WESTERN ENERGY IMBALANCE MARKET BENEFITS REPORT

Fourth Quarter 2025

Prepared by: Market Performance and Advanced Analytics

February 13, 2026

CONTENTS

EXECUTIVE SUMMARY

Gross benefits from WEIM since November 2014

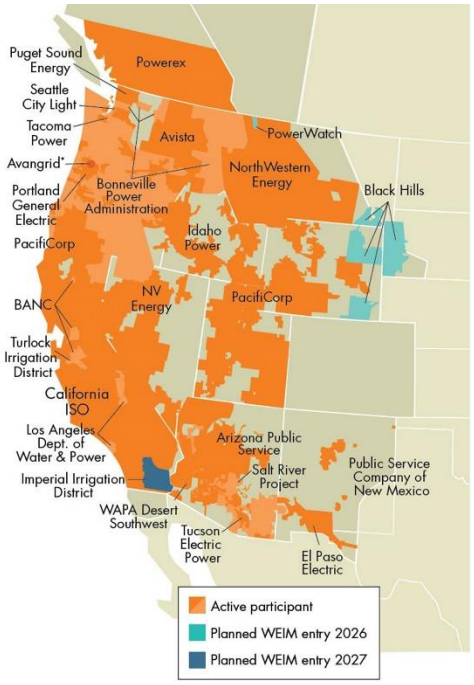
$8.24 billion

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.

Q4 2025 Gross Benefits by Participant (entry year)

($ millions)

Arizona Public Service (2016)	$9.46
AVANGRID (2023)	$19.85
Avista (2022)	$5.79
Balancing Authority of Northern California (2019)	$37.15
Bonneville Power Administration (2022)	$3.83
California ISO (2014)	$8.21
El Paso Electric (2023)	$3.67
Idaho Power Company (2018)	$7.69
Los Angeles Dept. of Water & Power (2021)	$40.71
NV Energy (2015)	$83.10
NorthWestern Energy (2021)	$23.41
PacifiCorp (2014)	$66.45
Portland General Electric (2017)	$10.76
Public Service Company New Mexico (2021)	$34.78
Puget Sound Energy (2016)	$16.58
Powerex (2018)	$0.93
Seattle City Light (2020)	$9.00
Salt River Project (2020)	$10.52
Tacoma Power (2022)	$3.05
Tucson Electric Power (2022)	$4.52
Turlock Irrigation District (2021)	$0.60
WAPA Desert Southwest Region (2023)	$15.59
Total	$415.65



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

2025 Q4 BENEFITS

ECONOMICAL

$415.65 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

15,520

Metric tons of CO_2** avoided curtailments

OPERATIONAL

58%

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.westerneim.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 Q4 2025

Table 2 shows the estimated WEIM gross benefits by each region per month[1]. The monthly savings presented show $143.55 million for October, $125.13 million for November and $146.97 million for December with a total estimated benefit of $415.65 million for this quarter[2]. 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.

Region	October	November	December	Total
APS	$4.71	$2.89	$1.86	$9.46
AVRN	$7.41	$5.27	$7.17	$19.85
AVA	$1.89	$1.95	$1.95	$5.79
BANC	$13.02	$11.13	$13.00	$37.15
BPA	$1.37	$1.09	$1.37	$3.83
CISO	$4.47	$4.29	-$0.55	$8.21
EPE	$1.34	$1.42	$0.91	$3.67
IPCO	$2.65	$2.29	$2.75	$7.69
LADWP	$5.43	$6.62	$28.66	$40.71
NVE	$34.42	$24.10	$24.58	$83.10
NWMT	$7.99	$5.97	$9.45	$23.41
PAC	$18.87	$23.42	$24.16	$66.45
PGE	$3.30	$2.59	$4.87	$10.76
PNM	$16.70	$9.24	$8.84	$34.78
PSE	$5.77	$6.66	$4.15	$16.58
PWRX	$0.56	-$0.14	$0.51	$0.93
SCL	$2.45	$4.25	$2.30	$9.00
SRP	$3.80	$4.15	$2.57	$10.52
TPWR	$0.82	$0.94	$1.29	$3.05
TEP	$2.20	$1.16	$1.16	$4.52
TID	$0.23	$0.17	$0.20	$0.60
WALC	$4.15	$5.67	$5.77	$15.59
Total	$143.55	$125.13	$146.97	$415.65

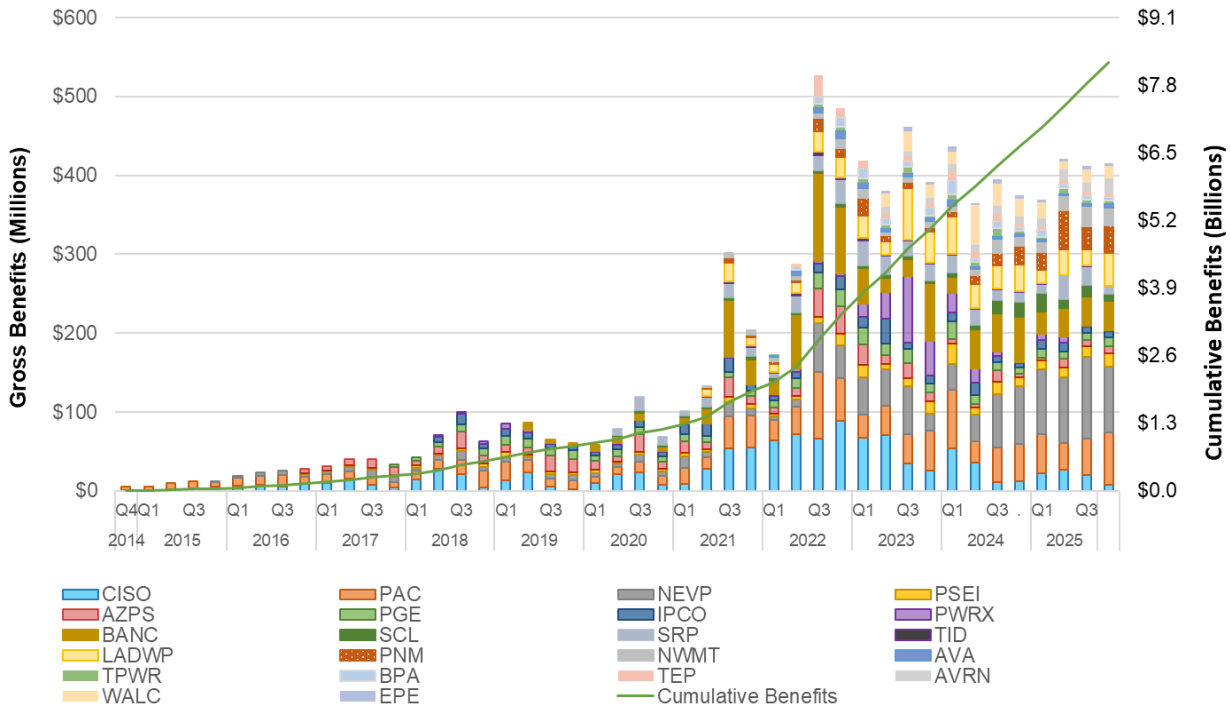
TABLE 1: Q4 2025 benefits in millions USD

CUMULATIVE ECONOMIC BENEFITS SINCE INCEPTION

Since the start of the WEIM in November 2014, the cumulative economic benefits of the market have totaled $8.24 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

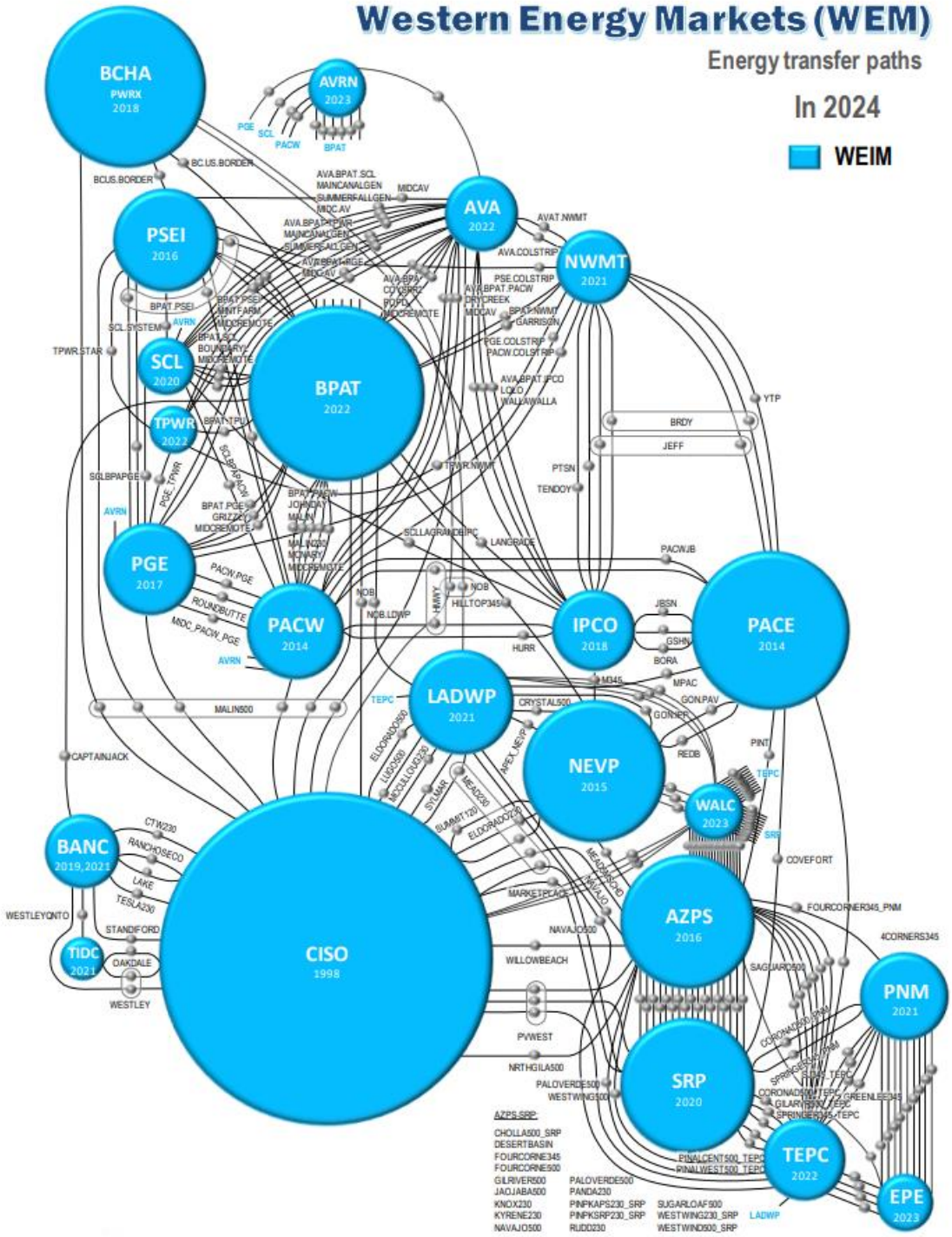
A significant contributor to WEIM benefits is transfers across balancing areas, providing access to lower cost supply, while factoring in the cost of compliance with greenhouse gas (GHG) emissions regulations when energy is transferred into the ISO. As such, the transfer volumes are a good indicator 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.

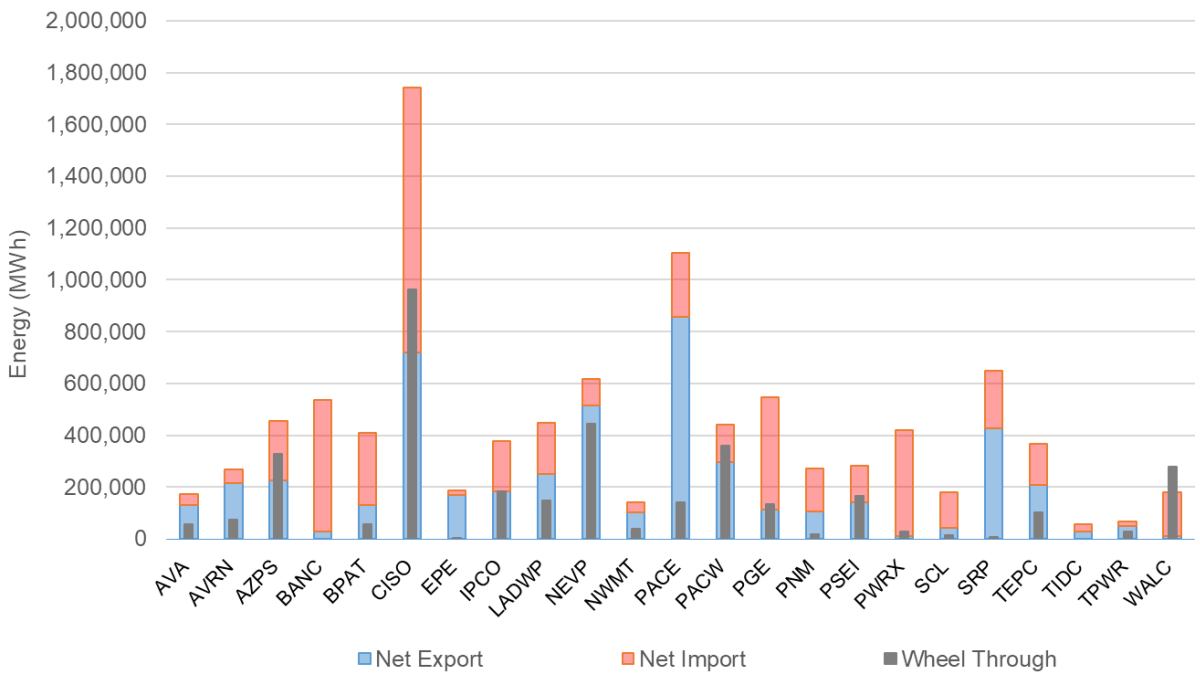
This volume reflects the total wheel-through transfers for each WEIM BAA, regardless of the potential paths used to wheel through. The net imports and exports estimated in this section reflect the overall volume of net imports and exports; in contrast, the imports and exports provided in Table 2 reflect 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	129,203	45,617	58,252
AVRN	216,372	51,622	74,450
AZPS	224,298	231,154	327,982
BANC	28,099	507,535	-
BPAT	130,045	277,712	55,475
CISO	720,188	1,023,490	964,219
EPE	168,937	17,228	762
IPCO	183,051	195,986	183,197
LADWP	250,431	198,961	149,118

NEVP	514,474	103,272	445,994
NWMT	102,091	39,434	38,713
PACE	857,654	246,476	139,635
PACW	296,335	145,112	361,747
PGE	112,360	433,229	135,854
PNM	107,573	163,506	16,364
PSEI	139,676	143,164	165,257
PWRX	9,601	408,684	29,547
SCL	42,910	136,277	15,520
SRP	427,248	222,944	6,570
TEPC	210,080	156,218	103,714
TIDC	29,041	27,029	-
TPWR	48,437	19,405	29,107
WALC	12,196	166,244	279,875

TABLE 2: Estimated wheel-through transfers in Q4 2025

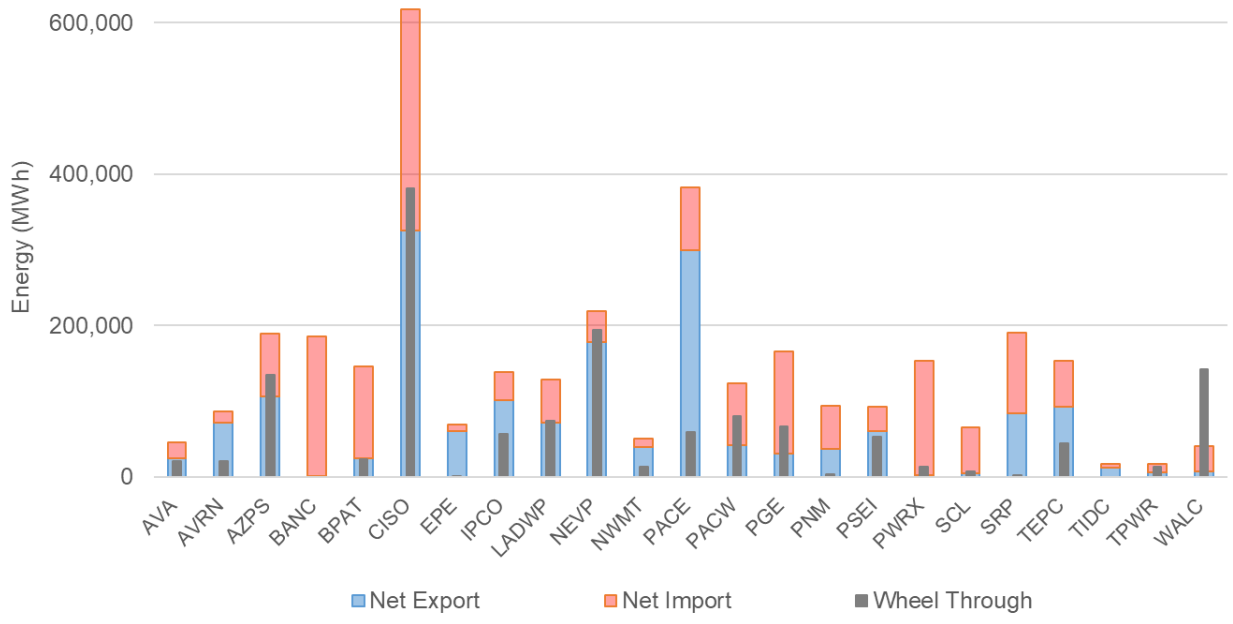


GRAPH 3: Estimated wheel-through transfers in Q4 2025

BAA	Net Export	Net Import	Wheel Through
AVA	24,156	21,674	21,009
AVRN	72,371	13,801	21,158
AZPS	106,142	83,199	135,382
BANC	1,708	183,830	-
BPAT	24,690	120,876	23,803

CISO	326,073	291,841	381,626
EPE	61,119	8,246	369
IPCO	102,107	36,765	56,777
LADWP	71,310	57,251	73,919
NEVP	177,888	41,711	193,798
NWMT	39,352	11,255	13,346
PACE	299,713	82,898	59,513
PACW	41,905	81,563	80,471
PGE	31,037	135,019	66,268
PNM	37,664	56,737	3,759
PSEI	60,728	32,159	53,789
PWRX	2,551	150,823	14,028
SCL	4,790	60,308	7,927
SRP	84,139	107,134	2,421
TEPC	92,388	61,597	44,650
TIDC	12,630	4,826	-
TPWR	5,963	11,732	13,908
WALC	7,940	33,118	142,514

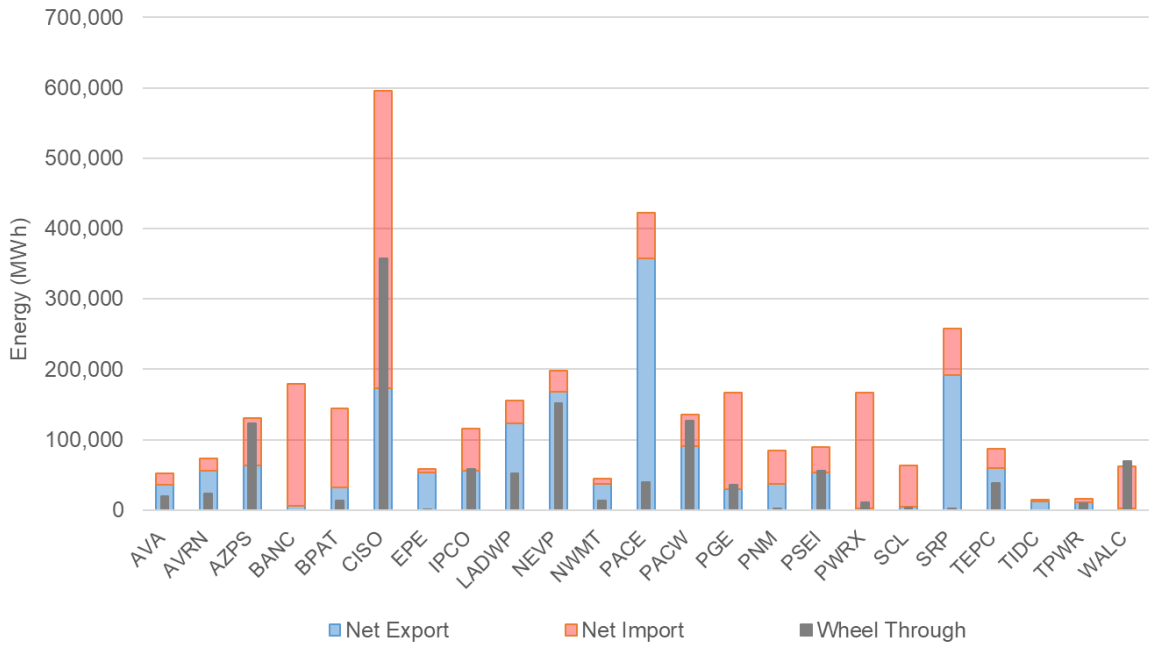
TABLE 3: Estimated wheel-through transfers in October 2025



GRAPH 4: Estimated wheel-through transfers in October 2025

BAA	Net Export	Net Import	Wheel Through
AVA	35,254	16,827	20,054
AVRN	56,069	17,007	22,983
AZPS	63,652	66,597	123,286
BANC	5,636	173,712	-
BPAT	31,787	112,508	13,086
CISO	172,922	422,196	356,985
EPE	52,798	5,101	168
IPCO	56,191	59,016	58,120
LADWP	122,908	32,300	51,524
NEVP	167,565	29,993	151,318
NWMT	37,615	6,983	13,593
PACE	357,071	65,600	40,087
PACW	91,274	44,480	127,076
PGE	29,905	136,257	35,749
PNM	37,292	46,682	2,307
PSEI	53,484	36,421	56,137
PWRX	1,713	164,983	10,772
SCL	5,196	58,273	2,841
SRP	192,190	65,553	1,877
TEPC	59,068	28,417	38,075
TIDC	12,713	2,202	-
TPWR	11,028	5,093	9,177
WALC	2,343	59,476	69,113

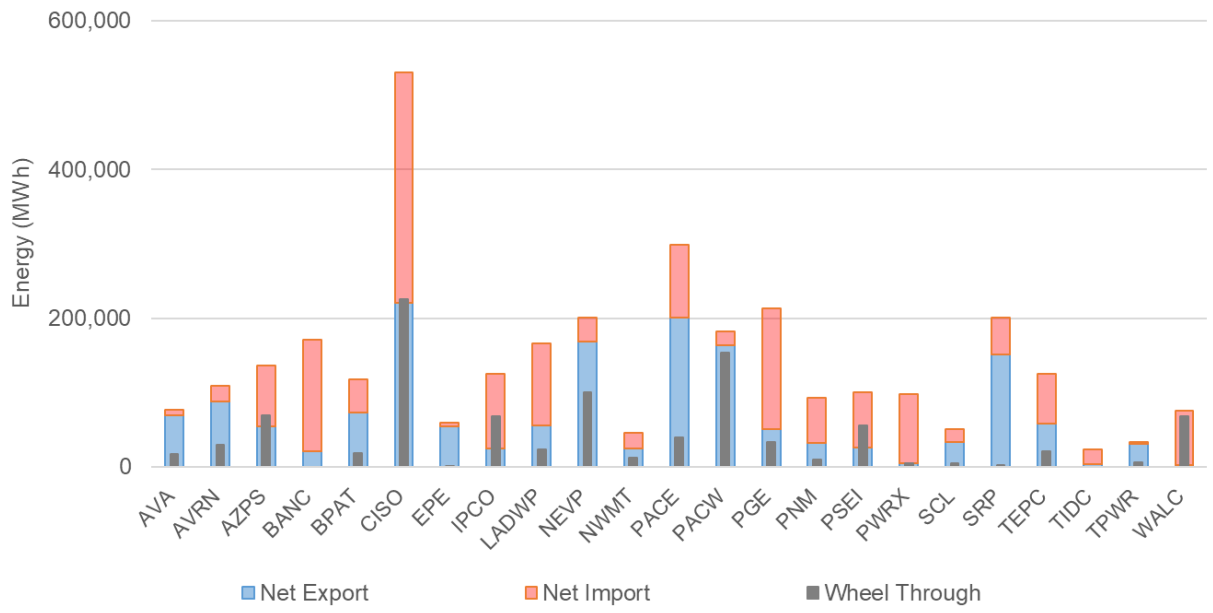
TABLE 4: Estimated wheel-through transfers in November 2025



GRAPH 5: Estimated wheel-through transfers in November 2025

BAA	Net Export	Net Import	Wheel Through
AVA	69,793	7,116	17,189
AVRN	87,932	20,814	30,308
AZPS	54,504	81,359	69,314
BANC	20,755	149,993	-
BPAT	73,569	44,328	18,587
CISO	221,193	309,453	225,608
EPE	55,020	3,882	225
IPCO	24,753	100,205	68,299
LADWP	56,213	109,410	23,676
NEVP	169,021	31,568	100,878
NWMT	25,124	21,197	11,774
PACE	200,871	97,977	40,035
PACW	163,155	19,068	154,200
PGE	51,417	161,953	33,837
PNM	32,618	60,087	10,298
PSEI	25,464	74,584	55,331
PWRX	5,337	92,878	4,746
SCL	32,924	17,697	4,752
SRP	150,919	50,258	2,272
TEPC	58,624	66,204	20,989
TIDC	3,698	20,001	-
TPWR	31,445	2,581	6,021
WALC	1,912	73,650	68,249

TABLE 5: Estimated wheel-through transfers in December 2025



GRAPH 6: Estimated wheel-through transfers in December 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 Q4 2025 was calculated to be 19,478 MWh (October) + 6,945 MWh (November) + 9,837 MWh (December) = 36,261 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 CO_2/MWh, avoided curtailments displaced an estimated 15,520 metric tons of CO_2 for Q4 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 CO_2, are shown in Table 6.

Year	Quarter	MWh	Eq. Tons CO_2
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
	4	36,261	15,520
Total		2,695,397	1,153,550

TABLE 6: Total reduction in curtailment of renewable energy and associated reductions in CO_2

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.

	October		**November**		**December**	
Direction	Up	Down	Up	Down	Up	Down
Average MW saving	2,095	2,193	2,047	2,160	2,128	2,301
Sum of BAA requirements	3,802	3,395	3,766	3,518	3,960	3,824
Percentage savings	55%	65%	54%	61%	54%	60%

Table 7: Flexible ramping procurement diversity savings in Q4 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 1,153,550 metric tons of CO_2, roughly the equivalent of avoiding the emissions from 242,529 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)
October	AVA	AVRN	7,989	6,504
	AVA	BPAT	17,577	14,172
	AVA	CISO	0	0
	AVA	IPCO	10,904	16,246
	AVA	NWMT	2,864	4,774
	AVA	PACW	4,895	3,468
	AVA	PGE	0	0
	AVA	PSEI	0	0
	AVA	SCL	3	0
	AVA	TPWR	0	0
	AVRN	AVA	1,969	2,589
	AVRN	BPAT	32,253	32,684
	AVRN	PACW	43,894	41,197
	AVRN	PGE	13,015	11,145
	AVRN	SCL	6,200	5,914
	AZPS	CISO	177,627	162,460
	AZPS	EPE	3,128	0
	AZPS	LADWP	5,365	7,060
	AZPS	NEVP	0	0
	AZPS	PACE	19,470	14,636
	AZPS	PNM	20,350	29,937
	AZPS	SRP	21,020	23,937
	AZPS	TEPC	993	415
	AZPS	WALC	3,956	3,079
	BANC	BPAT	0	0
	BANC	CISO	1,702	1,708
	BANC	TIDC	49	0
	BPAT	AVA	3,045	1,486

	BPAT	AVRN	8,670	7,233
October	BPAT	BANC	0	0
	BPAT	CISO	648	5,843
	BPAT	IPCO	4,054	0
	BPAT	LADWP	0	0
	BPAT	NEVP	0	0
	BPAT	NWMT	5,601	0
	BPAT	PACW	3,255	168
	BPAT	PGE	19,949	15,680
	BPAT	PSEI	4,328	4,230
	BPAT	PWRX	5,188	0
	BPAT	SCL	1,282	1,319
	BPAT	TPWR	11,809	12,533
	CISO	AVA	0	0
	CISO	AZPS	34,672	32,348
	CISO	BANC	184,912	183,830
	CISO	BPAT	10,612	28,069
	CISO	LADWP	18,074	18,434
	CISO	NEVP	13,011	11,288
	CISO	PACW	28,349	57,896
	CISO	PGE	114,732	134,631
	CISO	PSEI	89,856	758
	CISO	PWRX	141,298	153,151
October	CISO	SRP	70,636	65,688
	CISO	TEPC	0	0
	CISO	TIDC	4,438	4,826
	CISO	WALC	14,358	12,517
	EPE	AZPS	339	0
	EPE	PNM	11,713	11,037
	EPE	TEPC	55,322	50,451
	IPCO	AVA	25,071	18,423
	IPCO	BPAT	1,038	66

	IPCO	NEVP	53,201	87,207
	IPCO	NWMT	552	585
October	IPCO	PACE	11,907	14,965
	IPCO	PACW	483	0
	IPCO	PSEI	34,566	24,191
	IPCO	SCL	17,749	13,447
	LADWP	AZPS	3,493	4,042
	LADWP	BPAT	0	0
	LADWP	CISO	71,227	57,223
	LADWP	NEVP	6,219	7,292
	LADWP	PACE	71,763	70,056
	LADWP	TEPC	0	0
	LADWP	WALC	6,410	6,616
	NEVP	AZPS	0	0
	NEVP	BPAT	0	0
	NEVP	CISO	206,647	226,557
	NEVP	IPCO	18,924	12,307
	NEVP	LADWP	56,074	57,021
	NEVP	PACE	25,647	25,666
October	NEVP	WALC	42,320	50,135
	NWMT	AVA	24,865	18,003
	NWMT	BPAT	3,082	31
	NWMT	IPCO	18,329	17,864
	NWMT	PACE	11,732	16,799
	NWMT	PACW	172	0
	NWMT	PGE	855	0
	NWMT	PSEI	323	0
	NWMT	TPWR	0	0
	PACE	AZPS	132,859	139,784
	PACE	IPCO	39,413	35,628
	PACE	LADWP	50,444	37,536
	PACE	NEVP	120,210	124,676

	PACE	NWMT	21,931	19,242
	PACE	PACW	0	0
October	PACE	SRP	0	0
	PACE	TEPC	2,036	2,361
	PACW	AVA	2,452	2,182
	PACW	AVRN	5,225	12,669
	PACW	BPAT	2,683	204
	PACW	CISO	12,155	39,994
	PACW	IPCO	9,994	9,408
	PACW	NWMT	2	0
	PACW	PGE	36,591	35,389
	PACW	PSEI	18,502	21,133
	PACW	SCL	1,415	1,397
	PGE	AVA	0	0
	PGE	AVRN	3,223	5,827
	PGE	BPAT	38,479	37,149
	PGE	CISO	7,481	6,853
	PGE	NWMT	564	0
	PGE	PACW	36,163	44,186
October	PGE	PSEI	1,673	1,854
	PGE	SCL	1,384	1,436
	PGE	TPWR	0	0
	PNM	AZPS	24,619	28,748
	PNM	EPE	4,622	3,967
	PNM	SRP	1,283	1,628
	PNM	TEPC	8,446	7,080
	PSEI	AVA	0	0
	PSEI	BPAT	23,819	23,148
	PSEI	CISO	3,410	6,484
	PSEI	IPCO	702	2,089
	PSEI	NWMT	177	0
	PSEI	PACW	15,471	14,143

	PSEI	PGE	4,422	3,388
October	PSEI	PWRX	9,261	11,700
	PSEI	SCL	46,171	40,458
	PSEI	TPWR	12,795	13,107
	PWRX	BPAT	3,522	0
	PWRX	CISO	0	0
	PWRX	PSEI	13,893	16,580
	SCL	AVA	1	0
	SCL	AVRN	2,853	2,726
	SCL	BPAT	625	104
	SCL	IPCO	0	0
	SCL	PACW	1,004	975
	SCL	PGE	1,080	1,054
	SCL	PSEI	3,780	6,384
	SRP	AZPS	7,624	6,620
	SRP	CISO	80,451	74,380
	SRP	PACE	0	0
	SRP	PNM	329	693
	SRP	TEPC	5,984	3,522
	SRP	WALC	1,995	1,345
	TEPC	AZPS	892	0
	TEPC	CISO	1,144	1,144
	TEPC	EPE	4,561	4,648
October	TEPC	LADWP	0	0
	TEPC	PACE	134	289
	TEPC	PNM	19,931	18,829
	TEPC	SRP	10,257	10,189
	TEPC	WALC	111,629	101,940
	TIDC	BANC	28	0
	TIDC	CISO	12,333	12,630
	TPWR	AVA	0	0
	TPWR	BPAT	9,688	9,052

October	TPWR	NWMT	0	0
	TPWR	PGE	0	0
	TPWR	PSEI	11,074	10,819
	WALC	AZPS	6,430	7,039
	WALC	CISO	83,178	76,719
	WALC	LADWP	13,306	11,118
	WALC	NEVP	4,885	5,046
	WALC	SRP	7,169	8,113
	WALC	TEPC	42,461	42,419
November	AVA	AVRN	5,733	5,421
	AVA	BPAT	16,058	13,918
	AVA	CISO	0	0
	AVA	IPCO	14,888	22,926
	AVA	NWMT	3,312	4,815
	AVA	PACW	6,832	8,229
	AVA	PGE	0	0
	AVA	PSEI	0	0
	AVA	SCL	0	0
	AVA	TPWR	0	0
	AVRN	AVA	1,825	2,370
	AVRN	BPAT	40,598	34,063
	AVRN	PACW	19,194	27,560
	AVRN	PGE	11,499	9,376
	AVRN	SCL	6,874	5,684
	AZPS	CISO	127,108	122,953
	AZPS	EPE	648	0
	AZPS	LADWP	3,286	3,810
	AZPS	NEVP	0	0
	AZPS	PACE	16,586	12,512
	AZPS	PNM	15,098	21,911
	AZPS	SRP	17,454	21,388
	AZPS	TEPC	528	235

	AZPS	WALC	4,280	4,129
November	BANC	BPAT	0	0
	BANC	CISO	4,270	5,636
	BANC	TIDC	26	0
	BPAT	AVA	1,994	589
	BPAT	AVRN	4,821	6,997
	BPAT	BANC	0	0
	BPAT	CISO	494	5,641
	BPAT	IPCO	2,964	97
	BPAT	LADWP	0	0
	BPAT	NEVP	0	0
	BPAT	NWMT	3,840	27
	BPAT	PACW	721	75
	BPAT	PGE	17,090	15,167
	BPAT	PSEI	6,229	7,164
	BPAT	PWRX	3,750	0
	BPAT	SCL	228	72
	BPAT	TPWR	7,889	9,045
	CISO	AVA	0	0
	CISO	AZPS	13,789	14,713
	CISO	BANC	174,602	173,712
	CISO	BPAT	4,398	17,224
	CISO	LADWP	8,800	6,804
November	CISO	NEVP	6,773	5,600
	CISO	PACW	15,263	31,626
	CISO	PGE	60,434	76,357
	CISO	PSEI	48,749	941
	CISO	PWRX	145,866	160,860
	CISO	SRP	37,175	34,403
	CISO	TEPC	0	0
	CISO	TIDC	2,430	2,202
	CISO	WALC	7,185	5,161

	EPE	AZPS	1,231	0
November	EPE	PNM	12,651	11,364
	EPE	TEPC	47,113	41,602
	IPCO	AVA	8,196	5,616
	IPCO	BPAT	828	294
	IPCO	NEVP	32,961	46,711
	IPCO	NWMT	1,713	1,164
	IPCO	PACE	12,269	16,008
	IPCO	PACW	23,878	17,732
	IPCO	PSEI	26,660	15,669
	IPCO	SCL	15,127	11,118
	LADWP	AZPS	785	1,032
	LADWP	BPAT	0	0
	LADWP	CISO	141,272	116,450
	LADWP	NEVP	12,534	12,014
	LADWP	PACE	39,402	38,732
	LADWP	TEPC	0	0
	LADWP	WALC	6,840	6,204
	NEVP	AZPS	0	0
	NEVP	BPAT	0	0
	NEVP	CISO	181,450	215,655
	NEVP	IPCO	25,805	15,647
	NEVP	LADWP	31,063	33,833
	NEVP	PACE	31,218	22,995
	NEVP	WALC	22,935	30,753
	NWMT	AVA	33,399	25,385
	NWMT	BPAT	3,611	81
	NWMT	IPCO	9,100	10,306
	NWMT	PACE	10,642	15,436
November	NWMT	PACW	1	0
	NWMT	PGE	264	0
	NWMT	PSEI	439	0

	NWMT	TPWR	0	0
November	PACE	AZPS	100,076	128,806
	PACE	IPCO	61,084	51,754
	PACE	LADWP	54,843	35,619
	PACE	NEVP	89,723	114,958
	PACE	NWMT	21,617	14,570
	PACE	PACW	69,347	50,856
	PACE	SRP	0	0
	PACE	TEPC	561	594
	PACW	AVA	2,741	2,922
	PACW	AVRN	21,530	21,920
	PACW	BPAT	2,896	212
	PACW	CISO	28,187	70,851
	PACW	IPCO	13,228	15,750
	PACW	NWMT	10	0
	PACW	PGE	81,749	67,587
	PACW	PSEI	45,272	37,480
	PACW	SCL	2,000	1,628
	PGE	AVA	0	0
	PGE	AVRN	2,834	3,682
	PGE	BPAT	28,364	24,143
	PGE	CISO	11,226	10,665
	PGE	NWMT	151	0
	PGE	PACW	15,221	24,287
	PGE	PSEI	1,474	1,587
	PGE	SCL	1,373	1,291
	PGE	TPWR	0	0
	PNM	AZPS	28,216	30,234
November	PNM	EPE	1,894	2,188
	PNM	SRP	1,868	2,703
	PNM	TEPC	4,835	4,474
	PSEI	AVA	0	0

	PSEI	BPAT	31,497	27,981
November	PSEI	CISO	14,410	6,316
	PSEI	IPCO	210	657
	PSEI	NWMT	130	0
	PSEI	PACW	7,398	10,774
	PSEI	PGE	2,586	2,755
	PSEI	PWRX	15,977	14,895
	PSEI	SCL	49,496	41,017
	PSEI	TPWR	5,774	5,226
	PWRX	BPAT	2,159	0
	PWRX	CISO	0	0
	PWRX	PSEI	7,233	12,485
	SCL	AVA	0	0
	SCL	AVRN	1,300	1,970
	SCL	BPAT	513	437
	SCL	IPCO	0	0
	SCL	PACW	222	417
	SCL	PGE	598	764
	SCL	PSEI	2,166	4,268
	SRP	AZPS	11,303	12,460
	SRP	CISO	181,860	170,715
	SRP	PACE	0	0
	SRP	PNM	2,193	2,536
	SRP	TEPC	2,749	2,406
	SRP	WALC	5,049	5,951
	TEPC	AZPS	455	0
November	TEPC	CISO	276	325
	TEPC	EPE	3,631	3,081
	TEPC	LADWP	0	0
	TEPC	PACE	113	4
	TEPC	PNM	15,840	13,178
	TEPC	SRP	7,460	4,164

	TEPC	WALC	83,922	76,390
November	TIDC	BANC	29	0
	TIDC	CISO	12,012	12,713
	TPWR	AVA	0	0
	TPWR	BPAT	7,448	7,241
	TPWR	NWMT	0	0
	TPWR	PGE	0	0
	TPWR	PSEI	11,732	12,964
	WALC	AZPS	3,553	2,638
	WALC	CISO	44,293	41,080
	WALC	LADWP	5,448	3,756
	WALC	NEVP	3,515	2,029
	WALC	SRP	4,482	4,771
	WALC	TEPC	17,350	17,181
December	AVA	AVRN	2,834	3,091
	AVA	BPAT	7,120	8,030
	AVA	CISO	0	0
	AVA	IPCO	50,684	56,154
	AVA	NWMT	14,862	16,127
	AVA	PACW	4,008	3,580
	AVA	PGE	0	0
	AVA	PSEI	1	0
	AVA	SCL	0	0
	AVA	TPWR	0	0
	AVRN	AVA	9,731	8,521
	AVRN	BPAT	27,884	24,129
	AVRN	PACW	50,802	64,291
	AVRN	PGE	20,018	16,927
	AVRN	SCL	5,850	4,373
	AZPS	CISO	41,922	42,464
	AZPS	EPE	1,587	0
	AZPS	LADWP	10,451	10,069

	AZPS	NEVP	0	0
December	AZPS	PACE	31,917	26,618
	AZPS	PNM	24,641	24,768
	AZPS	SRP	13,408	13,009
	AZPS	TEPC	1,031	1,308
	AZPS	WALC	5,407	5,581
	BANC	BPAT	0	0
	BANC	CISO	15,947	20,755
	BANC	TIDC	35	0
	BPAT	AVA	5,532	3,502
	BPAT	AVRN	18,750	22,525
	BPAT	BANC	0	0
	BPAT	CISO	1,701	9,010
	BPAT	IPCO	1,409	0
	BPAT	LADWP	0	0
	BPAT	NEVP	0	0
	BPAT	NWMT	4,913	465
	BPAT	PACW	1,826	222
	BPAT	PGE	35,608	38,343
	BPAT	PSEI	13,187	12,334
	BPAT	PWRX	2,719	0
	BPAT	SCL	1,384	0
	BPAT	TPWR	6,496	5,755
	CISO	AVA	0	0
	CISO	AZPS	30,228	30,661
December	CISO	BANC	156,688	149,993
	CISO	BPAT	414	1,502
	CISO	LADWP	15,603	17,952
	CISO	NEVP	24,687	23,846
	CISO	PACW	10,556	23,746
	CISO	PGE	40,529	54,037
	CISO	PSEI	0	863

	CISO	PWRX	69,397	80,910
December	CISO	SRP	30,733	29,083
	CISO	TEPC	32	69
	CISO	TIDC	19,854	20,001
	CISO	WALC	13,250	14,071
	EPE	AZPS	1,426	0
	EPE	PNM	21,153	19,249
	EPE	TEPC	37,345	35,996
	IPCO	AVA	0	0
	IPCO	BPAT	1,672	0
	IPCO	NEVP	32,407	39,306
	IPCO	NWMT	1,003	1,474
	IPCO	PACE	31,458	29,434
	IPCO	PACW	16,996	12,657
	IPCO	PSEI	9,039	7,258
	IPCO	SCL	3,524	2,922
	LADWP	AZPS	5,248	6,821
	LADWP	BPAT	0	0
	LADWP	CISO	54,793	52,331
	LADWP	NEVP	3,389	4,690
	LADWP	PACE	9,418	9,941
	LADWP	TEPC	0	0
	LADWP	WALC	4,450	6,105
	NEVP	AZPS	0	0
	NEVP	BPAT	0	0
December	NEVP	CISO	107,325	108,775
	NEVP	IPCO	49,034	39,246
	NEVP	LADWP	45,004	40,571
	NEVP	PACE	41,187	40,194
	NEVP	WALC	38,778	41,114
	NWMT	AVA	9,709	8,806
	NWMT	BPAT	3,420	0

	NWMT	IPCO	5,698	5,166
December	NWMT	PACE	20,955	22,926
	NWMT	PACW	28	0
	NWMT	PGE	303	0
	NWMT	PSEI	208	0
	NWMT	TPWR	0	0
	PACE	AZPS	54,169	63,934
	PACE	IPCO	17,224	16,995
	PACE	LADWP	67,184	52,043
	PACE	NEVP	48,564	60,141
	PACE	NWMT	17,966	14,903
	PACE	PACW	21,592	20,368
	PACE	SRP	0	0
	PACE	TEPC	232	339
	PACW	AVA	3,468	3,477
	PACW	AVRN	11,545	17,407
	PACW	BPAT	2,115	0
	PACW	CISO	71,774	150,654
	PACW	IPCO	36,864	31,568
	PACW	NWMT	7	0
	PACW	PGE	102,573	81,710
	PACW	PSEI	38,337	31,661
	PACW	SCL	1,271	879
	PGE	AVA	0	0
December	PGE	AVRN	2,383	3,505
	PGE	BPAT	12,693	12,389
	PGE	CISO	30,335	29,168
	PGE	NWMT	267	0
	PGE	PACW	17,438	34,588
	PGE	PSEI	4,905	4,711
	PGE	SCL	1,114	894
	PGE	TPWR	0	0

	PNM	AZPS	14,923	20,262
December	PNM	EPE	1,525	1,865
	PNM	SRP	2,009	2,915
	PNM	TEPC	8,460	9,883
	PSEI	AVA	0	0
	PSEI	BPAT	12,207	12,352
	PSEI	CISO	48,492	580
	PSEI	IPCO	18,130	19,376
	PSEI	NWMT	44	0
	PSEI	PACW	6,133	12,524
	PSEI	PGE	2,171	3,086
	PSEI	PWRX	18,853	16,714
	PSEI	SCL	13,870	13,316
	PSEI	TPWR	2,120	2,847
	PWRX	BPAT	3,535	0
	PWRX	CISO	0	0
	PWRX	PSEI	7,473	10,083
	SCL	AVA	0	0
	SCL	AVRN	2,676	4,594
	SCL	BPAT	706	131
	SCL	IPCO	0	0
	SCL	PACW	722	1,292
	SCL	PGE	1,286	1,689
	SCL	PSEI	23,717	29,919
December	SRP	AZPS	24,898	25,295
	SRP	CISO	99,589	98,001
	SRP	PACE	0	0
	SRP	PNM	2,668	2,375
	SRP	TEPC	15,452	14,080
	SRP	WALC	13,768	13,440
	TEPC	AZPS	531	0
	TEPC	CISO	3	20

December	TEPC	EPE	2,988	2,241
	TEPC	LADWP	0	0
	TEPC	PACE	962	909
	TEPC	PNM	15,296	11,811
	TEPC	SRP	5,035	3,044
	TEPC	WALC	54,394	61,586
	TIDC	BANC	1,860	0
	TIDC	CISO	2,960	3,698
	TPWR	AVA	0	0
	TPWR	BPAT	3,918	4,382
	TPWR	NWMT	0	0
	TPWR	PGE	0	0
	TPWR	PSEI	33,833	33,084
	WALC	AZPS	4,178	3,700
	WALC	CISO	19,562	19,553
	WALC	LADWP	14,179	12,450
	WALC	NEVP	4,710	4,462
	WALC	SRP	5,323	4,478
	WALC	TEPC	28,805	25,517

APPENDIX 3: Minimum & Maximum Flexible Ramping Requirements

Month	BAA	Direction	Minimum requirement	Maximum requirement
October	*AVA*	up	0	90
	AVRN	up	6	391
	AZPS	up	37	514
	BANC	up	4	86
	BPAT	up	18	396
	CISO	up	64	3,315
	EPE	up	6	134
	IPCO	up	17	270
	LADWP	up	35	372
	NEVP	up	14	781
	NWMT	up	0	143
	PACE	up	0	1.030
	PACW	up	0	187
	PGE	up	4	207
	PNM	up	16	522
	PSEI	up	9	236
	PWRX	up	70	255
	SCL	up	4	29
	SRP	up	41	405
	TEPC	up	24	196
	TIDC	up	2	14
	TPWR	up	3	18
	WALC	up	2	71
	ALL EIM	**up**	**34**	**4,767**
	AVA	down	13	103
	AVRN	down	0	299
	AZPS	down	48	427
	BANC	down	5	123
October	*BPAT*	down	0	469
	CISO	down	0	1,687
	EPE	down	2	126
	IPCO	down	3	274

October	*LADWP*	down	33	283
	NEVP	down	0	687
	NWMT	down	13	141
	PACE	down	0	1,068
	PACW	down	0	210
	PGE	down	7	207
	PNM	down	32	475
	PSEI	down	2	271
	PWRX	down	69	276
	SCL	down	4	33
	SRP	down	33	270
	TEPC	down	0	153
	TIDC	down	0	17
	TPWR	down	1	20
	WALC	down	0	67
	ALL EIM	**down**	**0**	**4,453**
November	*AVA*	up	0	82
	AVRN	up	0	434
	AZPS	up	0	488
	BANC	up	7	120
	BPAT	up	46	434
	CISO	up	136	3,315
	EPE	up	0	105
	IPCO	up	32	280
	LADWP	up	0	368
	NEVP	up	19	834
	NWMT	up	0	117
	PACE	up	0	878
	PACW	up	21	170
	PGE	up	12	199
	PNM	up	0	519
	PSEI	up	32	236
	PWRX	up	59	279
	SCL	up	6	24
	SRP	up	52	369
	TEPC	up	0	205

	TIDC	up	2	13
	TPWR	up	4	19
November	*WALC*	up	5	102
	ALL WEIM	**up**	**54**	**7,738**
	AVA	down	0	98
	AVRN	down	0	354
	AZPS	down	0	437
	BANC	down	8	117
	BPAT	down	22	596
	CISO	down	114	1,542
	EPE	down	0	119
	IPCO	down	16	284
	LADWP	down	41	316
	NEVP	down	8	679
	NWMT	down	15	142
	PACE	down	89	1,045
	PACW	down	10	216
	PGE	down	26	226
	PNM	down	19	474
	PSEI	down	41	246
	PWRX	down	66	286
	SCL	down	6	33
	SRP	down	15	334
	TEPC	down	0	201
	TIDC	down	2	19
	TPWR	down	5	23
	WALC	down	0	67
	ALL EIM	**down**	**0**	**5,281**
December	*AVA*	up	14	82
	AVRN	up	3	360
	AZPS	up	19	525
	BANC	up	1	120
	BPAT	up	56	458
	CISO	up	120	3,303
	EPE	up	7	105

December	*IPCO*	up	24	280
	LADWP	up	0	317
	NEVP	up	29	890
	NWMT	up	8	124
	PACE	up	0	833
	PACW	up	19	170
	PGE	up	35	203
	PNM	up	0	543
	PSEI	up	59	236
	PWRX	up	42	248
	SCL	up	7	24
	SRP	up	44	371
	TEPC	up	0	205
	TIDC	up	2	13
	TPWR	up	4	19
	WALC	up	7	102
	ALL WEIM	**up**	**655**	**4,900**
	AVA	down	0	102
	AVRN	down	1	358
	AZPS	down	0	456
	BANC	down	0	117
	BPAT	down	4	591
	CISO	down	0	1,542
	EPE	down	5	135
	IPCO	down	13	284
	LADWP	down	1	324
	NEVP	down	3	679
	NWMT	down	0	142
	PACE	down	209	1,114
December	*PACW*	down	13	216
	PGE	down	42	230
	PNM	down	0	546
	PSEI	down	20	250
	PWRX	down	62	252
	SCL	down	7	33
	SRP	down	22	334

	TEPC	down	23	201
	TIDC	down	2	19
	TPWR	down	5	23
	WALC	down	0	67
	ALL WEIM	**down**	**0**	**2,836**