Scenario Analysis Supporting Large Load CIFP Problem Statement

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CIFP – Stage 1

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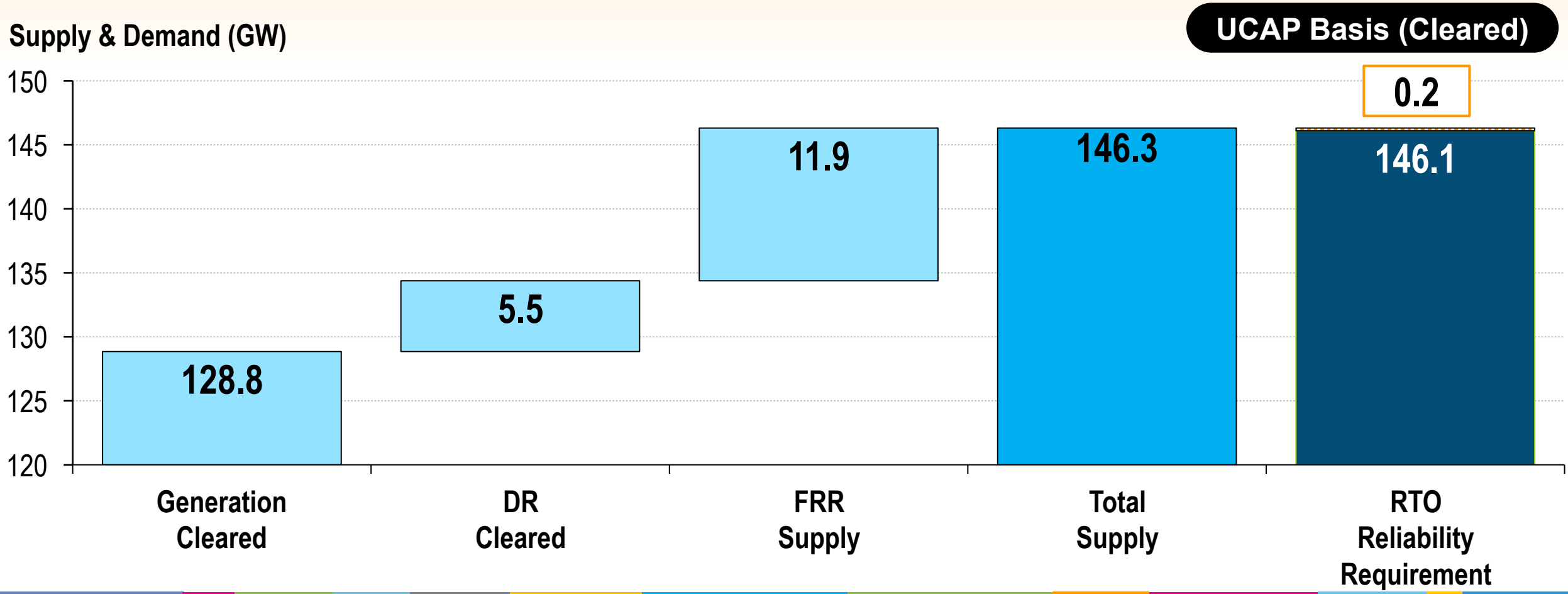
2026/27 BRA (RPM & FRR) Resource Adequacy

Based on the 2026/27 BRA results, PJM will have just enough generation to meet its reliability requirement for the delivery year.



2030 Resource Adequacy Scenarios

Scenario

1. 2025 Load Forecast, policy-driven deactivations, historic queue completion rates.
2. Additional load from co-location requests, queue completion rates 25% greater than historic rates.
3. Queue completion rates 25% greater than historic rates and no policy-driven deactivations.
4. Scenario 3 and Demand Response equal to the highest amount in the last 5 years
5. Scenario 4 and load flexibility to eliminate supply deficit

Meeting projected demand in 2030 is likely to require new generation beyond what is in the current queue, no further deactivations, additional Demand Response and even then, there may be unmet demand, requiring the need for some form of non-capacity backed service.

Details of each scenario included in appendix slides

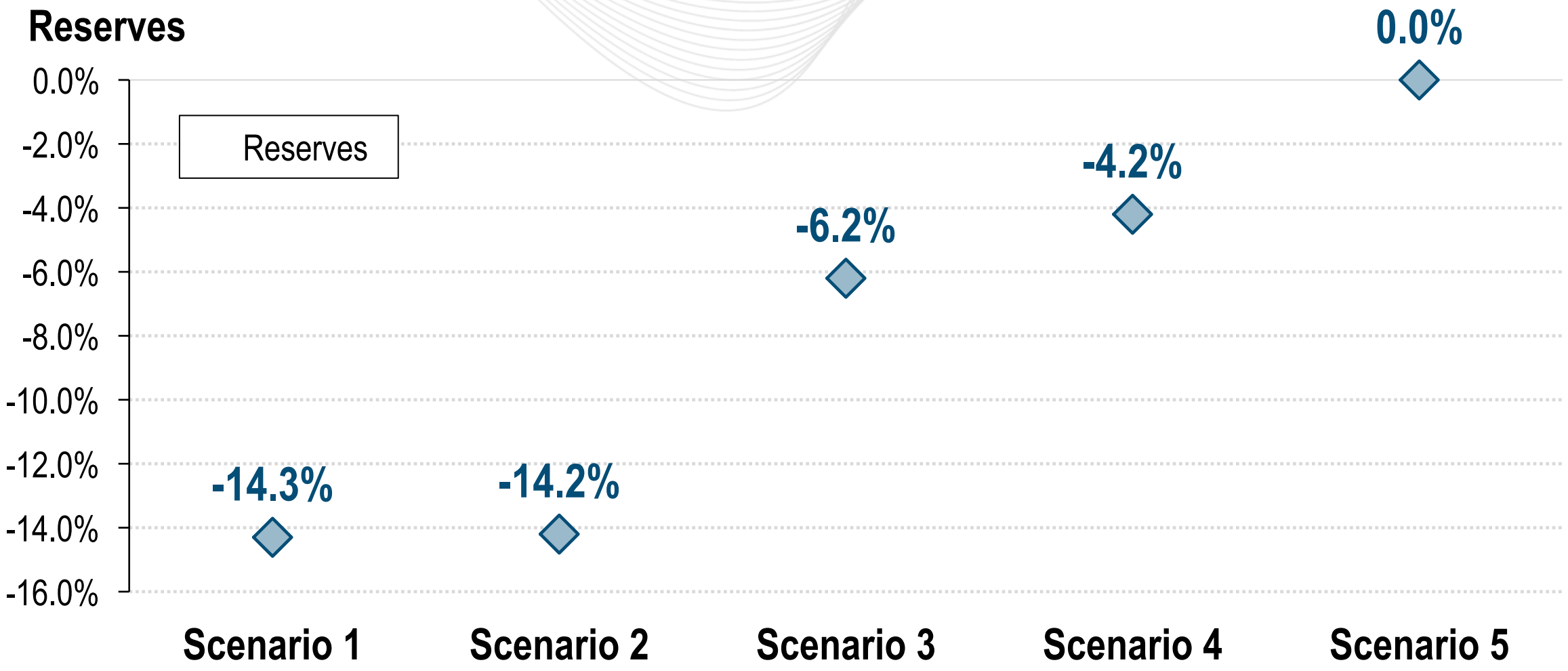
2030 Resource Adequacy Scenarios, ICAP Basis

	2026 Projected Surplus	Minus Load Growth	Plus New Generation	Minus Deactivations	Plus DR and Load Flexibility	2030 Projected Surplus/Deficit
Scenario 1	35.9 GW	(25.0 GW)	19.1 GW	(11.0 GW)	0.0 GW	**19.0 GW**
Scenario 2	35.9 GW	(31.8 GW)	42.4 GW	(11.0 GW)	0.0 GW	**35.5 GW**
Scenario 3	35.9 GW	(25.0 GW)	42.4 GW	0.0 GW	0.0 GW	**53.3 GW**
Scenario 4	35.9 GW	(25.0 GW)	42.4 GW	0.0 GW	1.7 GW	**55.0 GW**
Scenario 5	35.9 GW	(25.0 GW)	42.4 GW	0.0 GW	11.9 GW	**65.3 GW**

2030 Resource Adequacy Scenarios, UCAP Basis

	2026 Projected Surplus	Minus Load Growth	Plus New Generation	Minus Deactivations	Plus DR and Load Flexibility	2030 Projected Surplus/Deficit
Scenario 1	0.3 GW	(22.9 GW)	6.6 GW	(8.1 GW)	0.0 GW	**(24.1 GW)**
Scenario 2	0.3 GW	(29.2 GW)	12.2 GW	(8.1 GW)	0.0 GW	**(24.7 GW)**
Scenario 3	0.3 GW	(22.9 GW)	12.2 GW	0.0 GW	0.0 GW	**(10.4 GW)**
Scenario 4	0.3 GW	(22.9 GW)	12.2 GW	0.0 GW	3.3 GW	**(7.1 GW)**
Scenario 5	0.3 GW	(22.9 GW)	12.2 GW	0.0 GW	10.4 GW	**0.0 GW**

2030 Resource Adequacy Scenarios, UCAP Basis



Appendix 1
Assumptions for Scenarios

Load Assumptions

Sources:

All Scenarios

- 2025 Load Forecast
- 2026/27 BRA Planning Parameters for Forecast Pool Requirement (0.9170)

Scenario 2

Internal tracking of co-located load requests showing 6,840 MW connecting between 2026 and 2030

	2030	
	ICAP Value (MW)	UCAP Value (MW)
Scenario 1	183,883	168,621
Scenario 2	190,723	174,893
Scenario 3	183,883	168,621
Scenario 4	183,883	168,621
Scenario 5	183,883	168,621

ELCC Assumptions

Sources:

> 2026/27 ELCC values used for the 2030 values

Fuel Type	Class Rating
Onshore wind	41%
Offshore wind	69%
Fixed-tilt solar	8%
Tracking solar	11%
Landfill intermittent	50%
Hydro intermittent	38%
4-hour storage	50%
6-hour storage	58%
8-hour storage	62%
10-hour storage	72%
Demand response	69%
Nuclear	95%
Coal	83%
Gas combined cycle	74%
Gas combustion turbine	69%
Gas combustion turbine dual fuel	78%
Diesel utility	91%
Steam	73%

New Generation Assumptions

Sources:

PJM Interconnection Queue Pages

- Serial Service Request Status page
- Cluster Service Request Status page

Assumptions

- Projects with an ISA, WMPA, or GIA are assumed to complete with the historical post-ISA completion rate for their fuel type
- The study phases are assumed to see a 30% withdrawal rate at each Decision Point and then apply historical post-ISA completion rate for their fuel type
- RRI projects assumed to have a higher probability of completion

	2030	
	ICAP Value (GW)	UCAP Value (GW)
Scenario 1	19.1	6.6
Scenario 2	42.4	12.2
Scenario 3	42.4	12.2
Scenario 4	42.4	12.2
Scenario 5	42.4	12.2

New Generation Assumptions

Fuel	Historic Post-ISA Completion Rate	Historic Post-ISA Timeline
Biomass	40%	4 years
Hydro	56%	3 years
Natural Gas	64%	4 years
Offshore Wind	10%	6 years
Solar	21%	2 years
Storage	10%	2 years
Wind	49%	3 years
Other	40%	4 years

Deactivation Assumptions

Federal

- EPA Coal Combustion Residuals
- EPA Cross-State Air Pollution Rule
- EPA Effluent Limitation Guidelines

State

- Illinois Climate & Equitable Jobs Act
- New Jersey Greenhouse Gas Monitoring and Reporting Rule
- Dominion Integrated Resource Plan

Other company commitments

	2030	
	ICAP Value (GW)	UCAP Value (GW)
Scenario 1	11.0	8.1
Scenario 2	11.0	8.1
Scenario 3	0.0	0.0
Scenario 4	0.0	0.0
Scenario 5	0.0	0.0

Demand Response Assumptions

Sources:

2026/27 BRA Report

	2030	
	ICAP Value (MW)	UCAP Value (MW)
Scenario 1	8,020.1	5,530.6
Scenario 2	8,020.1	5,530.6
Scenario 3	8,020.1	5,530.6
Scenario 4	9,677.9	8,811.9
Scenario 5		
Peak DR	9,677.9	8,811.9
Additional flexibility	10,371.0	7,156.0

Appendix 2:
Additional Scenarios

“Do Nothing” Scenarios

Three additional scenarios were developed to project a potential outcome if no changes are implemented.

Scenario	
6	Assume state policy and limited EPA driven deactivations still occur
7	Assume lower than historic queue completion rates
8	Assume state policy and limited EPA driven deactivations still occur and lower than historic queue completion rates

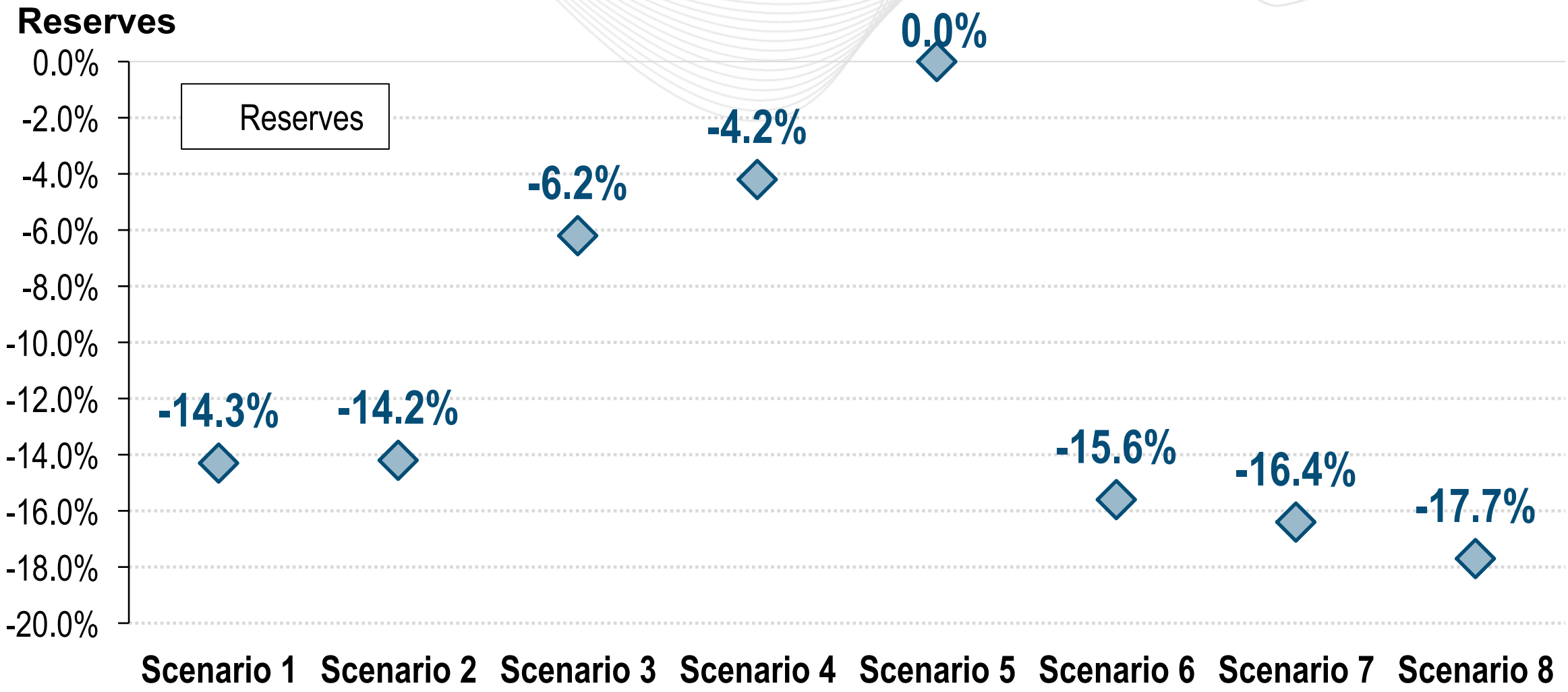
2030 Resource Adequacy Scenarios, ICAP Basis

	2026 Projected Surplus	Minus Load Growth	Plus New Generation	Minus Deactivations	Plus DR and Load Flexibility	2030 Projected Surplus/Deficit
Scenario 1	35.9 GW	(25.0 GW)	19.1 GW	(11.0 GW)	0.0 GW	**19.0 GW**
Scenario 5	35.9 GW	(25.0 GW)	42.4 GW	0.0 GW	11.9 GW	**65.3 GW**
Scenario 6	35.9 GW	(25.0 GW)	19.1 GW	(13.6 GW)	0.0 GW	**16.4 GW**
Scenario 7	35.9 GW	(25.0 GW)	5.2 GW	(11.0 GW)	0.0 GW	**5.1 GW**
Scenario 8	35.9 GW	(25.0 GW)	5.2 GW	(13.6 GW)	0.0 GW	**2.5 GW**

2030 Resource Adequacy Scenarios, UCAP Basis

	2026 Projected Surplus	Minus Load Growth	Plus New Generation	Minus Deactivations	Plus DR and Load Flexibility	2030 Projected Surplus/Deficit
Scenario 1	0.3 GW	(22.9 GW)	6.6 GW	(8.1 GW)	0.0 GW	(24.1 GW)
Scenario 5	0.3 GW	(22.9 GW)	12.2 GW	0.0 GW	10.4 GW	0.0 GW
Scenario 6	0.3 GW	(22.9 GW)	6.6 GW	(10.3 GW)	0.0 GW	(26.2 GW)
Scenario 7	0.3 GW	(22.9 GW)	3.0 GW	(8.1 GW)	0.0 GW	(27.6 GW)
Scenario 8	0.3 GW	(22.9 GW)	3.0 GW	(10.3 GW)	0.0 GW	(29.8 GW)

2030 Resource Adequacy Scenarios, UCAP Basis



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Scenario Analysis Supporting Problem Statement

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