California ISO

Availability Assessment Hours

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Availability Assessment Hours: Background and Purpose

- Concept originally developed as part of the ISO standard capacity product (SCP)
  - Maintained as part of Reliability Service Initiative – Phase 1 (i.e. RA Availability Incentive Mechanism, or RAAIM)
- Determine the hours of greatest need to maximize the effectiveness of the availability incentive structure
  - Resources are rewarded for availability during hours of greatest need
  - Hours determined annually by ISO and published in the BPM
    - See section 40.9 of the ISO Tariff

Methodology Overview of System/Local Availability Assessment Hours

Used CEC IEPR data with no known loads accounting for DST shift

- Top 5% of load hours within each month using an hourly load distribution

Actual demand tags do not contain battery charging load for market battery resources.

Availability Assessment Hours Final and Advisory Recommendations

Derived from top 5% system load hours by month and hour-ending

Summer Recommendation

June - October

Year	Start	End
*2026	HE 17	HE 21
2027 Final	HE 17	HE 21
2028 Advisory	HE 17	HE 21
2029 Advisory	HE 17	HE 21

2026 is last year's recommendation

Spring and Winter Recommendation

January - May, November, December

Year	Start	End
*2026	HE 18	HE 22
2027 Final	HE 18	HE 22
2028 Advisory	HE 18	HE 22
2029 Advisory	HE 18	HE 22

2026 is last year's recommendation

- Continued monitoring on morning peak hours (HE8) during non summer months
- Increased morning top load in 2025 but diminishes in 2026

The ISO proposes Winter and Spring Season alignment for AAH

2025 actual frequency of **top 5%** of load hours

AAH Recommendation: Actuals 2025

	8	9	10	11	12	13	15	16	17	18	19	20	21	22	23	Season	Recommendation
Jan	11									3	13	5	4	1		Winter	HE18 - HE22
Feb	2	1	1	1	1	1			1	5	8	8	3	1		Winter	HE18 - HE22
Mar	4	2	1	1							6	11	9	3		Spring	HE18 - HE22
Apr											3	12	14	7		Spring	HE18 - HE22
May								2	2	4	6	7	8	6	2	Spring	HE18 - HE22
Jun									2	6	8	8	7	5		Summer	HE17 - HE21
Jul									2	4	10	11	7	3		Summer	HE17 - HE21
Aug								2	3	8	13	7	3	1		Summer	HE17 - HE21
Sep								4	7	8	7	6	3	1		Summer	HE17 - HE21
Oct									2	9	11	8	5	2		Summer	HE17 - HE21
Nov								1	5	15	11	3	1			Winter	HE18 - HE22
Dec									1	14	11	8	3			Winter	HE18 - HE22
Total	17	3	2	2	1	1	0	9	25	76	107	94	67	30	2		

2027 forecast frequency of **top 5%** of load hours

AAH Recommendation: Forecast 2027 from 2025 noknown Loads

	8	9	10	11	12	13	15	16	17	18	19	20	21	22	23	Season	Recommendation
Jan										8	19	9	1			Winter	HE18 - HE22
Feb										2	18	13				Winter	HE18 - HE22
Mar										1	18	14	4			Spring	HE18 - HE22
Apr										2	4	8	12	7	2	Spring	HE18 - HE22
May											4	10	14	9		Spring	HE18 - HE22
Jun							1	2	3	5	7	7	6	4	1	Summer	HE17 - HE21
Jul							1	3	5	7	8	7	4	2		Summer	HE17 - HE21
Aug								2	6	10	12	6	1			Summer	HE17 - HE21
Sep							2	4	5	7	7	5	4	2		Summer	HE17 - HE21
Oct							1	3	5	7	8	7	4	2		Summer	HE17 - HE21
Nov									1	4	15	11	4	1		Winter	HE18 - HE22
Dec											15	14	8			Winter	HE18 - HE22
Total	0	0	0	0	0	0	5	14	25	53	135	111	62	27	3		

- Winter shifts later: recommend **HE18 – HE22**
  > Monitoring Nov/Dec actuals for potential shift toward HE17 - HE21
- Summer is consistent: recommend **HE17 – HE21**
- Monitoring HE 8 values within top 5% of load hours

Appearance of Morning Top Load

2024 CAISO Actual Top 5% of Load Hours

	8	9	10	11	12	13	15	16	17	18	19	20	21	22	23
Jan	4									9	13	7	4		
Feb										6	14	10	3		
Mar	1									2	6	15	13		
Apr	1										2	10	16	7	
May										1	4	11	13	7	1
Jun							1	2	2	6	8	8	6	3	
Jul								2	4	8	10	8	5		
Aug								1	4	7	17	6	2		
Sep							2	4	6	7	7	6	3	1	
Oct							1	5	8	8	8	6	1		
Nov										16	13	5	2		
Dec	1								2	10	10	9	4	1	
Total	7	0	0	0	0	0	4	14	26	80	112	101	72	19	1

CEC 2025 to 2027 Forecast noKnown Top 5%

	15	16	17	18	19	20	21	22	23
Jan				8	19	9	1		
Feb				2	18	13			
Mar				1	18	14	4		
Apr				2	4	8	12	7	2
May					4	10	14	9	
Jun	1	2	3	5	7	7	6	4	1
Jul	1	3	5	7	8	7	4	2	
Aug		2	6	10	12	6	1		
Sep	2	4	5	7	7	5	4	2	
Oct	1	3	5	7	8	7	4	2	
Nov			1	4	15	11	4	1	
Dec					15	14	8		
Total	5	14	25	53	135	111	62	27	3

2025 CAISO Actual Top 5% of Load Hours

	8	9	10	11	12	13	15	16	17	18	19	20	21	22	23
Jan	11									3	13	5	4	1	
Feb	2	1	1	1	1	1			1	5	8	8	3	1	
Mar	4	2	1	1							6	11	9	3	
Apr											3	12	14	7	
May								2	2	4	6	7	8	6	2
Jun									2	6	8	8	7	5	
Jul									2	4	10	11	7	3	
Aug								2	3	8	13	7	3	1	
Sep								4	7	8	7	6	3	1	
Oct									2	9	11	8	5	2	
Nov								1	5	15	11	3	1		
Dec									1	14	11	8	3		
Total	17	3	2	2	1	1	0	9	25	76	107	94	67	30	2

Morning tail (HE8) increases from 2024 -> 2025

- Not reflected in CEC forecast pattern
- Impact of morning peak: continue to monitor

Reliability Requirements; Section 7 – BPM Updates Needed

2027 System and Local Resource Adequacy Availability Assessment Hours

Analysis employed: Top 5% of load hours using average hourly load

Spring: March 1 – May 31

Availability Assessment Hours: 5pm – 10pm (HE18 – HE22)

Summer: June 1 - October 31

Availability Assessment Hours: 4pm – 9pm (HE17 – HE21)

Winter: January 1 – February 28, November 1 – December 31

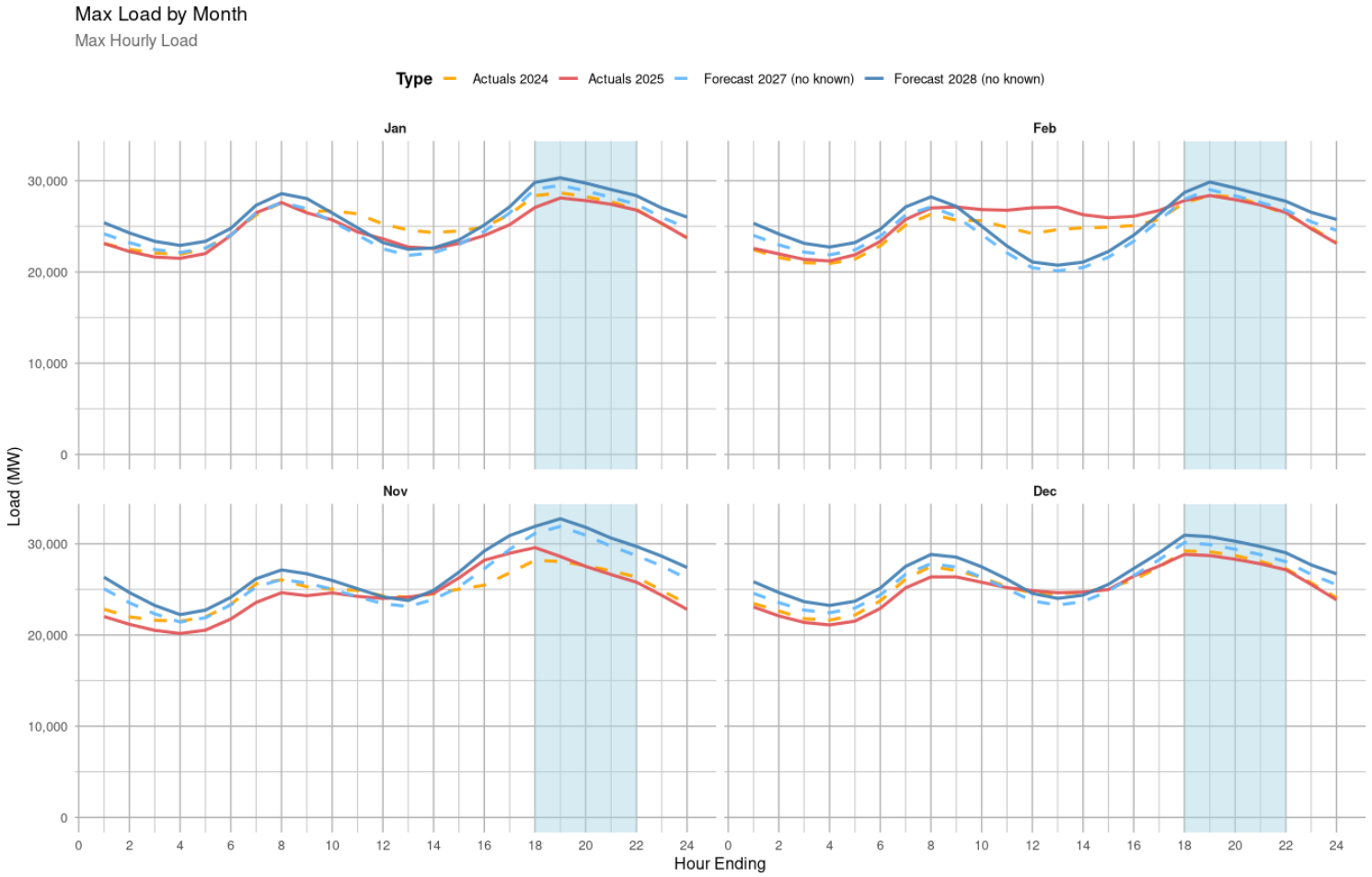
Availability Assessment Hours: 5pm – 10pm (HE18– HE22)

2027 Flexible Resource Adequacy Availability Assessment Hours and must offer obligation hours

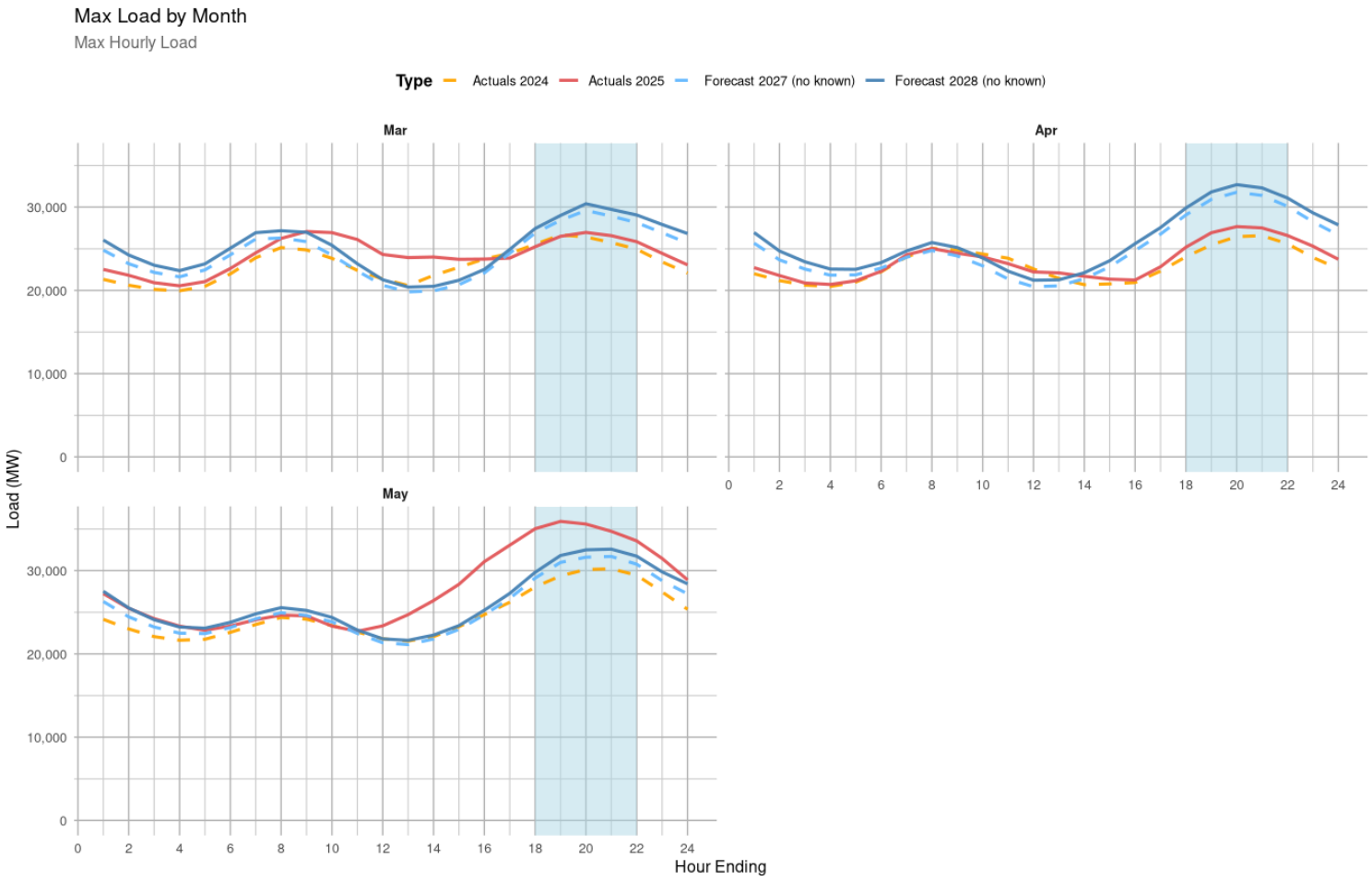
Flexible RA Capacity Type	Category Designation	Required Bidding Hours	Required Bidding Days
October – February			
Base Ramping	Category 1	5:00am to 10:00pm (HE6-HE22)	All days
Peak Ramping	Category 2	2:00pm to 7:00pm (HE15-HE19)	All days
Super-Peak Ramping	Category 3	2:00pm to 7:00pm (HE15-HE19)	Non-Holiday Weekdays*
May – August			
Base Ramping	Category 1	5:00am to 10:00pm (HE6-HE22)	All days
Peak Ramping	Category 2	4:00pm to 9:00pm (HE17-HE21)	All days
Super-Peak Ramping	Category 3	4:00pm to 9:00pm (HE17-HE21)	Non-Holiday Weekdays*
March, April, September			
Base Ramping	Category 1	5:00am to 10:00pm (HE6-HE22)	All days
Peak Ramping	Category 2	3:00pm to 8:00pm (HE16-HE20)	All days
Super-Peak Ramping	Category 3	3:00pm to 8:00pm (HE16-HE20)	Non-Holiday Weekdays*

APPENDIX

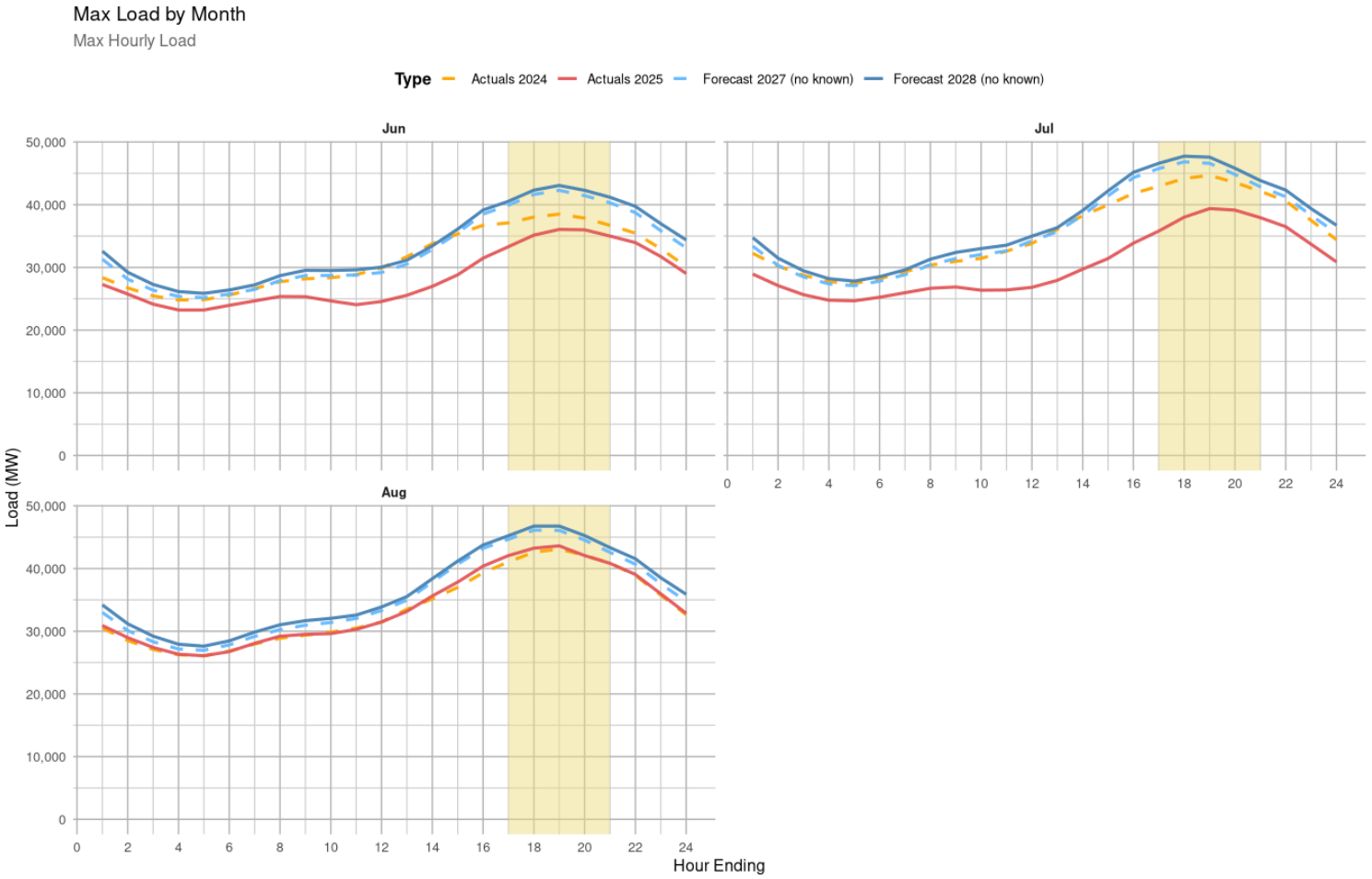
CEC IEPR forecast vs. actual in winter months



CEC IEPR forecast vs. actual in spring months



CEC IEPR forecast vs. actual in summer months



CEC IEPR forecast vs. actual in summer months