



WESTERN ENERGY IMBALANCE MARKET BENEFITS REPORT

Third Quarter 2025 ■ ■ ■

Prepared by: Market Performance and Advanced Analytics

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EXECUTIVE SUMMARY

Gross benefits from WEIM since November 2014

\$7.82 billion

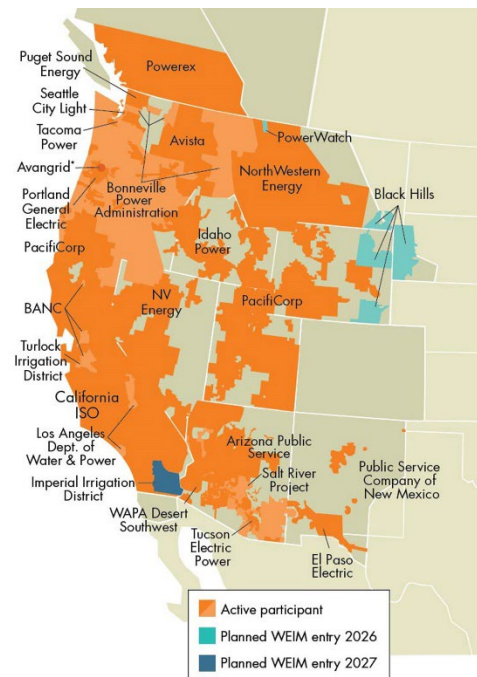
This report presents the benefits associated with participation in the Western Energy Imbalance Market (WEIM).

The measured benefits of participation in the WEIM include cost savings, increased integration of renewable energy, and improved operational efficiencies including the reduction of the need for real-time flexible reserves. The WEIM also provides significant reliability benefits by enhancing situational awareness and supporting access to surplus renewable energy across a broader western footprint.

Q3 2025 Gross Benefits by Participant (entry year)

(\$ millions)

Arizona Public Service (2016)	\$8.36
AVANGRID (2023)	\$10.58
Avista (2022)	\$3.66
Balancing Authority of Northern California (2019)	\$37.20
Bonneville Power Administration (2022)	\$5.70
California ISO (2014)	\$19.91
El Paso Electric (2023)	\$4.45
Idaho Power Company (2018)	\$7.20
Los Angeles Dept. of Water & Power (2021)	\$20.62
NV Energy (2015)	\$103.81
NorthWestern Energy (2021)	\$25.59
PacifiCorp (2014)	\$46.37
Portland General Electric (2017)	\$9.43
Public Service Company New Mexico (2021)	\$29.55
Puget Sound Energy (2016)	\$12.71
Powerex (2018)	\$1.51
Seattle City Light (2020)	\$14.01
Salt River Project (2020)	\$24.53
Tacoma Power (2022)	\$4.46
Tucson Electric Power (2022)	\$4.60
Turlock Irrigation District (2021)	\$0.67
WAPA Desert Southwest Region (2023)	\$17.06
Total	\$411.98



*Avangrid office; generation only BAA with distribution across multiple states. Map boundaries are approximate and for illustrative purposes only. Copyright © 2025 California ISO

2025 Q3 BENEFITS

ECONOMICAL

\$411.98 M

Gross benefits realized due to more efficient inter- and intra-regional dispatch in the Fifteen-Minute Market (FMM) and Real-Time Dispatch (RTD)*

ENVIRONMENTAL

14,221

Metric tons of CO₂** avoided curtailments

OPERATIONAL

60%

Average reduction in flexibility reserves across the footprint

This analysis demonstrates the benefit of economic dispatch in the real time market across a larger WEIM footprint with diverse resources and geography.

*WEIM Quarterly Benefit Report Methodology: <https://www.westemeim.com/Documents/EIM-BenefitMethodology.pdf>.

**The GHG emission reduction reported is associated with the avoided curtailment only. The current market process and counterfactual methodology cannot differentiate the GHG emissions resulting from serving ISO load via the WEIM versus dispatch that would have occurred external to the ISO without the WEIM. For more details, see <http://www.caiso.com/Documents/GreenhouseGasEmissionsTrackingReport-FrequentlyAskedQuestions.pdf>

*** In this report, California ISO is the balancing area and not a market participant. The benefits estimated for the California ISO balancing area in this report are realized to its market participants instead of the California ISO Corporation.

■ BACKGROUND

The WEIM began financially binding operation on November 1, 2014, by optimizing resources across the ISO and PacifiCorp Balancing Authority Areas (BAAs). Since then, the WEIM has continued to grow and now includes 22 market participants and represents nearly 80% of the demand for electricity in the Western interconnection. Today, the WEIM footprint includes portions of Arizona, California, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming, Texas and extends to the border with Canada.

■ WEIM ECONOMIC BENEFITS IN Q3 2025

Table 2 shows the estimated WEIM gross benefits by each region per month¹. The monthly savings presented show \$143.78 million for July, \$135.90 million for August and \$132.30 million for September with a total estimated benefit of \$411.98 million for this quarter². This level of WEIM benefits accrued from having additional WEIM areas participating in the market and economical transfers displacing more expensive generation.

¹ The WEIM benefits reported here are calculated based on available data. Intervals without complete data are excluded in the calculation. The intervals excluded due to unavailable data are normally within a few percent points of the total intervals.

² For several quarterly estimates, CAISO benefits were calculated on a variation of the counterfactual methodology. For CAISO only the logic had considered offline resources as part of the bid stack in the counterfactual. In Q4 2021, CAISO identified some questionable results that drove persistent negative benefits for CAISO when considering offline resources. Since Q4 2021, the benefit calculation for CAISO area follows the same methodology applicable to all WEIM entities in which only online resources are used.

<i>Region</i>	July	August	September	Total
<i>APS</i>	\$2.21	\$3.02	\$3.13	\$8.36
<i>AVRN</i>	\$3.15	\$3.74	\$3.69	\$10.58
<i>AVA</i>	\$1.05	\$1.32	\$1.29	\$3.66
<i>BANC</i>	\$13.50	\$14.52	\$9.18	\$37.20
<i>BPA</i>	\$2.00	\$1.47	\$2.23	\$5.70
<i>CISO</i>	\$6.94	\$6.00	\$6.97	\$19.91
<i>EPE</i>	\$1.24	\$1.24	\$1.97	\$4.45
<i>IPCO</i>	\$2.32	\$2.43	\$2.45	\$7.20
<i>LADWP</i>	\$6.70	\$6.72	\$7.20	\$20.62
<i>NVE</i>	\$37.61	\$32.20	\$34.00	\$103.81
<i>NWMT</i>	\$9.22	\$8.54	\$7.83	\$25.59
<i>PAC</i>	\$14.44	\$15.96	\$15.97	\$46.37
<i>PGE</i>	\$2.94	\$2.65	\$3.84	\$9.43
<i>PNM</i>	\$7.96	\$11.60	\$9.99	\$29.55
<i>PSE</i>	\$3.65	\$5.19	\$3.87	\$12.71
<i>PWRX</i>	\$1.34	\$0.52	-\$0.35	\$1.51
<i>SCL</i>	\$5.89	\$5.16	\$2.96	\$14.01
<i>SRP</i>	\$14.41	\$4.19	\$5.93	\$24.53
<i>TPWR</i>	\$2.40	\$1.25	\$0.81	\$4.46
<i>TEP</i>	\$0.87	\$1.94	\$1.79	\$4.60
<i>TID</i>	\$0.21	\$0.24	\$0.22	\$0.67
<i>WALC</i>	\$3.73	\$6.00	\$7.33	\$17.06
Total	\$143.78	\$135.90	\$132.30	\$411.98

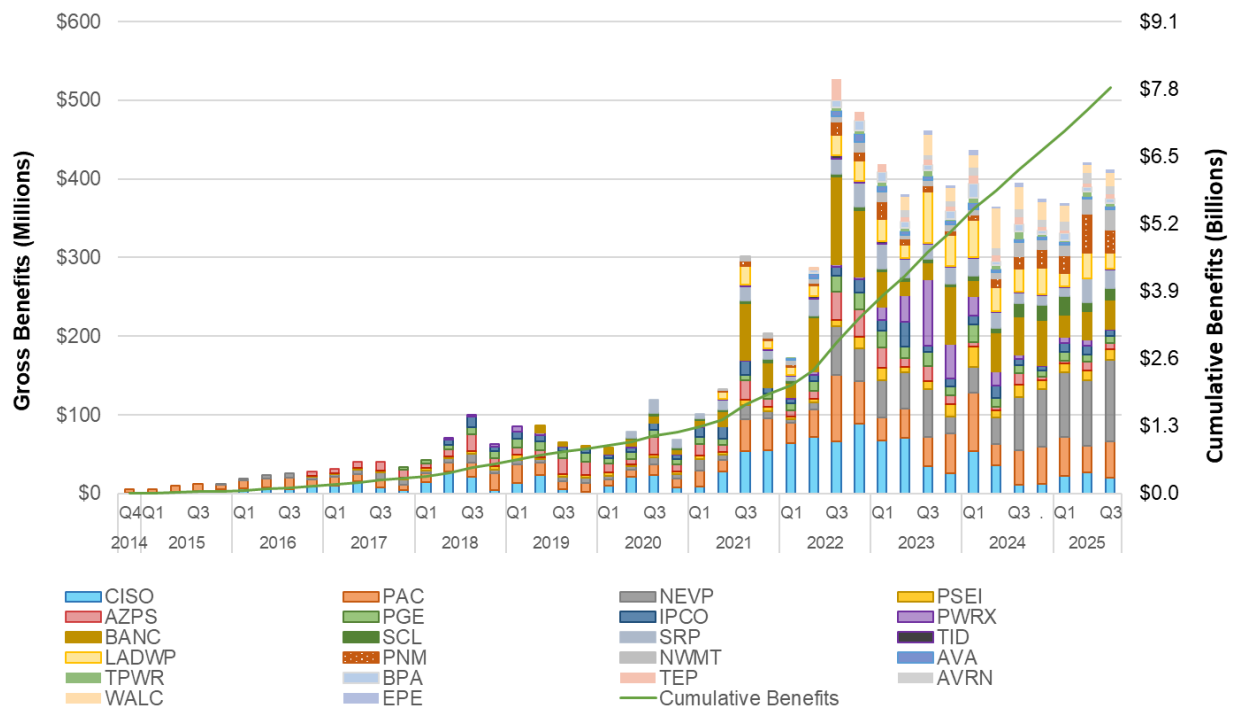
TABLE 1: Q3 2025 benefits in millions USD

CUMULATIVE ECONOMIC BENEFITS SINCE INCEPTION

Since the start of the WEIM in November 2014, the cumulative economic benefits of the market have totaled \$7.82 billion. The quarterly benefits have grown over time as a result of the participation of new BAAs, which results in benefits for both the individual BAA but also compounds the benefits to adjacent BAAs through additional transfers. The ISO began publishing quarterly WEIM benefit reports in April 2015.³

Graph 1 illustrates the gross economic benefits of the WEIM by quarter for each participating BAA.

³ Prior reports are available at <https://www.westerneim.com/Pages/About/QuarterlyBenefits.aspx>



GRAPH 1: Cumulative economic benefits for each quarter by BAA

■ INTER-REGIONAL TRANSFERS

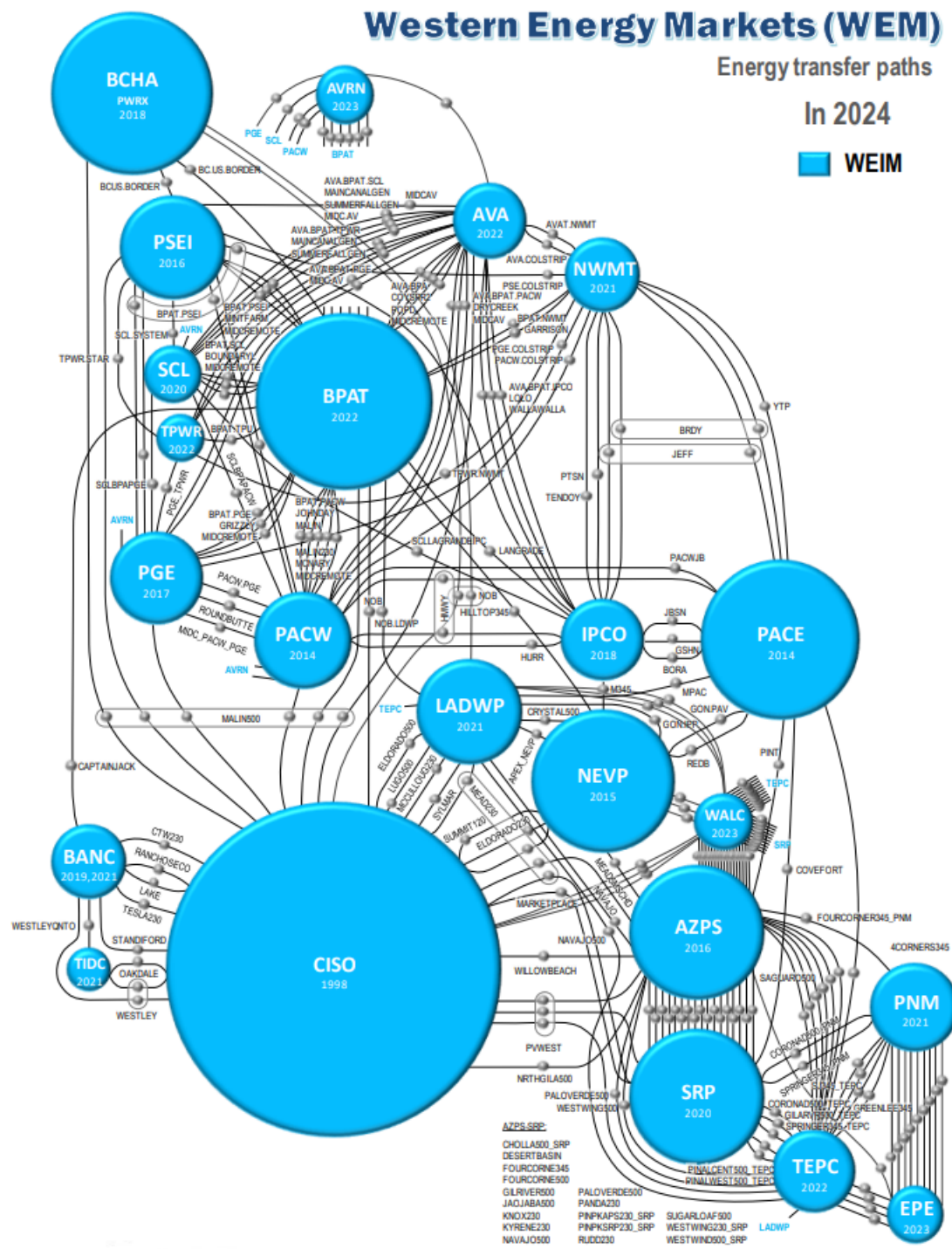
A significant contributor to WEIM benefits is transfers across balancing areas, providing access to lower cost supply, while factoring in the cost of compliance with greenhouse gas (GHG) emissions regulations when energy is transferred into the ISO. As such, the transfer volumes are a good indicator of a portion of the benefits attributed to the WEIM. Transfers can take place in both the 15-Minute Market and Real-Time Dispatch (RTD).

Generally, transfer limits are based on transmission and interchange rights that participating balancing authority areas make available to the WEIM, with the exception of the PacifiCorp West (PACW) -ISO transfer limit and the Portland General Electric (PGE) -ISO transfer limit in RTD. These RTD transfer capacities between PACW/PGE and the ISO are determined based on the allocated dynamic transfer capability driven by system operating conditions. This report does not quantify a BAA's opportunity cost that the utility considered when using its transfer rights for the WEIM. Graph 2 illustrates the WEIM ETSR (Energy Transfer System Resource).

Appendix 2 provides the 15-minute and 5-minute WEIM transfer volumes with base schedule transfers excluded. The WEIM entities submit inter-BAA transfers in their base schedules. The benefits quantified in this report are only attributable to the transfers that occurred through the WEIM. The benefits do not include any transfers attributed to transfers submitted in the base schedules that are scheduled prior to the start of the WEIM.

The transfer from BAA_x to BAA_y and the transfer from BAA_y to BAA_x are separately reported. For example, if there is a 100 Megawatt-Hour (MWh) transfer during a 5-minute interval, in addition to a base transfer from ISO to NVE, it will be reported as 100 MWh from_BAA ISO to_BAA NEVP, and 0 MWh from_BAA NEVP to_BAA ISO in the opposite

direction. The 15-minute transfer volume is the result of optimization in the 15-minute market using all bids and base schedules submitted into the WEIM. The 5-minute transfer volume is the result of optimization using all bids and base schedules submitted into WEIM, based on unit commitments determined in the 15-minute market optimization.



GRAPH 2: WEIM transfer

■ WHEEL-THROUGH TRANSFERS

As the footprint of the WEIM grows, wheel-through transfers may become more common. In order to derive the wheel-through transfers for each WEIM BAA, the ISO uses the following calculation for every real-time interval dispatch:

- *Total import*: summation of transfers above base transfers coming into the WEIM BAA under analysis
- *Total export*: summation of all transfers above base transfers going out of the WEIM BAA under analysis
- *Net import*: the maximum of zero or the difference between total imports and total exports
- *Net export*: the maximum of zero or the difference between total exports and total imports
- *Wheel-through*: the minimum of the WEIM transfers into (total import) or WEIM transfer out (total export) of a BAA for a given interval

All wheel-through transfers are summed over both the month and the quarter.

Currently, a WEIM entity facilitating a wheel through receives no direct financial benefit for facilitating the wheel; only the sink and source directly benefit. As part of the WEIM Consolidated Initiatives stakeholder process, the ISO committed to monitoring the wheel through volumes to assess whether, after the addition of new WEIM entities, there is a potential future need to pursue a market solution to address the equitable sharing of wheeling benefits.

The ISO will continue to track the volume of wheel-through transfers in the WEIM market in the quarterly reports.

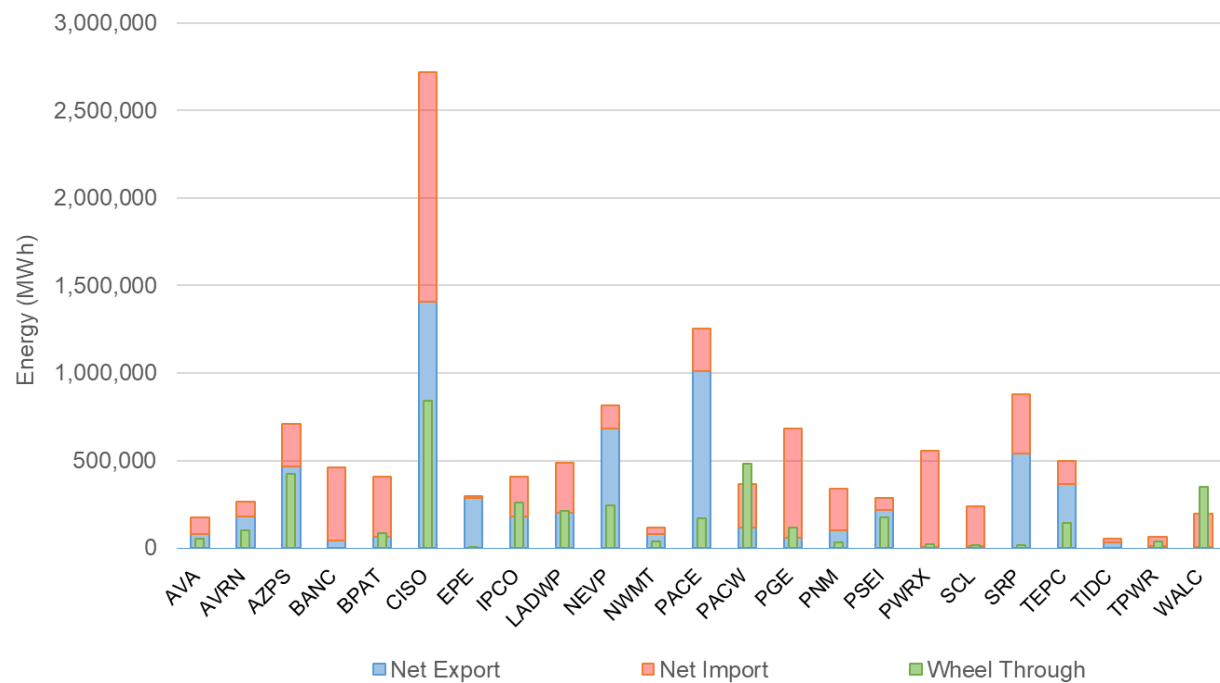
This volume reflects the total wheel-through transfers for each WEIM BAA, regardless of the potential paths used to wheel through. The net imports and exports estimated in this section reflect the overall volume of net imports and exports; in contrast, the imports and exports provided in Table 2 reflect the gross transfers between two WEIM BAAs.

The metric is measured as energy in MWh for each month and the corresponding calendar quarter, as shown in Tables 2 through 5 and Graphs 3 through 6.

BAA	Net Export	Net Import	Wheel Through
AVA	80,053	95,979	52,189
AVRN	178,512	84,682	99,990
AZPS	463,501	243,522	425,438
BANC	43,694	417,656	-
BPAT	63,754	344,940	85,053
CISO	1,408,745	1,312,484	840,505
EPE	284,551	14,329	413
IPCO	179,656	228,556	260,429
LADWP	201,879	285,720	213,383

NEVP	683,877	132,138	246,237
NWMT	80,968	36,775	38,008
PACE	1,008,138	246,999	167,471
PACW	114,888	249,582	481,998
PGE	60,078	623,582	114,413
PNM	98,750	241,168	33,222
PSEI	218,029	66,265	172,455
PWRX	6,048	552,046	23,445
SCL	11,973	228,941	14,951
SRP	539,040	338,626	15,320
TEPC	364,531	131,750	141,160
TIDC	34,346	20,719	-
TPWR	10,503	53,740	37,737
WALC	6,622	191,938	347,469

TABLE 2: Estimated wheel-through transfers in Q3 2025

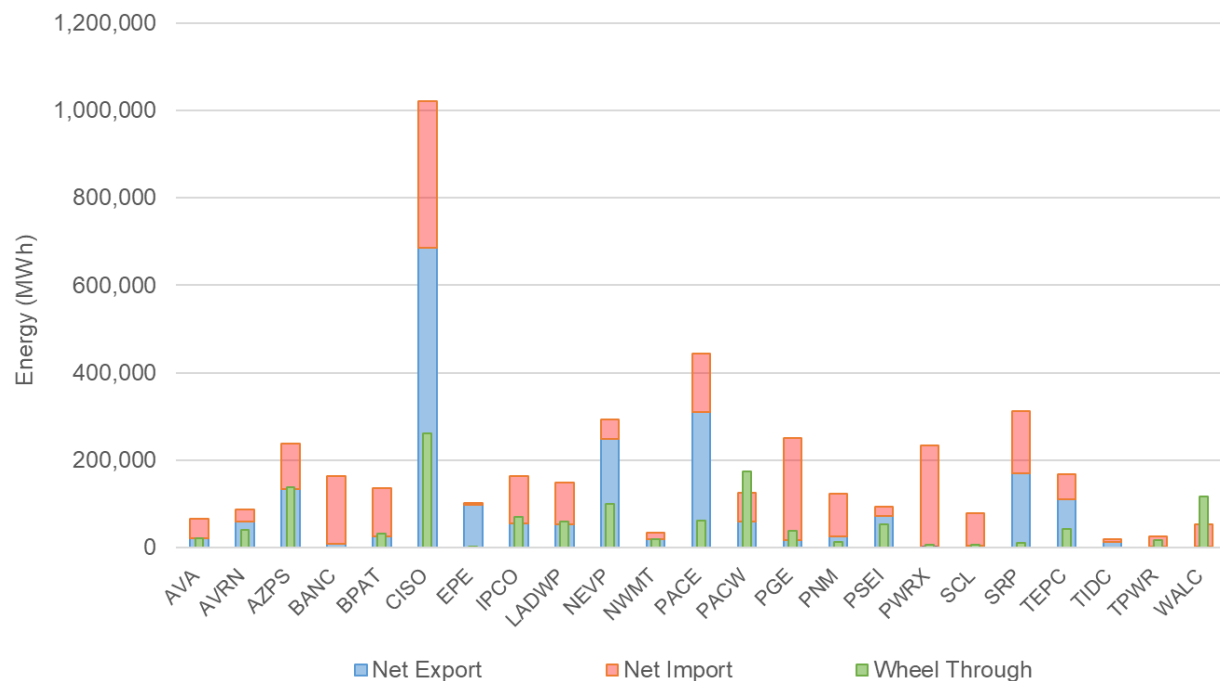


GRAPH 3: Estimated wheel-through transfers in Q3 2025

BAA	Net Export	Net Import	Wheel Through
AVA	22,136	43,651	22,234
AVRN	59,993	27,145	41,359
AZPS	133,407	104,275	137,815
BANC	7,697	156,008	-
BPAT	26,169	109,922	32,163

CISO	684,814	335,272	260,282
EPE	96,675	5,425	81
IPCO	55,662	107,931	70,868
LADWP	52,717	96,059	59,500
NEVP	248,802	43,862	99,787
NWMT	19,520	14,517	18,697
PACE	310,226	132,390	60,977
PACW	58,472	66,371	174,468
PGE	16,087	234,984	38,877
PNM	24,958	98,057	13,136
PSEI	71,168	21,601	53,617
PWRX	672	233,836	7,002
SCL	4,384	75,013	5,496
SRP	170,649	142,416	10,410
TEPC	109,416	57,912	42,594
TIDC	11,976	7,656	-
TPWR	1,402	23,109	16,064
WALC	1,784	51,377	116,846

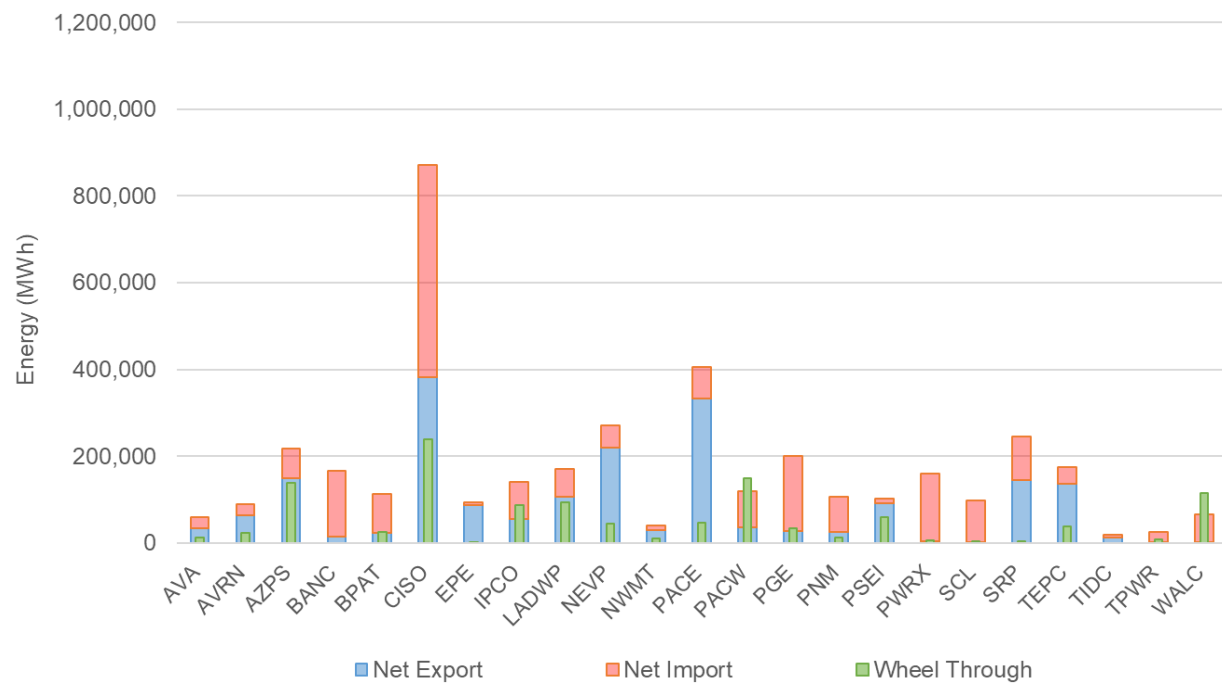
TABLE 3: Estimated wheel-through transfers in July 2025



GRAPH 4: Estimated wheel-through transfers in July 2025

BAA	Net Export	Net Import	Wheel Through
AVA	34,064	25,932	12,613
AVRN	63,092	26,225	23,982
AZPS	149,663	67,333	137,960
BANC	13,812	151,961	-
BPAT	22,321	90,873	25,864
CISO	381,825	489,657	239,783
EPE	87,009	6,843	283
IPCO	54,811	85,736	86,334
LADWP	106,427	64,777	92,464
NEVP	218,835	52,693	44,749
NWMT	29,657	11,356	10,595
PACE	332,745	72,321	45,489
PACW	35,956	82,497	148,680
PGE	27,181	173,299	32,627
PNM	25,487	80,108	12,323
PSEI	91,883	10,303	60,071
PWRX	3,158	155,616	6,227
SCL	1,399	96,681	3,758
SRP	144,950	101,267	3,004
TEPC	136,814	36,996	38,892
TIDC	11,470	7,928	-
TPWR	2,079	22,848	8,656
WALC	2,552	63,940	114,912

TABLE 4: Estimated wheel-through transfers in August 2025

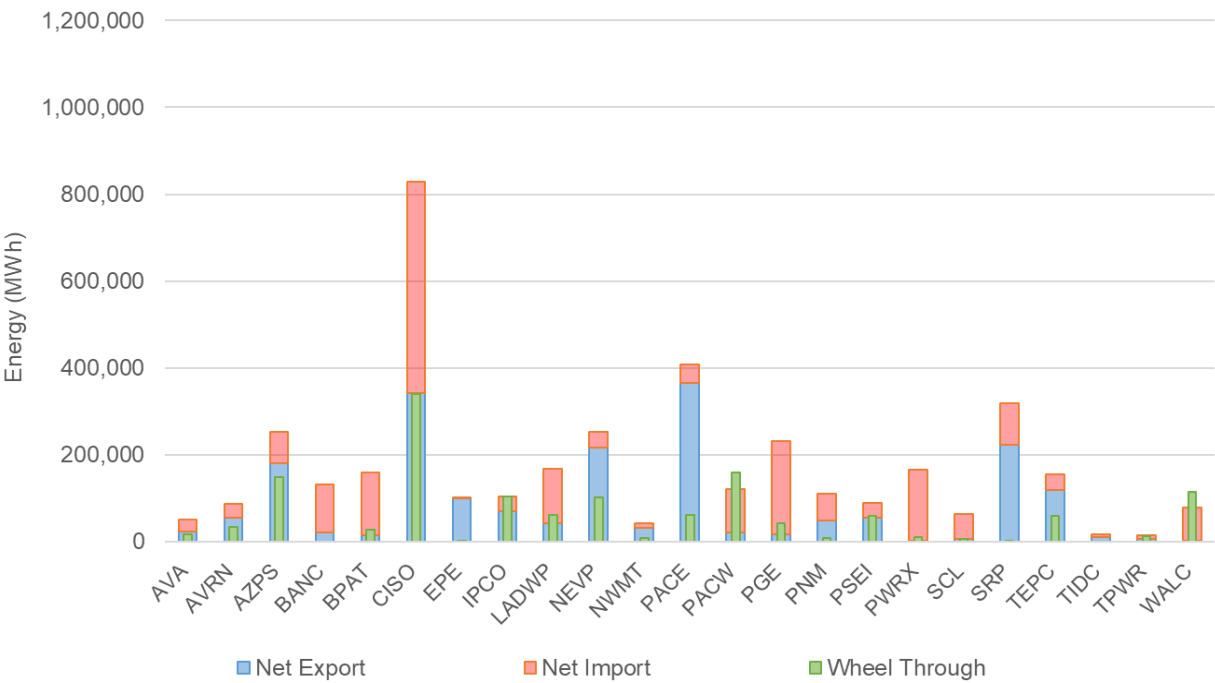


GRAPH 5: Estimated wheel-through transfers in August 2025

BAA	Net Export	Net Import	Wheel Through
AVA	23,854	26,396	17,342
AVRN	55,427	31,312	34,648
AZPS	180,431	71,914	149,664
BANC	22,184	109,686	-
BPAT	15,264	144,146	27,025
CISO	342,107	487,556	340,441
EPE	100,866	2,061	49
IPCO	69,183	34,889	103,227
LADWP	42,734	124,884	61,418
NEVP	216,240	35,583	101,702
NWMT	31,791	10,902	8,716
PACE	365,167	42,288	61,005
PACW	20,460	100,715	158,850
PGE	16,810	215,299	42,910
PNM	48,306	63,003	7,763
PSEI	54,978	34,360	58,767
PWRX	2,218	162,594	10,215
SCL	6,190	57,248	5,697
SRP	223,441	94,943	1,906
TEPC	118,301	36,842	59,674
TIDC	10,899	5,134	-
TPWR	7,021	7,783	13,017

WALC	2,287	76,621	115,710
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TABLE 5: Estimated wheel-through transfers in September 2025



GRAPH 6: Estimated wheel-through transfers in September 2025

■ REDUCED RENEWABLE CURTAILMENT AND GHG REDUCTIONS

The WEIM benefit calculation includes the economic benefits that can be attributed to avoided renewable curtailment within the ISO footprint. If not for energy transfers facilitated by the WEIM, some renewable generation located within the ISO would have been curtailed via either economic or exceptional dispatch. The total avoided renewable curtailment volume in MWh for Q3 2025 was calculated to be 15,689 MWh (July) + 7,138 MWh (August) + 10,401 MWh (September) = 33,227 MWh total.

There are environmental benefits of avoided renewable curtailment as well. Under the assumption that avoided renewable curtailments displace production from other resources at a default emission rate of 0.428 metric tons CO₂/MWh, avoided curtailments displaced an estimated 14,221 metric tons of CO₂ for Q3 2025. Avoided renewable curtailments also may have contributed to an increased volume of renewable credits that would otherwise have been unavailable. This report does not quantify the additional value in dollars associated with this benefit. Total estimated reductions in the curtailment of renewable energy in the ISO footprint, along with the associated reductions in CO₂, are shown in Table 6.

Year	Quarter	MWh	Eq. Tons CO₂
2015	1	8,860	3,792
	2	3,629	1,553
	3	828	354
	4	17,765	7,521
2016	1	112,948	48,342
	2	158,806	67,969
	3	33,094	14,164
	4	23,390	10,011
2017	1	52,651	22,535
	2	67,055	28,700
	3	23,331	9,986
	4	18,060	7,730
2018	1	65,860	28,188
	2	129,128	55,267
	3	19,032	8,146
	4	23,425	10,026
2019	1	52,254	22,365
	2	132,937	56,897
	3	33,843	14,485
	4	35,254	15,089
2020	1	86,740	37,125
	2	147,514	63,136
	3	37,548	16,071
	4	39,956	17,101
2021	1	76,147	32,591
	2	109,059	46,677
	3	23,042	9,862
	4	38,044	16,283
2022	1	94,168	40,304
	2	118,352	50,655
	3	42,468	18,176
	4	25,609	10,960
2023	1	53,002	22,685
	2	148,938	63,745
	3	60,113	25,728

	4	49,880	21,349
2024	1	60,285	25,802
	2	130,656	55,921
	3	53,049	22,705
	4	30,462	13,038
2025	1	76,015	32,534
	2	112,712	48,241
	3	33,227	14,221
Total		2,659,136	1,138,030

TABLE 6: Total reduction in curtailment of renewable energy and associated reductions in CO₂

■ FLEXIBLE RAMPING PROCUREMENT DIVERSITY SAVINGS

The WEIM facilitates procurement of flexible ramping capacity in the FMM to address variability that may occur in the RTD. Because variability across different BAAs may happen in opposite directions, the flexible ramping requirement for the entire WEIM footprint can be less than the sum of individual BAA's requirements. This difference is known as flexible ramping procurement diversity savings.

Starting in 2016, the ISO replaced the flexible ramping constraint with flexible ramping products that provide both upward and downward ramping. The minimum and maximum flexible ramping requirements for each BAA and for each direction are listed in Appendix 3: Minimum & Maximum Ramping Requirements.

The flexible ramping procurement diversity savings for all the intervals averaged over the month are shown in Table 7. The percentage savings is the average MW savings divided by the sum of the individual BAA requirements.

	July		August		September	
<i>Direction</i>	Up	Down	Up	Down	Up	Down
<i>Average MW saving</i>	2,308	2,476	2,147	2,365	2,006	2,259
<i>Sum of BAA requirements</i>	4,166	3,665	3,999	3,495	3,795	3,471
<i>Percentage savings</i>	55%	68%	54%	68%	53%	65%

Table 7: Flexible ramping procurement diversity savings in Q3 2025

Flexible ramping capacity may be used in RTD to handle uncertainties in the future interval. The RTD flexible ramping capacity is prorated to each BAA. Flexible ramping surplus MW is defined as the awarded flexible ramping capacity in RTD minus its share, and the flexible ramping surplus cost is defined as the flexible ramping surplus MW multiplied by the flexible ramping WEIM-wide marginal price. A positive flexible ramping surplus MW is the capacity that a BAA

provided to help other BAAs, and a negative flexible ramping surplus MW is the capacity that a BAA received from other BAAs.

The WEIM dispatch cost for a BAA with positive flexible ramping surplus MW is increased because some capacities are used to help other BAAs. The flexible ramping surplus cost is subtracted from the BAA's WEIM dispatch cost to reflect the true dispatch cost of a BAA. Please see the Benefit Report Methodology for more details.

■ CONCLUSION

Using state-of-the-art technology to find and deliver low-cost energy to meet real-time demand, the WEIM demonstrates that utilities can realize financial and operational benefits through increased coordination and optimization. The WEIM provides significant reliability benefits by enhancing situational awareness and supporting access to surplus energy across a broader western footprint. In addition to these benefits, the WEIM provides significant environmental benefits through the reduction of renewable curtailments during periods of oversupply.

Sharing resources across a larger geographic area reduces greenhouse gas emissions by using renewable generation that otherwise would have been turned off. The quantified environmental benefits from avoided curtailments of renewable generation from 2015 to-date reached 1,138,030 metric tons of CO₂, roughly the equivalent of avoiding the emissions from 239,266 passenger cars driven for one year.

APPENDIX 1: GLOSSARY OF ABBREVIATIONS

Abbreviation	Description
APS	Arizona Public Service
AVA	Avista Utilities
AVRN	Avangrid
BAA	Balancing Authority Area
BANC	Balancing Authority of Northern California
BPA	Bonneville Power Administration
CISO, ISO	California ISO
EIM	Energy Imbalance Market
EPE	El Paso Electric
FMM	Fifteen Minute Market
GHG	Greenhouse Gas
IPCO	Idaho Power
LADWP	Los Angeles Department of Water and Power
MW	Megawatt
MWh	Megawatt-Hour
NVE	NV Energy
NWMT	NorthWestern Energy
PAC	PacifiCorp
PACE	PacifiCorp East
PACW	PacifiCorp West
PGE	Portland General Electric
PNM	Public Service Company of New Mexico
PSE	Puget Sound Energy
PWRX	Powerex
RTD	Real Time Dispatch
SCL	Seattle City Light
SRP	Salt River Project
TEP	Tucson Electric Power
TID	Turlock Irrigation District
TPWR	Tacoma Power
WALC	Western Area Power Administration Desert Southwest
WEIM	Western Energy Imbalance Market

APPENDIX 2: WEIM Transfer Volume (MWh)

Month	From BAA	To BAA	15min WEIM transfer (15m – base)	5min WEIM transfer (5m – base)
July	AVA	AVRN	5,330	5,480
	AVA	BPAT	23,211	19,091
	AVA	CISO	0	0
	AVA	IPCO	7,609	11,444
	AVA	NWMT	1,594	3,839
	AVA	PACW	6,017	4,515
	AVA	PGE	14	0
	AVA	PSEI	2	0
	AVA	SCL	0	0
	AVA	TPWR	0	0
	AVRN	AVA	2,342	2,612
	AVRN	BPAT	62,159	55,763
	AVRN	PACW	20,893	24,994
	AVRN	PGE	13,935	10,633
	AVRN	SCL	8,893	7,351
	AZPS	CISO	149,489	124,714
	AZPS	EPE	299	0
	AZPS	LADWP	9,858	10,240
	AZPS	NEVP	0	0
	AZPS	PACE	84,509	71,899
	AZPS	PNM	35,981	46,623
	AZPS	SRP	13,858	11,851
	AZPS	TEPC	604	254
	AZPS	WALC	5,971	5,640
	BANC	BPAT	0	0
	BANC	CISO	6,986	7,697
	BANC	TIDC	87	0
	BPAT	AVA	2,219	2,040

July	BPAT	AVRN	3,784	3,897
	BPAT	BANC	0	0
	BPAT	CISO	3,346	11,838
	BPAT	IPCO	1,404	13
	BPAT	LADWP	0	0
	BPAT	NEVP	0	0
	BPAT	NWMT	4,709	0
	BPAT	PACW	4,650	5
	BPAT	PGE	13,604	9,682
	BPAT	PSEI	6,154	4,854
	BPAT	PWRX	4,127	0
	BPAT	SCL	4,406	3,278
	BPAT	TPWR	25,489	22,725
	CISO	AVA	0	0
	CISO	AZPS	117,823	97,044
	CISO	BANC	158,870	156,008
	CISO	BPAT	3,677	13,566
	CISO	LADWP	31,188	27,571
	CISO	NEVP	61,298	50,068
	CISO	PACW	19,070	62,648
July	CISO	PGE	117,993	159,954
	CISO	PSEI	46,922	534
	CISO	PWRX	200,245	222,128
	CISO	SRP	123,325	120,082
	CISO	TEPC	193	136
	CISO	TIDC	7,285	7,656
	CISO	WALC	22,062	22,058
	EPE	AZPS	2,067	0
	EPE	PNM	43,816	39,892
	EPE	TEPC	64,095	56,864
	IPCO	AVA	39,452	27,931
	IPCO	BPAT	1,862	186

July	IPCO	NEVP	24,480	22,696
	IPCO	NWMT	1,026	2,084
	IPCO	PACE	9,854	11,273
	IPCO	PACW	73,668	52,189
	IPCO	PSEI	11,508	7,783
	IPCO	SCL	3,000	2,387
	LADWP	AZPS	6,747	8,644
	LADWP	BPAT	0	0
	LADWP	CISO	83,252	78,896
	LADWP	NEVP	15,344	11,525
	LADWP	PACE	9,912	8,748
	LADWP	TEPC	0	0
	LADWP	WALC	5,001	4,405
	NEVP	AZPS	0	0
	NEVP	BPAT	0	0
July	NEVP	CISO	115,617	111,085
	NEVP	IPCO	91,417	79,672
	NEVP	LADWP	31,662	37,922
	NEVP	PACE	94,128	95,200
	NEVP	WALC	21,437	24,709
	NWMT	AVA	33,726	26,609
	NWMT	BPAT	3,314	257
	NWMT	IPCO	4,538	5,118
	NWMT	PACE	4,356	6,233
	NWMT	PACW	14	0
	NWMT	PGE	97	0
	NWMT	PSEI	226	0
	NWMT	TPWR	0	0
	PACE	AZPS	85,726	83,149
	PACE	IPCO	81,202	68,006
	PACE	LADWP	80,787	75,620
	PACE	NEVP	48,645	43,473

July	PACE	NWMT	28,284	27,291
	PACE	PACW	92,785	73,411
	PACE	SRP	0	0
	PACE	TEPC	200	254
	PACW	AVA	5,131	6,692
	PACW	AVRN	35,237	53,459
	PACW	BPAT	3,780	259
	PACW	CISO	11,862	33,883
	PACW	IPCO	13,712	11,507
	PACW	NWMT	0	0
	PACW	PGE	109,786	89,949
	PACW	PSEI	39,206	34,929
	PACW	SCL	2,762	2,264
	PGE	AVA	14	0
	PGE	AVRN	2,787	4,111
July	PGE	BPAT	24,866	26,684
	PGE	CISO	3,046	2,858
	PGE	NWMT	176	0
	PGE	PACW	11,285	16,814
	PGE	PSEI	2,702	2,720
	PGE	SCL	1,876	1,777
	PGE	TPWR	0	0
	PNM	AZPS	28,334	30,445
	PNM	EPE	3,014	2,668
	PNM	SRP	873	1,298
	PNM	TEPC	3,867	3,682
	PSEI	AVA	2	0
	PSEI	BPAT	20,856	20,685
	PSEI	CISO	3,924	1,114
	PSEI	IPCO	373	1,346
	PSEI	NWMT	185	0
	PSEI	PACW	2,539	5,905

July	PSEI	PGE	3,071	2,765
	PSEI	PWRX	19,588	18,711
	PSEI	SCL	63,721	57,810
	PSEI	TPWR	13,629	16,449
	PWRX	BPAT	3,918	0
	PWRX	CISO	0	0
	PWRX	PSEI	5,606	7,675
	SCL	AVA	0	0
	SCL	AVRN	641	1,557
	SCL	BPAT	702	323
	SCL	IPCO	553	1,694
	SCL	PACW	101	358
	SCL	PGE	785	878
	SCL	PSEI	3,010	4,527
	SRP	AZPS	13,920	13,633
	SRP	CISO	148,846	150,335
	SRP	PACE	0	0
	SRP	PNM	0	0
	SRP	TEPC	17,302	12,915
	SRP	WALC	5,251	4,175
	TEPC	AZPS	637	0
	TEPC	CISO	1,196	952
	TEPC	EPE	1,558	2,838
July	TEPC	LADWP	0	0
	TEPC	PACE	7	15
	TEPC	PNM	25,818	24,678
	TEPC	SRP	16,302	16,292
	TEPC	WALC	113,294	107,236
	TIDC	BANC	120	0
	TIDC	CISO	12,029	11,976
	TPWR	AVA	0	0
	TPWR	BPAT	4,355	5,270

July	TPWR	NWMT	0	0
	TPWR	PGE	0	0
	TPWR	PSEI	13,621	12,197
	WALC	AZPS	7,653	9,175
	WALC	CISO	61,591	59,659
	WALC	LADWP	5,802	4,206
	WALC	NEVP	18,791	15,887
	WALC	SRP	3,353	3,303
	WALC	TEPC	22,750	26,400
August	AVA	AVRN	4,723	5,452
	AVA	BPAT	10,524	9,989
	AVA	CISO	0	0
	AVA	IPCO	12,952	19,971
	AVA	NWMT	1,565	4,087
	AVA	PACW	6,480	7,179
	AVA	PGE	0	0
	AVA	PSEI	1	0
	AVA	SCL	1	0
	AVA	TPWR	0	0
	AVRN	AVA	1,785	1,865
	AVRN	BPAT	41,442	35,186
	AVRN	PACW	23,226	31,819
	AVRN	PGE	14,639	11,031
	AVRN	SCL	8,351	7,174
	AZPS	CISO	191,087	147,585
	AZPS	EPE	610	0
	AZPS	LADWP	5,113	5,591
	AZPS	NEVP	0	0
	AZPS	PACE	73,174	67,732
	AZPS	PNM	22,238	34,133
	AZPS	SRP	22,705	23,995
	AZPS	TEPC	842	359

<i>August</i>	AZPS	WALC	8,320	8,228
	BANC	BPAT	0	0
	BANC	CISO	13,187	13,805
	BANC	TIDC	81	7
	BPAT	AVA	637	126
	BPAT	AVRN	4,617	5,445
	BPAT	BANC	0	0
	BPAT	CISO	2,770	10,853
	BPAT	IPCO	906	2
	BPAT	LADWP	0	0
	BPAT	NEVP	0	0
	BPAT	NWMT	3,157	0
	BPAT	PACW	2,483	2
	BPAT	PGE	13,496	10,851
	BPAT	PSEI	6,242	5,080
	BPAT	PWRX	6,069	0
	BPAT	SCL	2,733	2,789
	BPAT	TPWR	14,308	13,037
	CISO	AVA	0	0
	CISO	AZPS	55,438	47,052
	CISO	BANC	152,292	151,863
	CISO	BPAT	3,485	12,371
	CISO	LADWP	10,587	11,461
<i>August</i>	CISO	NEVP	16,183	14,403
	CISO	PACW	11,853	38,862
	CISO	PGE	89,485	116,872
	CISO	PSEI	69,209	1,813
	CISO	PWRX	134,870	149,064
	CISO	SRP	59,279	56,039
	CISO	TEPC	654	469
	CISO	TIDC	7,867	7,922
	CISO	WALC	11,173	10,551

<i>August</i>	EPE	AZPS	2,171	0
	EPE	PNM	39,909	38,138
	EPE	TEPC	60,394	49,155
	IPCO	AVA	17,997	12,503
	IPCO	BPAT	1,177	0
	IPCO	NEVP	33,087	34,161
	IPCO	NWMT	800	1,860
	IPCO	PACE	8,415	17,341
	IPCO	PACW	66,908	53,965
	IPCO	PSEI	18,401	14,667
	IPCO	SCL	8,056	6,648
	LADWP	AZPS	8,138	8,790
	LADWP	BPAT	0	0
	LADWP	CISO	166,216	152,855
	LADWP	NEVP	19,656	17,147
	LADWP	PACE	17,273	14,934
	LADWP	TEPC	0	0
	LADWP	WALC	4,879	5,165
	NEVP	AZPS	0	0
	NEVP	BPAT	0	0
	NEVP	CISO	131,395	133,448
	NEVP	IPCO	87,196	68,704
	NEVP	LADWP	21,654	27,522
	NEVP	PACE	9,683	8,821
	NEVP	WALC	19,778	25,088
	NWMT	AVA	27,007	21,353
	NWMT	BPAT	2,718	0
	NWMT	IPCO	9,908	10,068
	NWMT	PACE	6,088	8,831
<i>August</i>	NWMT	PACW	23	0
	NWMT	PGE	20	0
	NWMT	PSEI	232	0

<i>August</i>	NWMT	TPWR	0	0
	PACE	AZPS	115,034	107,702
	PACE	IPCO	78,888	58,893
	PACE	LADWP	112,702	110,958
	PACE	NEVP	17,379	12,584
	PACE	NWMT	19,779	16,004
	PACE	PACW	96,122	71,965
	PACE	SRP	0	0
	PACE	TEPC	77	128
	PACW	AVA	1,706	2,699
	PACW	AVRN	21,471	32,792
	PACW	BPAT	1,799	0
	PACW	CISO	10,192	40,988
	PACW	IPCO	10,393	10,319
	PACW	NWMT	11	0
	PACW	PGE	80,473	64,751
	PACW	PSEI	37,699	30,895
	PACW	SCL	2,663	2,192
	PGE	AVA	0	0
	PGE	AVRN	3,421	5,440
	PGE	BPAT	22,994	24,350
	PGE	CISO	8,752	8,097
	PGE	NWMT	203	0
	PGE	PACW	12,855	19,444
	PGE	PSEI	1,081	740
	PGE	SCL	1,791	1,736
	PGE	TPWR	0	0
<i>August</i>	PNM	AZPS	29,225	29,964
	PNM	EPE	1,744	1,883
	PNM	SRP	1,989	1,941
	PNM	TEPC	5,023	4,023
	PSEI	AVA	0	0

<i>August</i>	PSEI	BPAT	25,992	30,983
	PSEI	CISO	4,582	1,118
	PSEI	IPCO	1,100	1,892
	PSEI	NWMT	63	0
	PSEI	PACW	4,376	7,938
	PSEI	PGE	2,481	1,741
	PSEI	PWRX	12,694	12,780
	PSEI	SCL	87,293	77,035
	PSEI	TPWR	16,973	18,467
	PWRX	BPAT	2,453	0
	PWRX	CISO	0	0
	PWRX	PSEI	5,411	9,385
	SCL	AVA	1	0
	SCL	AVRN	418	1,080
	SCL	BPAT	229	22
	SCL	IPCO	745	2,222
	SCL	PACW	8	3
	SCL	PGE	624	679
	SCL	PSEI	278	895
	SRP	AZPS	3,992	5,828
	SRP	CISO	138,555	135,962
	SRP	PACE	0	0
	SRP	PNM	2	18
	SRP	TEPC	4,271	4,630
	SRP	WALC	2,798	1,516
<i>August</i>	TEPC	AZPS	560	0
	TEPC	CISO	3,484	3,424
	TEPC	EPE	3,647	5,244
	TEPC	LADWP	0	0
	TEPC	PACE	296	151
	TEPC	PNM	17,783	20,143
	TEPC	SRP	18,485	18,441

<i>August</i>	TEPC	WALC	135,532	128,303
	TIDC	BANC	153	98
	TIDC	CISO	11,412	11,372
	TPWR	AVA	0	0
	TPWR	BPAT	3,482	3,835
	TPWR	NWMT	0	0
	TPWR	PGE	0	0
	TPWR	PSEI	7,844	6,899
	WALC	AZPS	4,970	5,957
	WALC	CISO	73,053	69,675
	WALC	LADWP	2,571	1,709
	WALC	NEVP	17,318	19,146
	WALC	SRP	3,552	3,855
	WALC	TEPC	14,480	17,123
<i>September</i>	AVA	AVRN	7,444	6,433
	AVA	BPAT	12,132	10,307
	AVA	CISO	0	0
	AVA	IPCO	5,903	10,116
	AVA	NWMT	1,551	3,819
	AVA	PACW	12,117	10,521
	AVA	PGE	0	0
	AVA	PSEI	0	0
	AVA	SCL	2	0
	AVA	TPWR	0	0
	AVRN	AVA	834	1,279
	AVRN	BPAT	48,769	44,249
	AVRN	PACW	21,293	28,281
	AVRN	PGE	12,837	10,806
	AVRN	SCL	5,946	5,460
	AZPS	CISO	240,104	226,251
	AZPS	EPE	1,774	0
	AZPS	LADWP	23,856	23,147

September	AZPS	NEVP	0	0
	AZPS	PACE	41,819	26,000
	AZPS	PNM	14,935	25,796
	AZPS	SRP	25,294	23,491
	AZPS	TEPC	775	472
	AZPS	WALC	5,611	4,938
	BANC	BPAT	0	0
	BANC	CISO	22,426	22,184
	BANC	TIDC	39	0
	BPAT	AVA	515	496
	BPAT	AVRN	6,813	7,378
	BPAT	BANC	0	0
	BPAT	CISO	1,300	6,835
	BPAT	IPCO	828	0
	BPAT	LADWP	0	0
	BPAT	NEVP	0	0
	BPAT	NWMT	3,639	0
	BPAT	PACW	1,946	32
	BPAT	PGE	14,388	12,268
	BPAT	PSEI	2,677	2,776
	BPAT	PWRX	5,676	0
	BPAT	SCL	1,367	846
	BPAT	TPWR	9,710	11,658
	CISO	AVA	0	0
	CISO	AZPS	31,332	31,822
September	CISO	BANC	111,498	109,588
	CISO	BPAT	14,319	39,711
	CISO	LADWP	27,735	26,926
	CISO	NEVP	16,899	13,699
	CISO	PACW	22,584	73,342
	CISO	PGE	117,515	152,407
	CISO	PSEI	69,671	691

<i>September</i>	CISO	PWRX	146,181	161,381
	CISO	SRP	48,789	53,828
	CISO	TEPC	408	503
	CISO	TIDC	4,825	5,134
	CISO	WALC	10,568	11,639
	EPE	AZPS	1,326	0
	EPE	PNM	31,287	30,615
	EPE	TEPC	75,951	70,299
	IPCO	AVA	32,840	23,529
	IPCO	BPAT	712	15
	IPCO	NEVP	31,671	44,363
	IPCO	NWMT	369	924
	IPCO	PACE	3,261	4,215
	IPCO	PACW	71,177	50,293
	IPCO	PSEI	45,861	34,471
	IPCO	SCL	17,809	14,599
	LADWP	AZPS	4,138	5,819
	LADWP	BPAT	0	0
	LADWP	CISO	73,954	61,090
	LADWP	NEVP	9,382	7,583
	LADWP	PACE	31,330	26,556
	LADWP	TEPC	0	0
	LADWP	WALC	3,811	3,103
	NEVP	AZPS	0	0
	NEVP	BPAT	0	0
<i>September</i>	NEVP	CISO	167,513	180,539
	NEVP	IPCO	40,882	29,011
	NEVP	LADWP	41,492	50,431
	NEVP	PACE	35,152	36,441
	NEVP	WALC	15,867	21,519
	NWMT	AVA	23,065	16,288
	NWMT	BPAT	4,298	157

September	NWMT	IPCO	15,313	13,987
	NWMT	PACE	6,648	10,075
	NWMT	PACW	101	0
	NWMT	PGE	260	0
	NWMT	PSEI	388	0
	NWMT	TPWR	0	0
	PACE	AZPS	119,713	124,033
	PACE	IPCO	113,390	79,162
	PACE	LADWP	80,348	77,808
	PACE	NEVP	65,961	62,256
	PACE	NWMT	15,279	14,874
	PACE	PACW	79,666	67,063
	PACE	SRP	0	0
	PACE	TEPC	985	976
	PACW	AVA	1,222	2,147
	PACW	AVRN	31,539	44,270
	PACW	BPAT	2,696	463
	PACW	CISO	5,853	23,497
	PACW	IPCO	4,442	5,476
	PACW	NWMT	3	0
	PACW	PGE	83,948	77,106
	PACW	PSEI	22,864	24,817
	PACW	SCL	1,699	1,534
September	PGE	AVA	0	0
	PGE	AVRN	3,964	4,814
	PGE	BPAT	29,801	28,142
	PGE	CISO	6,443	5,871
	PGE	NWMT	212	0
	PGE	PACW	15,093	19,100
	PGE	PSEI	434	529
	PGE	SCL	1,222	1,264
	PGE	TPWR	0	0

September	PNM	AZPS	40,526	46,639
	PNM	EPE	820	1,228
	PNM	SRP	3,669	3,625
	PNM	TEPC	5,516	4,578
	PSEI	AVA	0	0
	PSEI	BPAT	39,136	38,982
	PSEI	CISO	2,814	2,024
	PSEI	IPCO	70	210
	PSEI	NWMT	179	0
	PSEI	PACW	12,268	10,206
	PSEI	PGE	5,580	4,385
	PSEI	PWRX	9,617	11,428
	PSEI	SCL	41,289	37,367
	PSEI	TPWR	8,277	9,142
	PWRX	BPAT	3,782	0
	PWRX	CISO	0	0
	PWRX	PSEI	11,712	12,433
	SCL	AVA	2	0
	SCL	AVRN	2,714	3,066
	SCL	BPAT	477	224
	SCL	IPCO	109	154
	SCL	PACW	679	727
	SCL	PGE	1,262	1,237
	SCL	PSEI	4,276	6,289
September	SRP	AZPS	10,048	9,838
	SRP	CISO	208,779	208,021
	SRP	PACE	0	0
	SRP	PNM	0	0
	SRP	TEPC	3,995	3,128
	SRP	WALC	3,660	4,359
	TEPC	AZPS	371	0
	TEPC	CISO	2,427	2,385

<i>September</i>	TEPC	EPE	874	882
	TEPC	LADWP	0	0
	TEPC	PACE	0	6
	TEPC	PNM	12,612	14,355
	TEPC	SRP	14,659	13,576
	TEPC	WALC	156,136	146,773
	TIDC	BANC	178	98
	TIDC	CISO	10,850	10,802
	TPWR	AVA	0	0
	TPWR	BPAT	9,092	8,920
	TPWR	NWMT	0	0
	TPWR	PGE	0	0
	TPWR	PSEI	10,654	11,118
	WALC	AZPS	3,005	3,427
	WALC	CISO	80,908	78,308
	WALC	LADWP	9,801	7,990
	WALC	NEVP	9,774	9,384
	WALC	SRP	2,649	2,329
	WALC	TEPC	11,888	16,558

APPENDIX 3: Minimum & Maximum Flexible Ramping Requirements

Month	BAA	Direction	Minimum requirement	Maximum requirement
July	AVA	up	8	96
	AVRN	up	28	393
	AZPS	up	73	492
	BANC	up	8	91
	BPAT	up	35	414
	CISO	up	430	3,353
	EPE	up	10	111
	IPCO	up	40	312
	LADWP	up	25	317
	NEVP	up	32	965
	NWMT	up	15	127
	PACE	up	22	852
	PACW	up	35	193
	PGE	up	35	216
	PNM	up	0	532
	PSEI	up	21	265
	PWRX	up	47	243
	SCL	up	3	30
	SRP	up	32	373
	TEPC	up	0	176
	TIDC	up	2	12
	TPWR	up	2	16
	WALC	up	7	50
	ALL EIM	up	399	4,330
July	AVA	down	0	119
	AVRN	down	0	340
	AZPS	down	56	421
	BANC	down	8	119
	BPAT	down	39	502
	CISO	down	21	1,441
	EPE	down	9	94
	IPCO	down	8	331

July	LADWP	down	12	296
	NEVP	down	33	724
	NWMT	down	17	159
	PACE	down	12	973
	PACW	down	13	224
	PGE	down	0	236
	PNM	down	22	535
	PSEI	down	31	253
	PWRX	down	38	285
	SCL	down	0	38
	SRP	down	57	318
	TEPC	down	0	175
	TIDC	down	3	18
	TPWR	down	0	18
	WALC	down	8	60
	ALL EIM	down	123	2,399
August	AVA	up	12	90
	AVRN	up	14	372
	AZPS	up	37	432
	BANC	up	8	86
	BPAT	up	20	389
	CISO	up	390	3,073
	EPE	up	7	134
	IPCO	up	26	316
	LADWP	up	20	372
	NEVP	up	29	808
	NWMT	up	10	141
	PACE	up	53	919
	PACW	up	11	184
	PGE	up	0	220
	PNM	up	27	566
	PSEI	up	24	223
	PWRX	up	0	251
	SCL	up	0	29
	SRP	up	47	352
	TEPC	up	16	169

<i>August</i>	<i>TIDC</i>	up	2	13
	<i>TPWR</i>	up	3	15
	<i>WALC</i>	up	5	51
	ALL WEIM	up	644	4,619
	<i>AVA</i>	down	17	119
	<i>AVRN</i>	down	0	294
	<i>AZPS</i>	down	0	424
	<i>BANC</i>	down	8	110
	<i>BPAT</i>	down	42	404
	<i>CISO</i>	down	57	1,382
	<i>EPE</i>	down	11	115
	<i>IPCO</i>	down	3	302
	<i>LADWP</i>	down	42	275
	<i>NEVP</i>	down	24	600
	<i>NWMT</i>	down	17	159
	<i>PACE</i>	down	26	1,175
	<i>PACW</i>	down	15	209
	<i>PGE</i>	down	0	222
	<i>PNM</i>	down	40	492
	<i>PSEI</i>	down	42	277
	<i>PWRX</i>	down	59	276
	<i>SCL</i>	down	0	28
	<i>SRP</i>	down	36	255
	<i>TEPC</i>	down	0	138
	<i>TIDC</i>	down	3	14
	<i>TPWR</i>	down	4	18
	<i>WALC</i>	down	0	50
	ALL EIM	down	5	2,130
<i>September</i>	<i>AVA</i>	up	12	84
	<i>AVRN</i>	up	2	377
	<i>AZPS</i>	up	66	478
	<i>BANC</i>	up	9	86
	<i>BPAT</i>	up	44	389
	<i>CISO</i>	up	294	3,073
	<i>EPE</i>	up	0	127

September	IPCO	up	38	306
	LADWP	up	16	372
	NEVP	up	32	781
	NWMT	up	0	143
	PACE	up	48	1,030
	PACW	up	21	154
	PGE	up	18	220
	PNM	up	7	484
	PSEI	up	5	223
	PWRX	up	47	248
	SCL	up	3	26
	SRP	up	29	355
	TEPC	up	29	172
	TIDC	up	2	13
	TPWR	up	3	15
	WALC	up	0	79
	ALL WEIM	up	558	4,159
	AVA	down	2	118
	AVRN	down	0	299
	AZPS	down	76	412
	BANC	down	8	123
	BPAT	down	18	469
	CISO	down	137	1,624
	EPE	down	5	104
	IPCO	down	21	297
	LADWP	down	31	284
	NEVP	down	24	687
	NWMT	down	8	135
	PACE	down	89	1,082
September	PACW	down	6	27
	PGE	down	15	193
	PNM	down	28	475
	PSEI	down	19	272
	PWRX	down	27	276
	SCL	down	3	28
	SRP	down	53	255

	<i>TEPC</i>	down	11	138
	<i>TIDC</i>	down	3	14
	<i>TPWR</i>	down	3	17
	<i>WALC</i>	down	0	50
	ALL WEIM	down	187	2,140