA/reliability purposes.</u>**

Proposed Solutions- Framework 1 vs Framework 2

Framework 1

- **100% Local RAR two year ahead**
- **80% Local RAR three to five years ahead**
- **Central buyer would be the distribution utility**

Framework 2

- **100% Local RAR two year ahead**
- **80% Local RAR three to five years ahead**
- **No central buyer (LSEs individual meet multi-year RARs)**

Proposed Solutions-
Key elements of Framework 1 and 2

- **CAISO study- conducts its current one year and five year LCR studies**
- **Local RA requirements are established**
- **List of available generation resources is published and includes overlapping policy valuations**
- **Compliance**
- **Market power mitigation**
- **Coordination with the current CPM/RMR stakeholder process**
- **Filing timeline**

Proposed Solutions Framework 1 and 2- Establishing Multi-Year Requirements

- **100% 2 year requirement based on CAISOs current year ahead LCR technical study**
- **80% minimum 3 to 5 year requirement based on CAISOs current long term LCR technical study**
  - Evaluate inputs and assumptions to ensure coordination with SB 350 goals.
  - Modify study timeframe to align with any future multi-year framework
  - Additionally demand side local reliability procurement and other behind the meter procurement in local areas needs to be tracked and accounted for in the CECs demand forecast.

Proposed Solutions Framework 1 and 2 – Establish a list of generating resources that needed to maintain reliability and support attainment of 2030 GHG goals

- **In the absence of a risk of retirement study produced as part of the IRP process, staff proposes that the CAISO in coordination with the CPUC and CEC, develop a list of local resources with flexible operating characteristics and other needed attributes be used in guiding multi-year resource procurement.**

2018 EFC List By Local Area compared to Local RA Requirements

Local Area	Available Flexible Capacity (MW)	Percentage of total	2018 LCR requirement (MW)	Available Local Resources (MW)
Bay Area	5,167	15%	5,160	7,103
Sierra	1,753	5%	2,113	2,125
Stockton	447	1%	719	605
Fresno	2,767	8%	2,081	3,579
Humboldt	163	0%	169	210
Kern	338	1%	453	566
NCNB	479	1%	634	869
LA Basin	8,518	24%	7,525	10,735
BC/Ventura	4,256	12%	2,321	5,657
SD-IV	3,178	9%	4,032	4,915
Total Local Flex Capacity	27,066	76%	25,207	36,364
CAISO System	8,354	24%		

Proposed Solutions Framework 1 and 2- Market Power

- **Staff recommends a price cap at or below the CAISOs CPM soft offer cap**
- **If local RA prices exceed the cap, then the procurement obligation would need to be waived and procurement would take place in a future year, or under CAISO backstop authority.**

Proposed Solutions Framework 1 and 2 - Capacity Procurement Mechanism(CPM)

- **CAISOs current CPM authority includes an annual process and a risk-of-retirement process.**
- **Staff recommends that the CPM process remain annual and not be expanded to include a multi-year framework.**
- **Current CPM and RMR tariff allows generators to recover their cost based on a cost of service calculation. Staff proposes that the cost of service calculation be revised to exclude sunk costs recovery so as to not incent generators to utilize backstop mechanism instead of the bilateral market, as a way of getting higher payments.**
- **Multi-year proposal should be coordinated with the current CPM-RMR review stakeholder process.**

Proposed Solutions Framework 1 and 2 - Compliance and Timing

- **Staff proposes that the existing citation program be extended to the multi-year RA framework.**
- **Filing timeline for the two year 100% requirement would be the same as it is for the one year requirement (end of October).**
- **Staff proposes that the 3 to 5 year showing be set on or around January 1st, which would provide a longer procurement period.**

Proposed Solutions Framework 1 ONLY

- **Local Procurement Coordination between LSEs**
- **Accounting for existing LSEs procurement**
- **Coordination with the current RA program**
- **All source solicitation by distribution utility**
- **Cost allocation mechanism to share central procurement cost**

Proposed Solutions Framework 1 ONLY
Local Procurement Coordination between LSEs

- **Following the adoption of multi-year RA requirements all LSEs would coordinate their procurement with the distribution utility for each service area**
  - Utility that serves load to bundled customers will need to coordinate its bundled procurement. Utility procurement is subject to bundled procurement rules required under AB 57 (PUC 454.5). These rules currently do not apply to all LSEs.
  - Staff welcomes ideas from parties on how LSE procurement can be pooled together to develop one local portfolio for each service area.

Proposed Solutions Framework 1 ONLY

Accounting for LSE procurement- to ensure equitable cost allocation

- **Tracking LSE procurement- LSE (one for each utility service area) will be assigned a tracking account to record resource procurement by local sub-area. This capacity would be deducted from the LSEs sub-local requirements. LSEs would be responsible for the costs of any capacity procured independently.**
- **Buy-out process- (An alternative to the tracking process) The distribution utility would purchase any existing local contracts from all LSEs. After all purchases have been secured the utilitie would establish its local position(s) and issue an all source RFO.**

Proposed Solutions Framework 1 ONLY
Coordination with the Current RA Program

- **No need for LSEs to file annual and true-up local filings. The distribution utility would be responsible for this.**
- **Since system, local and flex products are bundled products, it will be necessary to coordinate additional RA benefits that result from multi-year procurement, with the current year ahead and month ahead process.**

Proposed Solutions - Framework 1 ONLY
Cost Allocation

- **Staff proposes the cost allocation mechanism be utilized for allocating the benefits and costs of the resources.**
- **If an LSE self provides the distribution utility any local procurements during the coordination process then these contracts would be used in calculating the LSEs portion of the multi-year local costs. Staff welcomes party's comments and ideas on how this could work.**
- **Alternatively, under a buy-out process the need to track individual procurement would not be necessary. The distribution utility would buy existing local procurement directly from LSEs prior to issuing an RFO. All costs would be allocated consistent with the current CAM mechanism.**

Proposed Solutions – Advantages of Framework 1 (central buyer)

- **Reduces likelihood that needed local resources will be mothballed or retired.**
- **Central buyer allows for the distribution utiity to utlize its purchasing power in constrained local areas, helping to ensure the least cost solution for all customers.**
- **Allows local reliability procurement to be coordinated with SB 350 goals, least cost principals and preferred resource procurement mandates.**
- **Mitigates the need for expensive backstop in local areas.**
- **Addresses the issue of load uncertainty**

Proposed Solutions-
Disadvantages of Framework 1 (central buyer)

- **Difficulty in tracking cost responsibility for LSEs that self provide.**
- **Administrative burdensome to in allocate Capacity credits**
- **May require additional work by CEC and CAISO**
- **Does not address outage replacement costs or transmission and distribution alternatives**

Proposed Solutions – Advantages of Framework 2 (no central buyer)

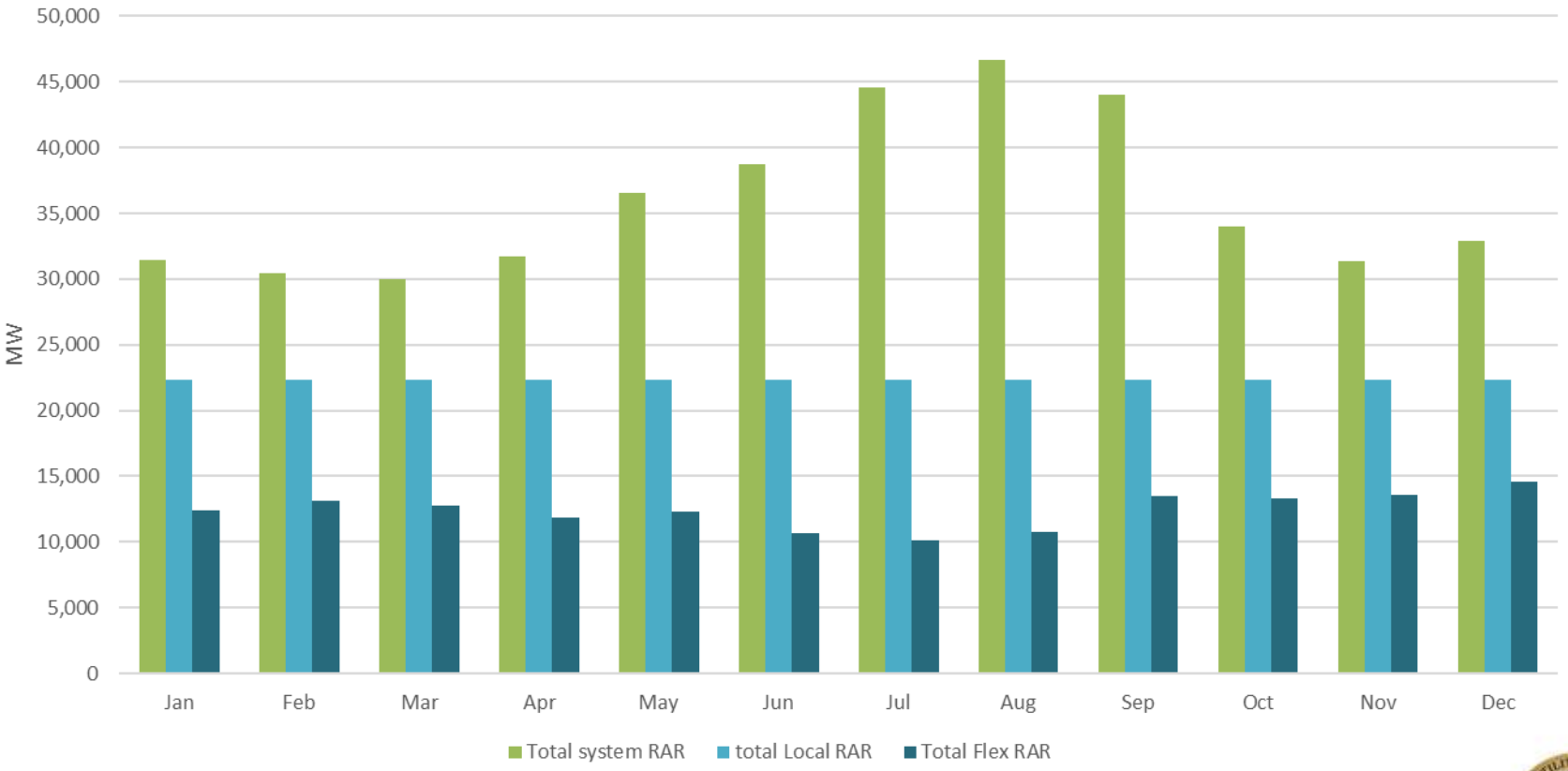
- **Ensures sufficient capacity is procured to meet local capacity needs for the next 3-5 years**
- **No admin. burden in allocating capacity credits**
- **No need for LSE to coordinate procurement prior to contracting**
- **Not admin burden for the utility to track local procurement by LSE**
- **LSEs remain sole buyer for their portion of local capacity requirements and remain responsible for multi-year showings**
- **Mitigates potential backstop procurement**
- **The distribution utility would not be burdened with the financial responsibility to procure multi-year contracts for its entire service area.**

Proposed Solutions
Disadvantages of Framework 2 (no central buyer)

- **Load uncertainty 2-5 years ahead**
  - May lead to difficulty in allocating local RA requirements
  - Creates challenges in planning for and allocating CAM,RMR, and DR capacity credits
- **Will burden all LSEs with multi-year contract costs before they know their future load, threatening financial viability.**
- **Market power may effect smaller LSEs with little purchasing power, leading to backstop procurement**
- **Will necessitate additional work for CEC and CAISO**
- **The proposal does not address transmission or preferred resource alternatives**

Backup Slides

2018 RA Requirements (CPUC LSEs)



Resource Adequacy Requirements

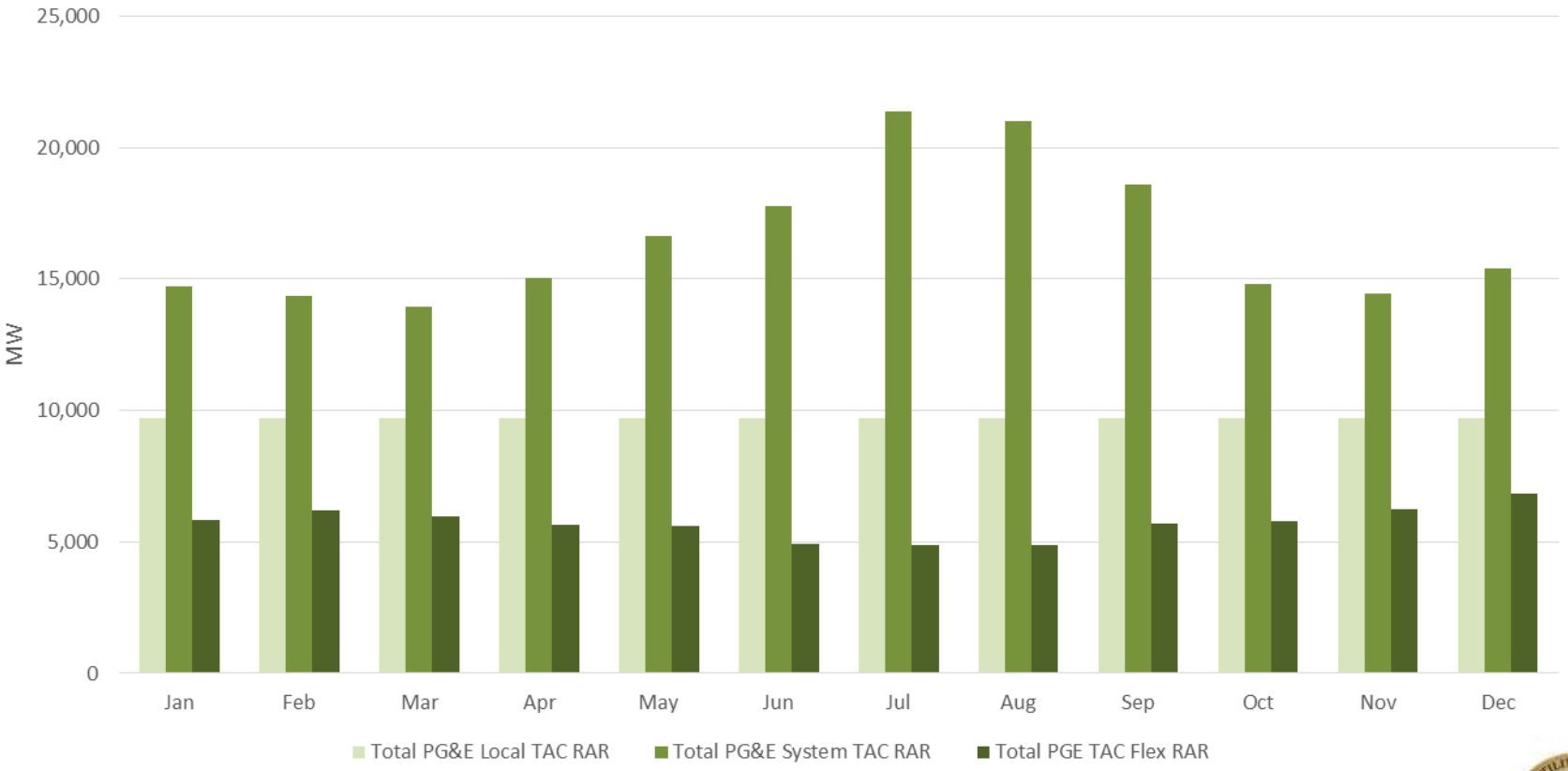
Type of Requirement	Procurement need determination based on:	Year Ahead (required Annually by October 31st)	Month Ahead (required Monthly- 45 days prior to the compliance month)
System RA Requirement	115% of Peak Forecast demand (1 in 2 peak forecast).	90% showing of 115% RAR (5 summer months)	100% showing of 115% RAR
Local RA Requirement	CAISO Local Capacity Technical study results for transmission constrained areas. (1 in 10 peak forecast)	100% showing of Local RAR (12 months)	100% showing of Local RAR
Flexible RA Requirement	CAISO Flexible Capacity Technical Study where results are based on maximum monthly 3 hour ramp needed to manage the grid reliably	90% showing of Flexible RAR (12 months)	100% showing of Flexible RAR

OTC Retirements and Replacements

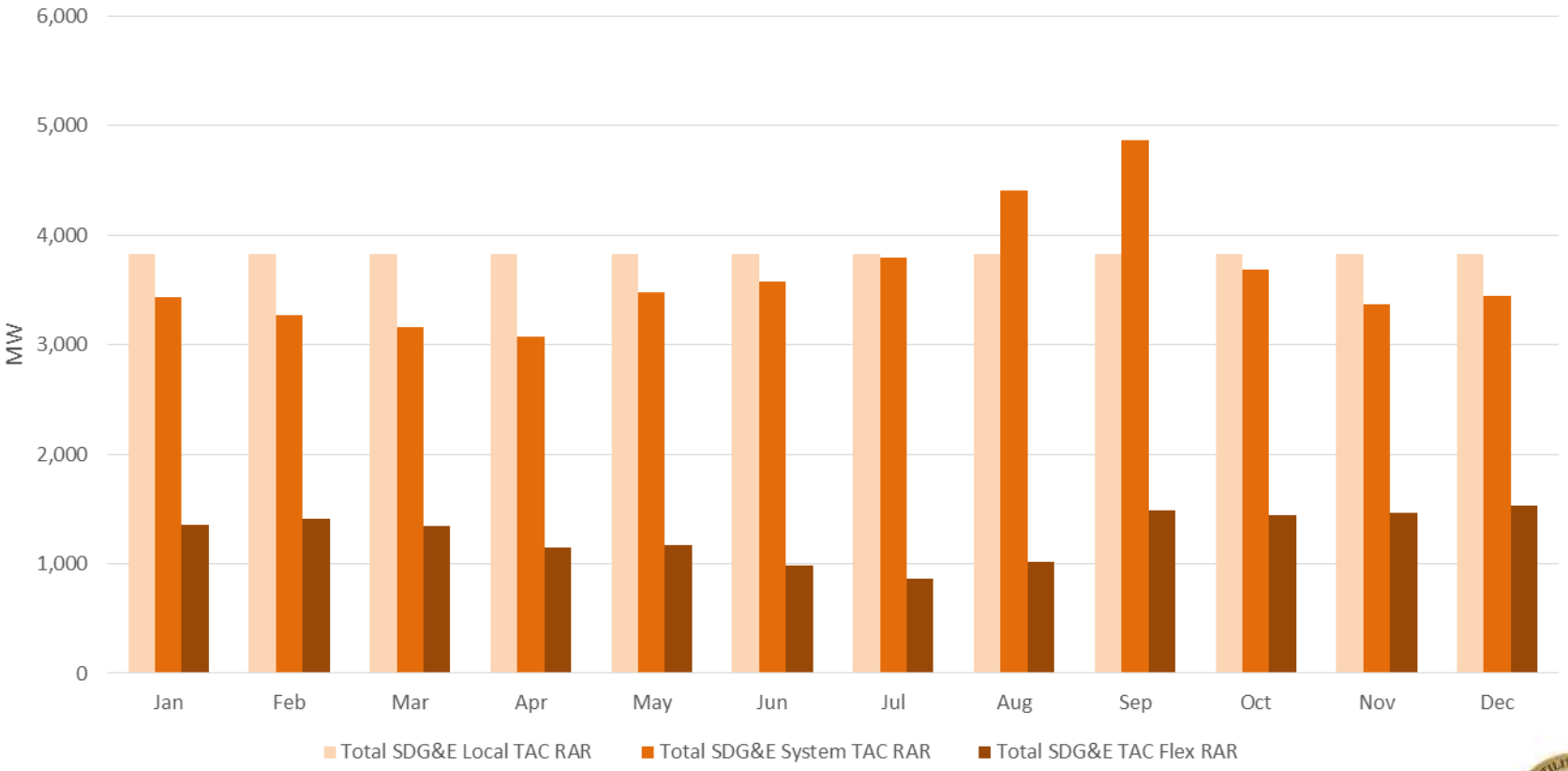
Resource Name	Capacity (MW)	Offline Date
Alamitos Units 1, 2, 6	844	12-31-2019
Alamitos Units 3-5	1,165	12-31-2020
Encina Units 2-5	844	12-31-2018
Huntington Beach Unit 1	225	12-31-2019
Huntington Beach Unit 2	225	12-31-2020
Moss Landing Units 1-2	1,020	12-31-2020
Ormond Beach	1,516	12-31-2020
Redondo Beach Unit 7	343	10-31-2019
Redondo Beach Units 5, 6, 8	577	12-31-2020
TOTAL	**7,189**	

Resource Name	Capacity (MW)	Location	Commercial Online Date	Contract Duration (Years)
Alamitos Energy Center	640	LA Basin	2020	20
Alamitos Energy Storage	100	LA Basin	2021	20
Barre Wellhead	98	LA Basin	2020	20
Carlsbad Energy Center	500	San Diego	2018	20
Huntington Beach Energy Center	644	LA Basin	2020	20
Pio Pico Energy Center	300	San Diego	2017	25

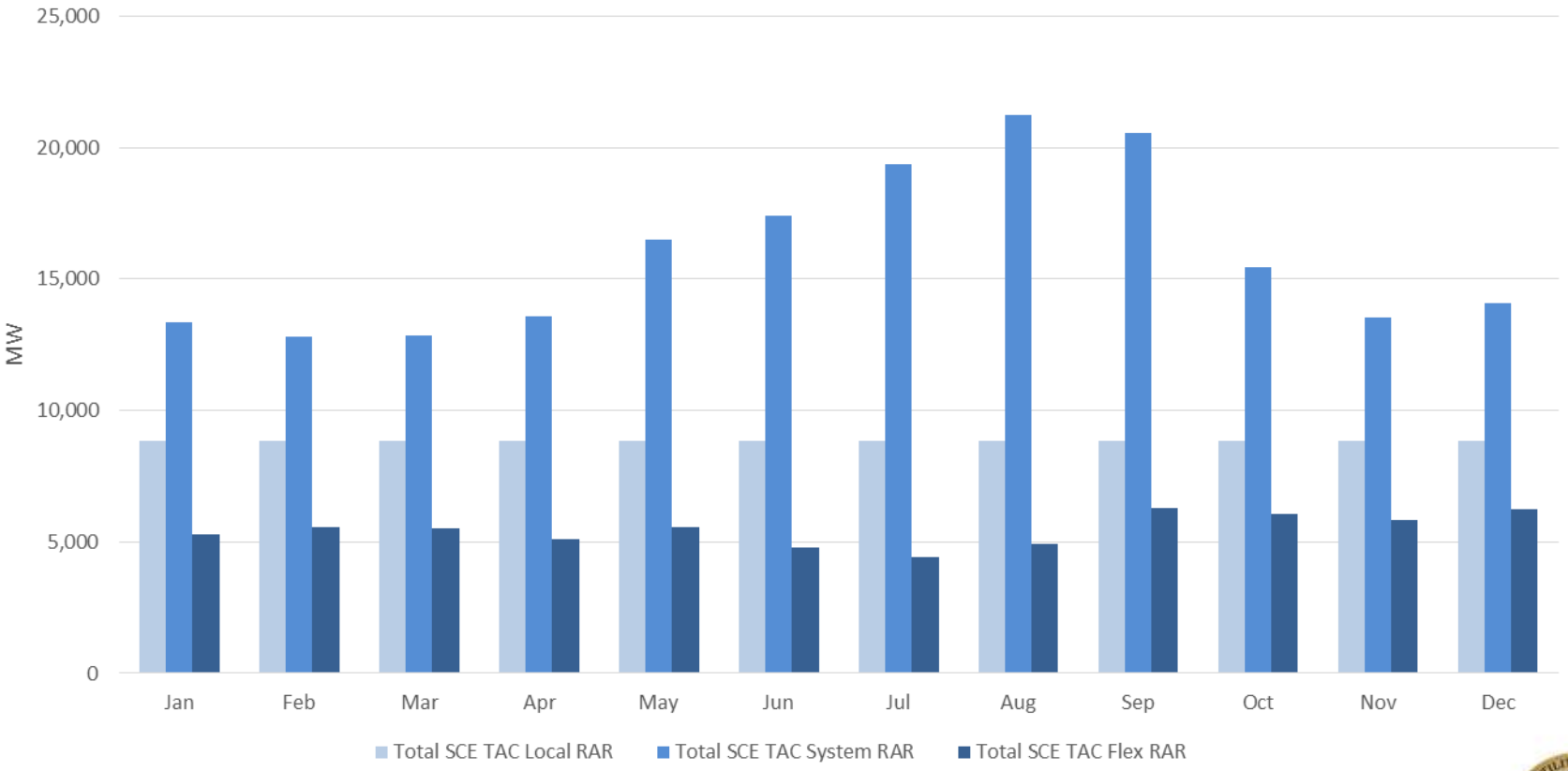
2018 PG&E TAC Area RA Requirements



2018 SDG&E TAC Area RA Requirements



2018 SCE TAC Area RA Requirements



Thank You!

Jaime Rose Gannon
jrg@cpuc.ca.gov
415-703-2818
Nick Dahl
Nick.Dahlberg@cpuc.ca.gov
415-703-3386