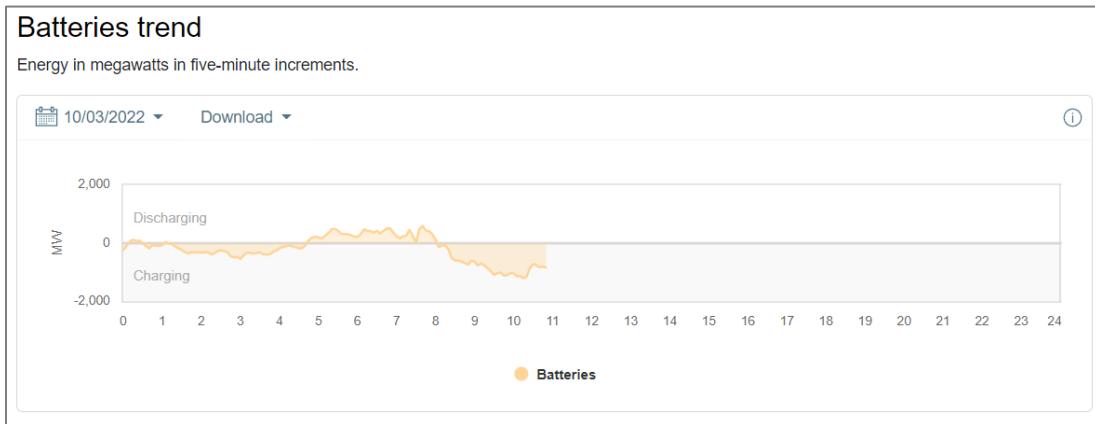


California ISO Readiness Notes

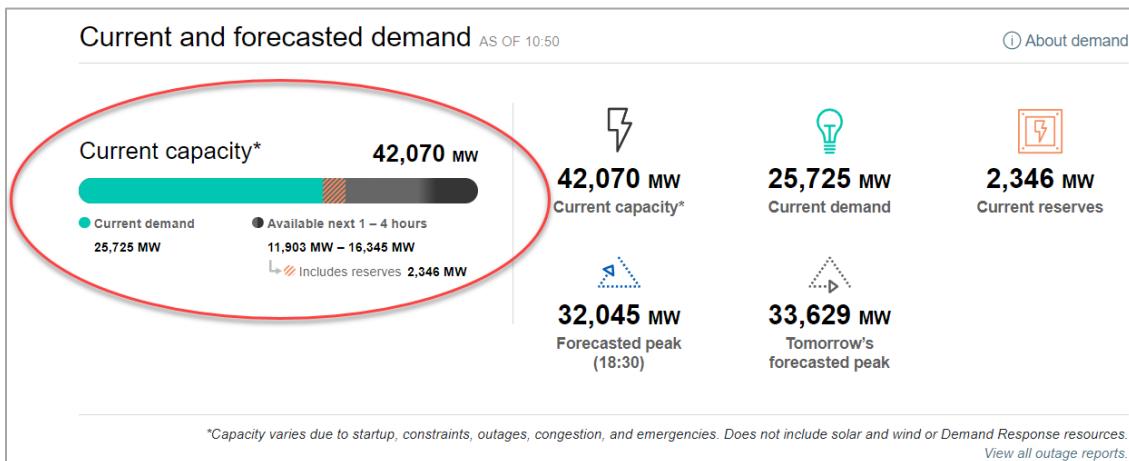
Title: Data Transparency Improvements 2022

The California ISO has implemented a suite of transparency related enhancements which includes new data elements to be added to existing reports, creating new reports for improved data analysis and in some cases provides increased clarity of existing information. The details about all the improvements are summarized in this document.

Today's Outlook information: The [counting methodology for battery capacity](#) has been modified to reflect units online that have reached commercial operation date, and no longer includes those in the commissioning process. This provides an accurate count of the amount of MWs that are currently on-line to serve demand and is a level of detail that was often requested by stakeholders and interested parties. This improvement was completed on March 31, 2022.

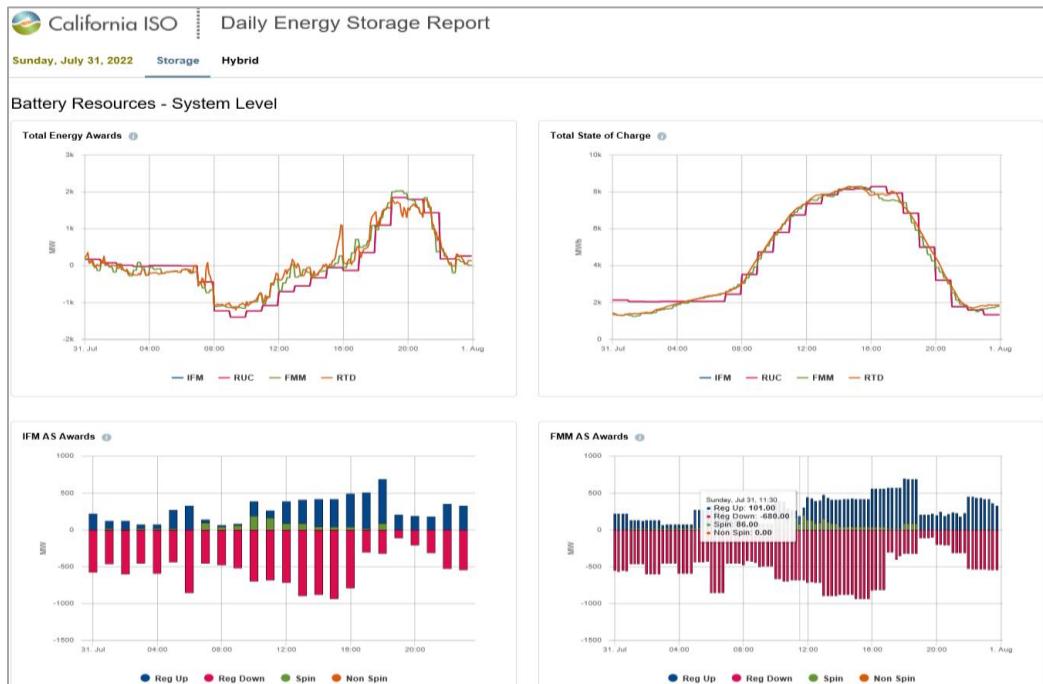


A redesign of the existing [capacity chart](#) was completed on June 15, 2022, to better define available capacity as well as provide granularity of reserves. This enhancement provides real-time data on the current demand along with the amount of capacity available on the grid to meet changes in demand. This information is updated every five minutes and can be used to inform situational awareness.

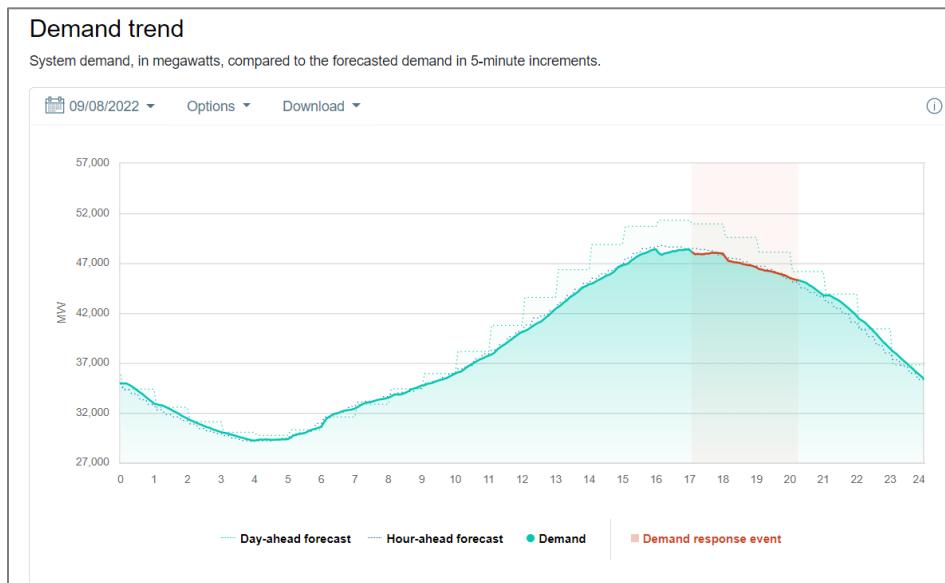




The ISO has posted a new [Daily Energy Storage Report](#) to provide market participants with selected metrics on the performance of storage and hybrid resources, including bid-in capacity, awards, state of charge, and procurement of ancillary services for both day-ahead and real-time markets, to bring improved visibility to how storage and hybrid resources are being dispatched in the ISO markets.



The ISO added a highlighted line on the [demand trend](#) that visually indicates when a Demand Response event has occurred and the subsequent divergence from the load forecast. This enhancement brings visibility to a demand response event and the overall impact of load reduction.





OASIS data: Publication of RUC/HASP/RTPD/RTD adjustments (load forecast adjustments/load bias) and publication of curtailment (schedule reduction) data (wheels, exports, load). These enhancements provide real-time operational data that is beneficial to market participants since these adjustments determine the final forecast used in market runs, which impacts price formation, generation dispatch schedules, and import/export schedules. This was completed on June 8, 2022.

Navigation path: OASIS > System Demand > Load Adjustments

RTPD	CISO	Opr Date	Hour Ending	Interval	Load Adjustment(MW)	Load Adjustment Reason
RTPD	CISO	10/03/2022	1	3	0	
RTPD	CISO	10/03/2022	1	4	0	
RTPD	CISO	10/03/2022	2	3	0	
RTPD	CISO	10/03/2022	2	4	0	
RTPD	CISO	10/03/2022	3	3	0	
RTPD	CISO	10/03/2022	3	4	0	
RTPD	CISO	10/03/2022	4	3	0	
RTPD	CISO	10/03/2022	4	4	100	Load Deviation
RTPD	CISO	10/03/2022	5	3	100	Load Deviation
RTPD	CISO	10/03/2022	5	4	300	Load Deviation
RTPD	CISO	10/03/2022	6	3	700	Load Deviation
RTPD	CISO	10/03/2022	6	4	800	Load Deviation
RTPD	CISO	10/03/2022	7	3	700	Load Deviation
RTPD	CISO	10/03/2022	7	4	700	Load Deviation
RTPD	CISO	10/03/2022	8	3	400	Load Deviation
RTPD	CISO	10/03/2022	8	4	400	Load Deviation

Navigation path: OASIS > Energy > Schedule > Schedule Reductions

RUC	Opr Date	Balancing Authority Area Group ID	CFEROA	Transaction Type	Schedule Type	HE12	HE13	HE14	HE15	HE16	HE17	HE18	HE19	HE20	HE21	HE22	HE23	HE24	HE25
RUC	09/09/2022	CISO	CTW230	Export	ECON	21.00	59.00	59.00											21.00
RUC	09/09/2022	CISO	LAKE	Export	DALPT				97.00	122.00	133.00								
RUC	09/09/2022	CISO	MEAD230	Export	DALPT				51.00	54.00	54.00	64.00	125.00	160.00	165.00	136.00	132.00		
RUC	09/09/2022	CISO	MEAD230	Export	ECON							50.00							50.00
RUC	09/09/2022	CISO	MIR2	Export	DALPT	23.32	9.00												
RUC	09/09/2022	CISO	MIR2	Export	ECON	23.32													
RUC	09/09/2022	CISO	PWWEST	Export	ECON							50.00						150.00	
RUC	09/09/2022	CISO	RANCHOSECO	Export	ECON								150.00	100.00	70.00	30.00		100.00	
RUC	09/09/2022	CISO		Load	LOAD														1,515.13
																			3,085.52
																			5,043.46
																			5,910.66
																			8,425.78
																			4,959.65
																			1,673.50
																			894.57
																			97.25



Additional WEIM Data Transparency and Reporting: The ISO increased the amount of information provided from balancing tests by adding data from the resource sufficiency evaluation (RSE) capacity tests and the flexible ramping tests. These enhancements improve market efficiency by providing information at a more granular level so that WEIM market participants are able to identify factors that may contribute to passing/failing a balancing test. This enhancement was completed on June 15, 2022.

Navigation path: OASIS > Energy > Energy Imbalance Market > WEIM RSE Capacity Tests

The screenshot shows the California ISO OASIS interface with the following details:

Header: California ISO | OASIS | ATLAS REFERENCE REPORT DEFINITION PRICES TRANSMISSION SYSTEM DEMAND ENERGY ANCILLARY SERVICES CONGESTION REVENUE RIGHTS PUBLIC BIDS RESOURCE ADEQUACY Date From: 10/03/2022 To: 10/03/2022 Market/Process: RTM BAA ID: [ALL] Snapshot Indicator: [ALL] Apply Reset

Section: WEIM RSE Capacity Tests

Table Headers: Market, Opr Date, Balancing Authority Area ID, Base Schedule Snapshot Indicator, Curve Direction, Test Indicator, Data Type, HE01, HE02, HE03, HE04, HE05, HE06, HE07, HE08

Table Data: The table lists various balancing authority area IDs (RTM, AVA) and their corresponding test results across different categories like Bid Range Capacity, Export Base Schedule, etc. The last row shows a summary for BAA Load Forecast.

Market	Opr Date	Balancing Authority Area ID	Base Schedule Snapshot Indicator	Curve Direction	Test Indicator	Data Type	HE01	HE02	HE03	HE04	HE05	HE06	HE07	HE08
RTM	10/03/2022	AVA	T40MIN	DOWN	1	BAA Load Forecast	827.73	789.62	770.47	768.85	787.83	874.00	1,002.20	1,095.48
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Bid Range Capacity	17.00	39.97	175.00	183.00	211.00	284.00	313.00	183.00
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Export Base Schedule	963.00	963.00	960.00	964.00	963.00	962.00	1,016.00	1,020.00
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Generation Base Schedule	953.53	928.07	917.10	920.07	949.34	1,045.10	1,332.39	1,368.47
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Import Base Schedule	823.00	817.00	814.00	821.00	832.00	848.00	751.00	772.00
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Intertie Uncertainty	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Net Schedule Interchange	-140.00	-146.00	-146.00	-143.00	-131.00	-114.00	-265.00	-248.00
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Net-Load Uncertainty	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Test Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
RTM	10/03/2022	AVA	T40MIN	DOWN	2	BAA Load Forecast	820.07	785.75	770.66	771.96	799.82	902.34	1,040.59	1,112.78

Navigation path: OASIS > Energy > Flexible Ramping > Flexible Ramp Requirements Inputs and Outputs

The screenshot shows the California ISO OASIS interface with the following details:

Header: California ISO | OASIS | ATLAS REFERENCE REPORT DEFINITION PRICES TRANSMISSION SYSTEM DEMAND ENERGY ANCILLARY SERVICES CONGESTION REVENUE RIGHTS PUBLIC BIDS RESOURCE ADEQUACY Date From: 10/03/2022 To: 10/03/2022 Market/Process: RTM BAA ID: [ALL] Snapshot Indicator: [ALL] Apply Reset

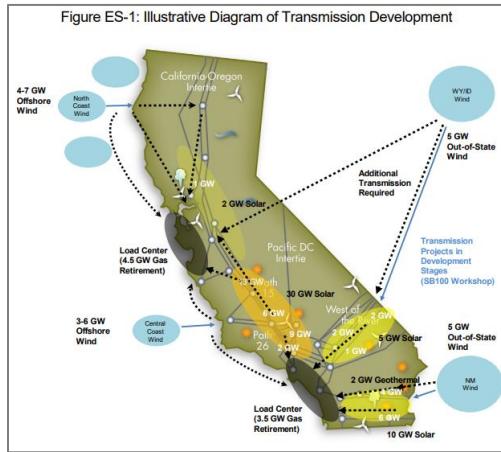
Section: Flexible Ramp Requirements Inputs and Outputs (WEIM RSE Flexible Ramping Tests)

Table Headers: Market, Opr Date, Balancing Authority Area ID, Base Schedule Snapshot Indicator, Ramp Type, Test Indicator, Data Type, HE01, HE02, HE03, HE04, HE05, HE06, HE07, HE08

Table Data: The table lists various balancing authority area IDs (RTM, AVA) and their corresponding test results across different categories like Net-Load Uncertainty, Change in Load Forecast, etc. The last row shows a summary for Test Status.

Market	Opr Date	Balancing Authority Area ID	Base Schedule Snapshot Indicator	Ramp Type	Test Indicator	Data Type	HE01	HE02	HE03	HE04	HE05	HE06	HE07	HE08
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Test Status	PASS	PASS						
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Net-Load Uncertainty	54.00	84.00	48.00	46.00	57.00	48.00	54.00	51.00
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Change in Load Forecast	9.64	3.39	-0.08	-4.60	-14.95	-41.04	-49.72	-23.14
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Ramping Capacity	33.84	65.39	37.53	44.53	1.79	-16.61	-5.74	98.77
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Credit	1.30	0.00	0.00	0.00	6.61	19.91	64.88	36.98
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Net Import Capability	506.70	769.32	730.31	724.77	702.39	696.09	730.12	756.02
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Net Export Capability	861.30	897.68	937.69	943.23	966.61	979.91	1,024.88	996.98
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Diversity Benefit	37.07	51.41	32.79	35.01	38.90	29.13	40.71	32.74
RTM	10/03/2022	AVA	T40MIN	DOWN	1	Requirement Amount	25.27	35.98	15.12	6.39	-3.46	-42.08	-101.31	-41.86
RTM	10/03/2022	AVA	T40MIN	DOWN	2	Test Status	PASS	PASS						

Transmission data: The ISO published a draft of its first [20-Year Transmission Outlook](#) in February 2022 to help enable and accelerate the integration of new renewable resources onto the grid and to expand the planning horizon and bring together a wide cross-section of stakeholders to identify and set priorities for different possible solutions. The transparency will help developers make more informed decisions on infrastructure planning and development.



Transmission data: Transmission project tracking information; In conjunction with the CPUC and PTOs, quarterly public stakeholder forums provide status updates on the transmission projects previously approved through the transmission planning process and network upgrades identified in the generation interconnection process. This additional transparency will help market participants make more informed decisions when going through the procurement process, likely leading to a reduced number of interconnection requests. This process started at the beginning of 2022 and the meetings are conducted quarterly. Meeting materials related to the Transmission Development Forum can be found [here](#), or on [CAISO.com](#) > *Stay Informed* > *Meetings and Events* > *User groups and recurring meetings*.

Interconnection data: Summary information gathered from various studies/reports to help interconnection customers identify locations where resources can connect without requiring costly and long lead time upgrades. Stakeholders will be able to independently evaluate the interconnection queue trends and be able to develop data driven opinions of the various reforms. This additional data will also allow for more effective and efficient queue position evaluations and data analysis. It will also provide a more realistic picture of when additional capacity is expected to come online. The ISO is currently in the process of getting necessary data into the Resource Interconnection Management System (RIMS), and will then determine how to efficiently and effectively publish such data. Data has not yet been published.

Market performance data: The ISO published an [explanation of data included in the Day-Ahead Summer Reports](#) on May 9, 2022, which provides an explanation of each element of the [Day-Ahead Summer Report](#).