

SOUTHWESTERN PUBLIC SERVICE COMPANY 2026 INTEGRATED RESOURCE PLAN

Meeting #2 Facilitated Stakeholder Process
March 23-24, 2026
Roswell, New Mexico





INTRODUCTION OF XCEL ENERGY REPRESENTATIVES

Jarred Cooley | Senior Director, Strategic Planning



Zoë Lees - Regional VP, Planning & Policy
Jarred Cooley - Senior Director, Strategic Planning
Justin Gable – Director, Resource Planning
Linda Hudgins – Regulatory Policy Specialist
John Goodenough – Director, Sales, Energy & Demand Forecasting
Travis Whalen – Manager, Energy Forecasting
Thaddeus Willeford – Resource Planning Analyst II
Joseph Koski – Product Portfolio Manager
Taylor Moot – Senior Innovation Tech Consultant
Shawn White – Senior Director, Customer Strategy & Solutions





INTEGRATED RESOURCE PLANNING TOPICS

Justin Gable | Director, Resource Planning & Bidding



ISSUES FOR 2026 IRP

Resources

Retiring Owned Generation:

- Nichols 1 Thermal (107 MW) March 2035
- Quay Co Thermal (23 MW) March 2035

Expiring PPAs:

- Spinning Spur Wind (161 MW) December 2029
- Wildorado Wind (161 MW) March 2030
- SunEdison Solar (50 MW) December 2031
- Hobbs/Lea Power CC (604 MW) September 2033
- Palo Duro Wind (250 MW) November 2034
- Mammoth Wind (199 MW) December 2034
- Roosevelt Wind (250 MW) December 2035

2024 RFP Resource Approvals

Generic Resource Assumption

Performance Based Accreditation (PBA)

Effective Load Carrying Capability (ELCC)

Loads and Resources (L&R)

Loads

Challenges

- Significant Load Growth
- High Impact Large Loads (Data Centers or Other Large Single Point Loads)
- General Industrial Growth (Oil & Gas)

Opportunities

- Demand Response (with SPP limitations)
- SPP large load and gen discussions

Reliability

- Primary focus
- SPP Access to Market Energy
- Associated SPP Reliability Requirements
- ELCC Accreditation
- LOLE Study (PRM)
- Performance-based accreditation
- SPP AQ Study (Load Additions)
- SPP Generator Interconnection (DISIS)
- Transmission Topology and HVDC Ties

NM RPS Compliance

Challenge

- 2030 50% New Mexico Retail Sales to be served with Renewable Energy
- 2040 80% New Mexico Retail Sales to be served with Renewable Energy
- 2045 New Mexico Zero-Carbon Standard
- BESS additions before 2045
- Surplus Opportunities



NATURAL GAS PRICE FORECAST

Modeling Input

Gradual long-term increase

Forecast shows a steady upward trend in natural gas prices reflecting long-term market fundamentals and inflation assumptions.

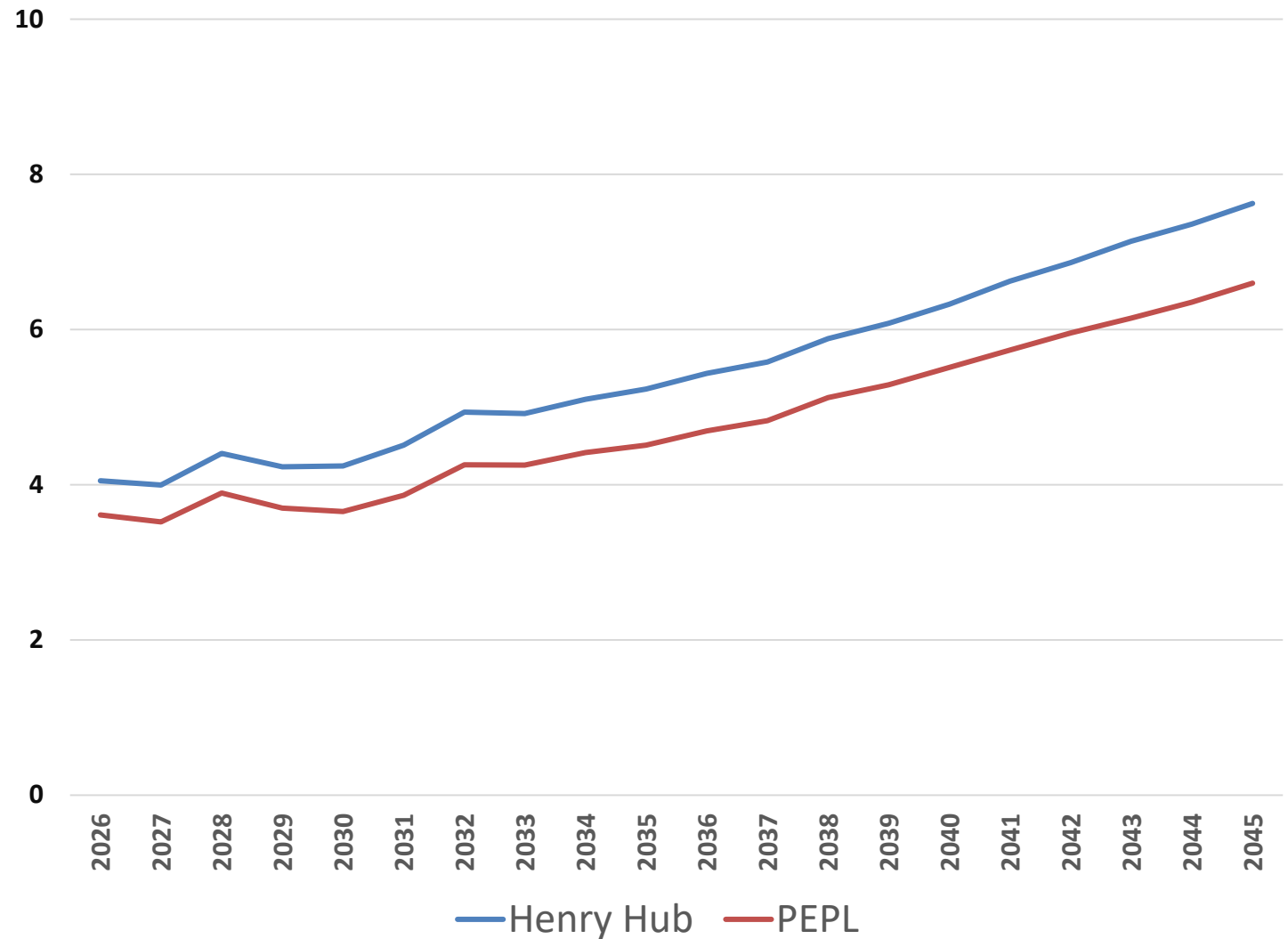
Hub relationship

PEPL prices track below Henry Hub, reflecting regional difference while maintaining a consistent spread over time.

Planning Implication

Gas price assumptions affect the relative economics of gas resources in the IRP modeling.

Gas Price⁽¹⁾ (\$/MMBTU)



MARKET PRICE FORECAST

Modeling Input

Market-on vs market-off assumption:

Market-on case assumes participation in regional markets, which reflects broader market price formation and access to regional energy and capacity value streams.

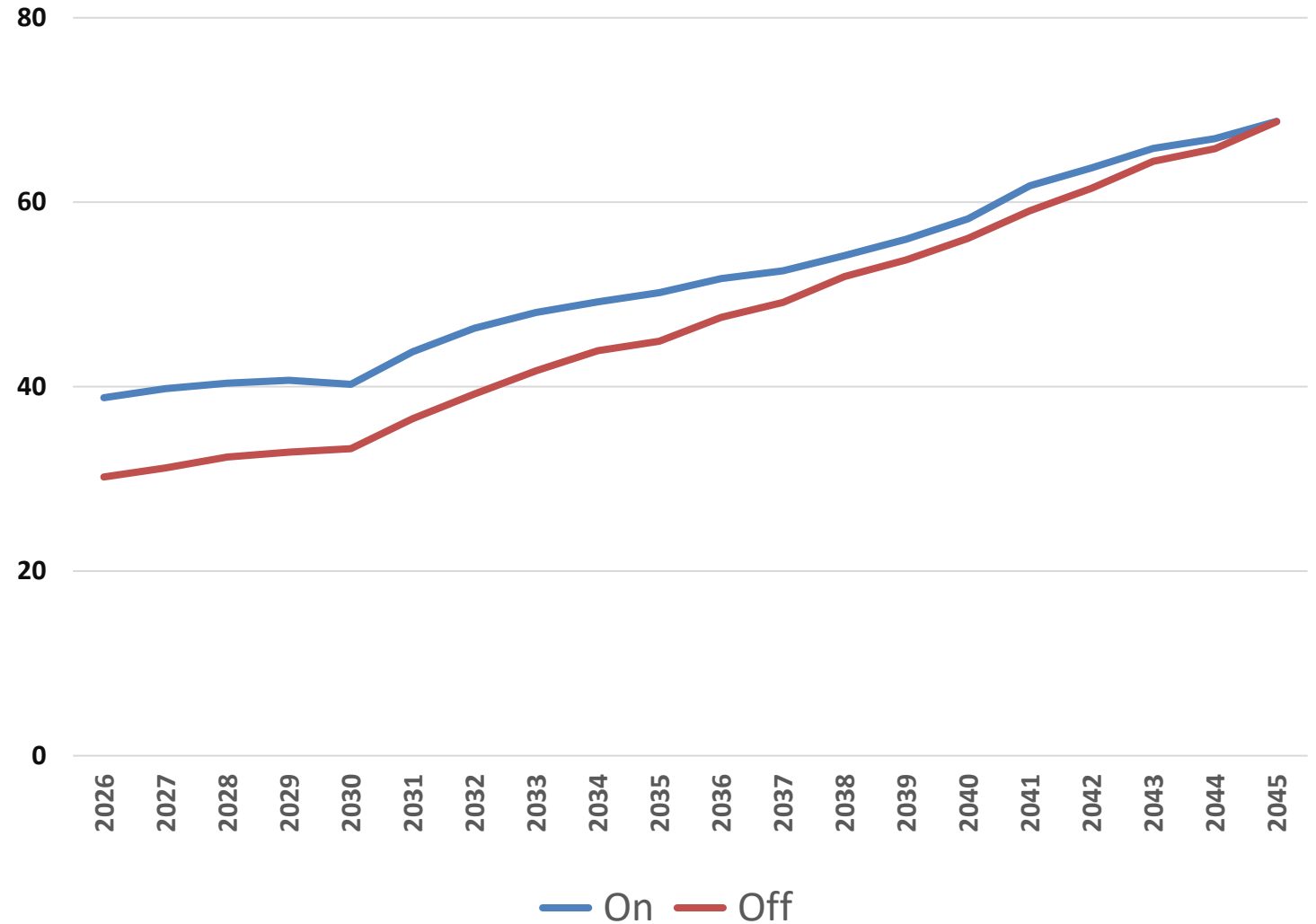
Energy value signal:

Market price trajectories reflect regional supply-demand conditions and system dynamics, including resource mix and transmission access.

Planning relevance:

These price trajectories capture the economic value of market participation, influencing the value of market purchases and the competitiveness of new resources in IRP modeling.

Market Price (\$/MWh)



GENERIC RESOURCES PRICING

Modeling Input

Policy driven cost shift:

The step change around 2030 reflects modeled transition from tax-credit supported projects to unsubsidized renewable development under current federal policy assumptions.

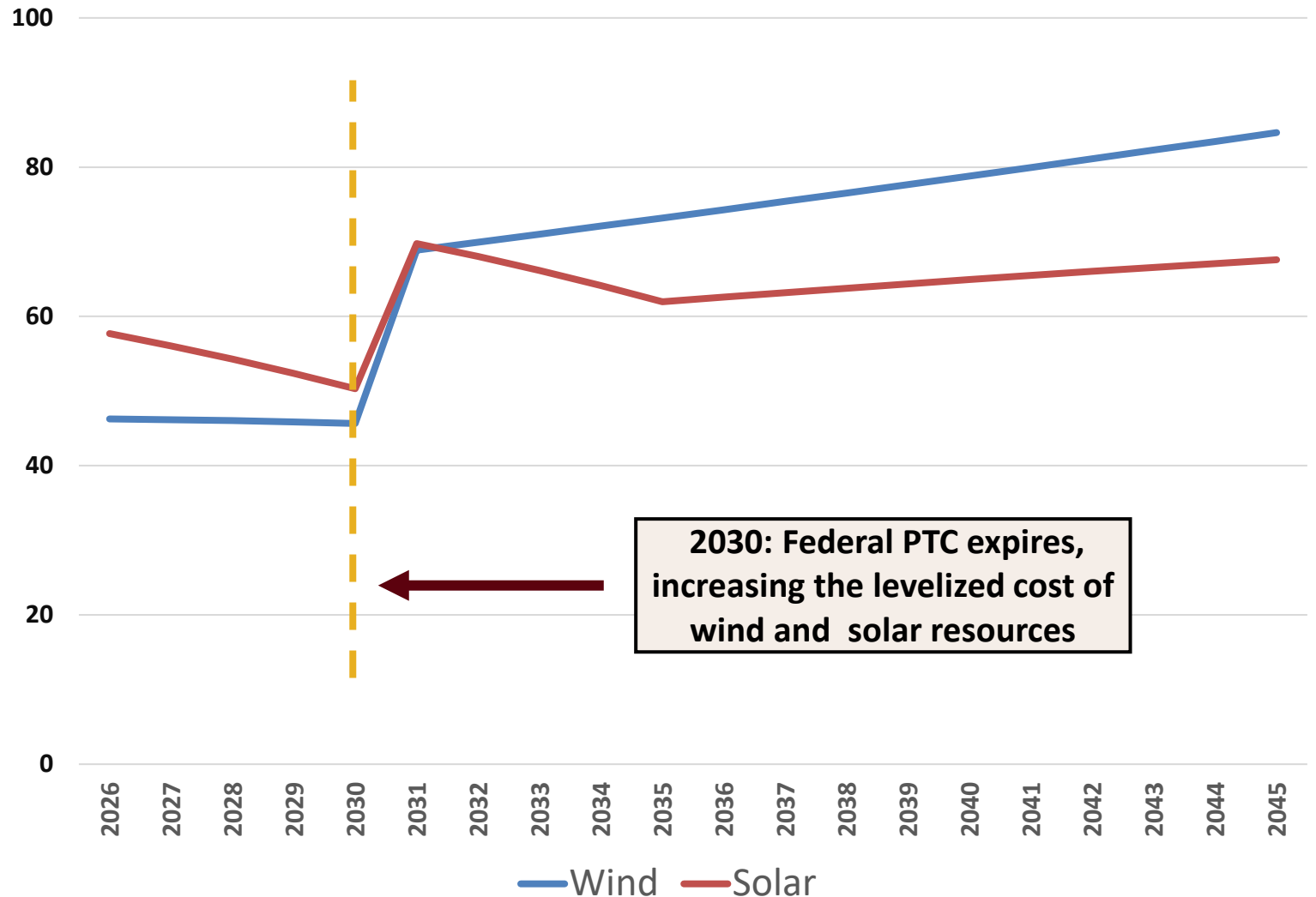
Technology differentiation:

Wind costs increase more noticeably than solar due to higher capital intensity and greater reliance on production-based incentives in the modeled assumptions.

Cost benchmark and calibration:

Renewable cost trajectories follow 2024 NREL ATB technology trends, with starting values anchored to TRIO renewable PPA market benchmarks to reflect current market condition.

Levelized Cost of Energy by Technology (\$/MWh)



GENERIC RESOURCES PRICING

Modeling Input

Policy assumption:

No Investment Tax Credit was assumed for battery storage due to potential Foreign Entity of Concern restrictions that may limit eligibility under current federal guideline.

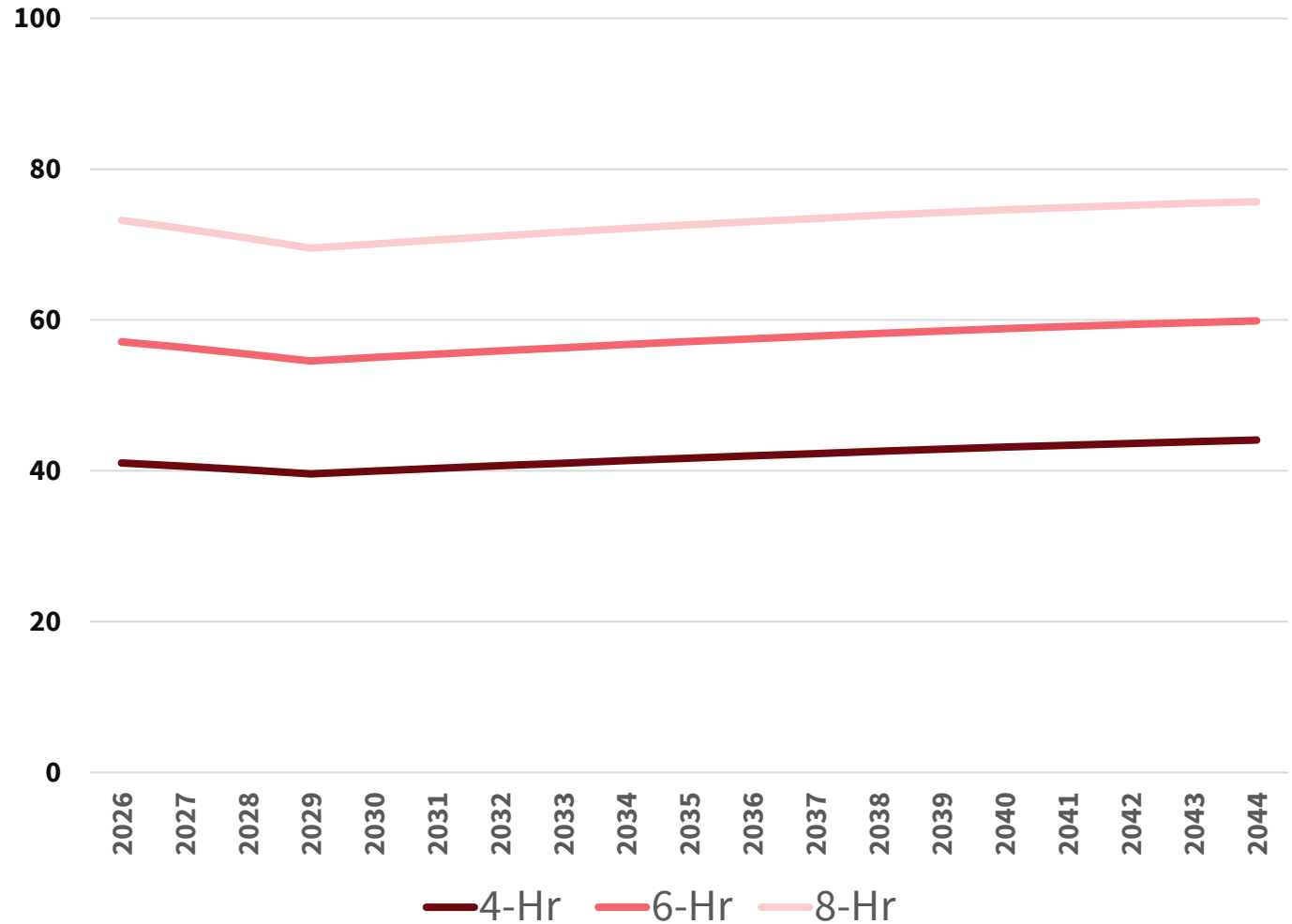
Technology cost basis:

Battery FOM assumptions are based on the 2024 ATB NREL.

Duration difference:

Separate cost trajectories were applied for 4-hour, 6-hour, and 8-hour battery configurations to reflect difference in system size, augmentation needs, and maintenance requirements.

Battery Fixed O&M by Storage Duration (\$/kW-yr)



SPS ENCOMPASS TOPOLOGY REPRESENTATION

Modeling Input

Load Bubble Representation:

SPS system is modeled using three primary load bubbles: SPS-North, SPS-South, and SPS-Southeast, representing the major load zones within the system.

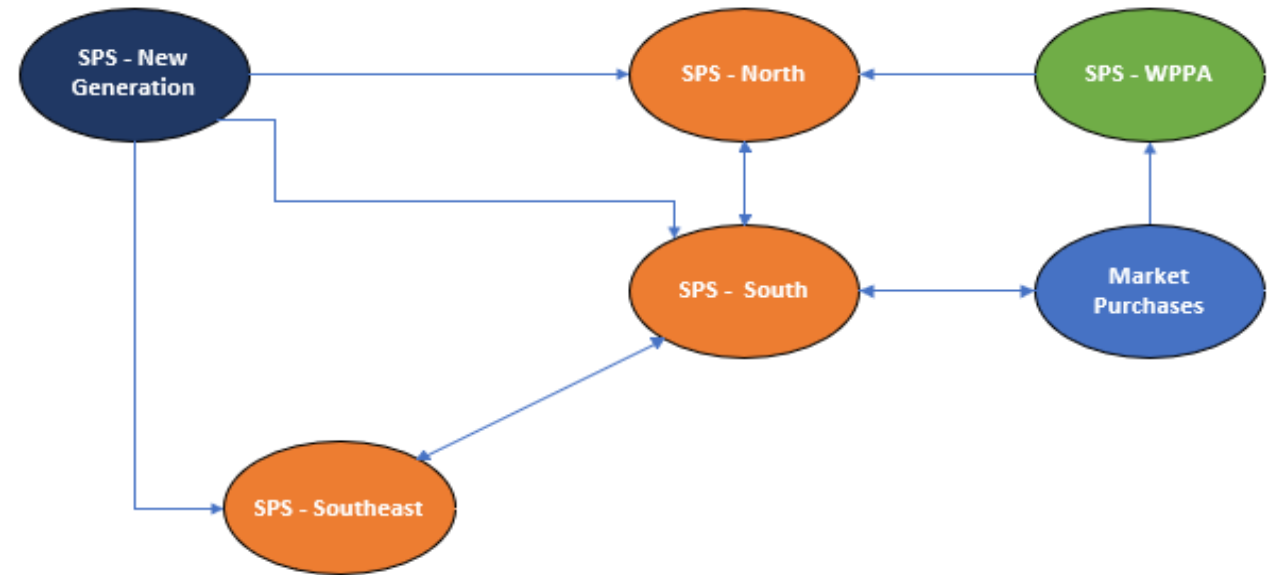
Transmission Interface Structure:

Interface between nodes represent key transmission pathways used in the Encompass model.

Time-Varying Transfer Limits:

Transmission limits change over the early years of modeling horizon to reflect assumed system upgrades, with the most significant increases occurring on the SPP Southeast to SPP South interface and selected market access paths.

SPS - Topology Map



Transmission Interface Limit Changes

Interface	2028	2029	2030	2031	2032
SPP Market → SPS North	Base	↑	–	–	↓
SPP Market → SPS South	Base	–	–	–	↑
SPS South ↔ SPS Noth	Base	–	–	↑	–
SPS Southeast → SPS South	Base	↑	↑↑	↑↑	–

PERFORMANCE BASED ACCREDITATION (PBA)

Performance-Based Accreditation (PBA) assigns accredited capacity to thermal generation resources based on historical operational performance.

The accreditation process takes into account multi-year outage data, including forced outage rates, during seasonal peak demand times, offering more accurate assessment of resource availability.

Below is an example calculation:

Tolk Unit 1 Calculation

$$535 \times 9.2\% = 486 \text{ MW}$$

In this example, SPP cuts the capacity we can plan on by 49 MW

Conventional Resource Accreditation - SPS Summer 2026

Data updated at 9/30/2025 12:06:12 PM

Category	EDST Name	Init Operation Date	Avg EFORd	2018 Summer	2019 Summer	2020 Summer	2021 Summer	2022 Summer	2023 Summer	2024 Summer
Conventional Steam Coal	Tolk_1	1/1/1982	9.2%	9.8%	9.8%	9.8%	9.8%	19.9%	2.7%	2.5%
	Tolk_2	1/1/1985	16.8%	9.8%	9.8%	9.8%	9.8%	1.5%	28.0%	48.9%
CT w/ Onsite Fuel Storage	Jones (TX)_3	6/1/2011	5.8%	9.9%	9.9%	9.9%	9.9%	0.0%	0.9%	0.1%
	Jones (TX)_4	5/1/2013	5.7%	9.9%	9.9%	9.9%	9.9%	0.0%	0.3%	0.2%
CT w/o Onsite Fuel Storage	Quay County_1	10/1/2013	23.5%	9.9%	9.9%	9.9%	9.9%	100.0%	24.8%	0.0%
	Cunningham_3	5/1/1998	6.2%	6.7%	6.7%	6.7%	6.7%	4.8%	0.5%	11.0%
	Cunningham_4	5/1/1998	7.6%	6.7%	6.7%	6.7%	6.7%	4.9%	2.1%	19.0%
NG Steam Turbine	Maddox_2	1/1/1976	6.6%	6.7%	6.7%	6.7%	6.7%	11.4%	8.0%	0.0%
	Cunningham_2	1/1/1965	11.5%	11.6%	11.6%	11.6%	11.6%	0.9%	25.0%	8.0%
	Harrington_1	1/1/1976	17.7%	11.6%	11.6%	11.6%	11.6%	5.4%	7.8%	64.0%
	Harrington_2	1/1/1978	12.7%	11.6%	11.6%	11.6%	11.6%	23.9%	7.2%	11.1%
	Harrington_3	1/1/1980	7.7%	11.6%	11.6%	11.6%	11.6%	1.1%	5.8%	0.4%
	Jones (TX)_1	1/1/1971	8.7%	11.6%	11.6%	11.6%	11.6%	2.1%	3.6%	8.5%
	Jones (TX)_2	1/1/1974	11.5%	11.6%	11.6%	11.6%	11.6%	0.8%	23.2%	9.7%
	Maddox_1	1/1/1967	9.9%	11.6%	11.6%	11.6%	11.6%	6.5%	10.7%	5.5%
	Nichols_1	1/1/1960	8.4%	11.6%	11.6%	11.6%	11.6%	8.7%	0.0%	3.5%
	Nichols_2	1/1/1962	7.7%	11.6%	11.6%	11.6%	11.6%	3.3%	0.0%	3.8%
Nichols_3	1/1/1968	8.0%	11.6%	11.6%	11.6%	11.6%	0.0%	0.1%	9.7%	
Plant X	Plant X_1	1/1/1952	35.6%	11.6%	11.6%	11.6%	11.6%	2.4%	100.0%	100.0%
	Plant X_2	1/1/1953	40.9%	11.6%	11.6%	11.6%	11.6%	39.6%	100.0%	100.0%
	Plant X_4	1/1/1964	8.9%	11.6%	11.6%	11.6%	11.6%	0.1%	6.2%	9.6%

Actual EFORd by SPS units

CONFIDENTIALITY NOTICE: This message and any accompanying documents contain information belonging to the sender which may be confidential and legally privileged. This information is only for the use of the individual or entity to which it was intended.

For more information on the Performance Based Accreditation (PBA) policy, please refer to Attachment AA of the SPP OATT. An example calculation is available in Business Practice 8400.

Data Type
■ Actual
■ Class Avg

Class Average EFORd by resource type



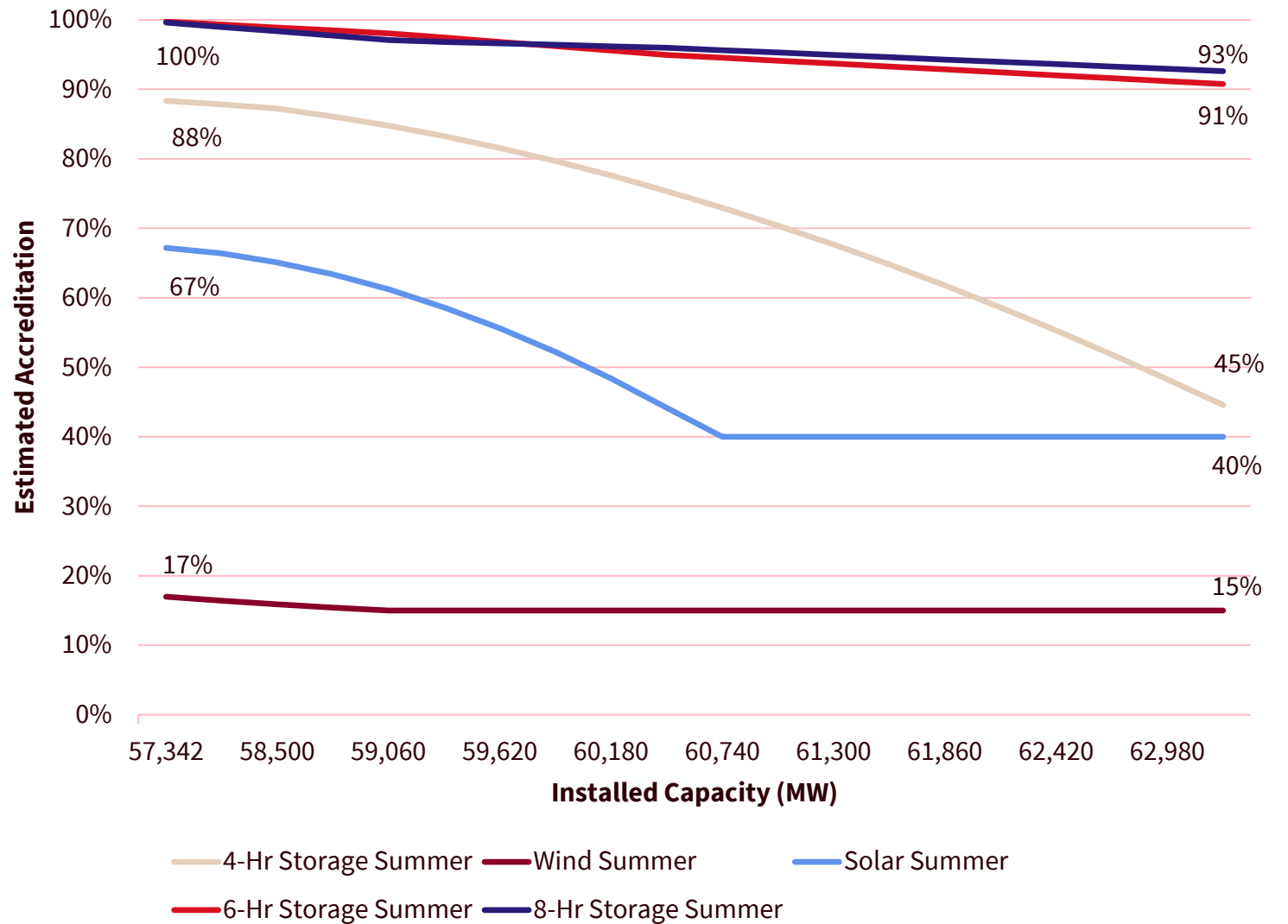
EFFECTIVE LOAD CARRYING CAPABILITY (ELCC) SUMMER

ELCC measures the dependable capacity a resource can provide during peak seasonal times, supporting system reliability during periods of high demand.

As more resources of the same technology are added to the system, reliance on that resource during peak times diminishes.

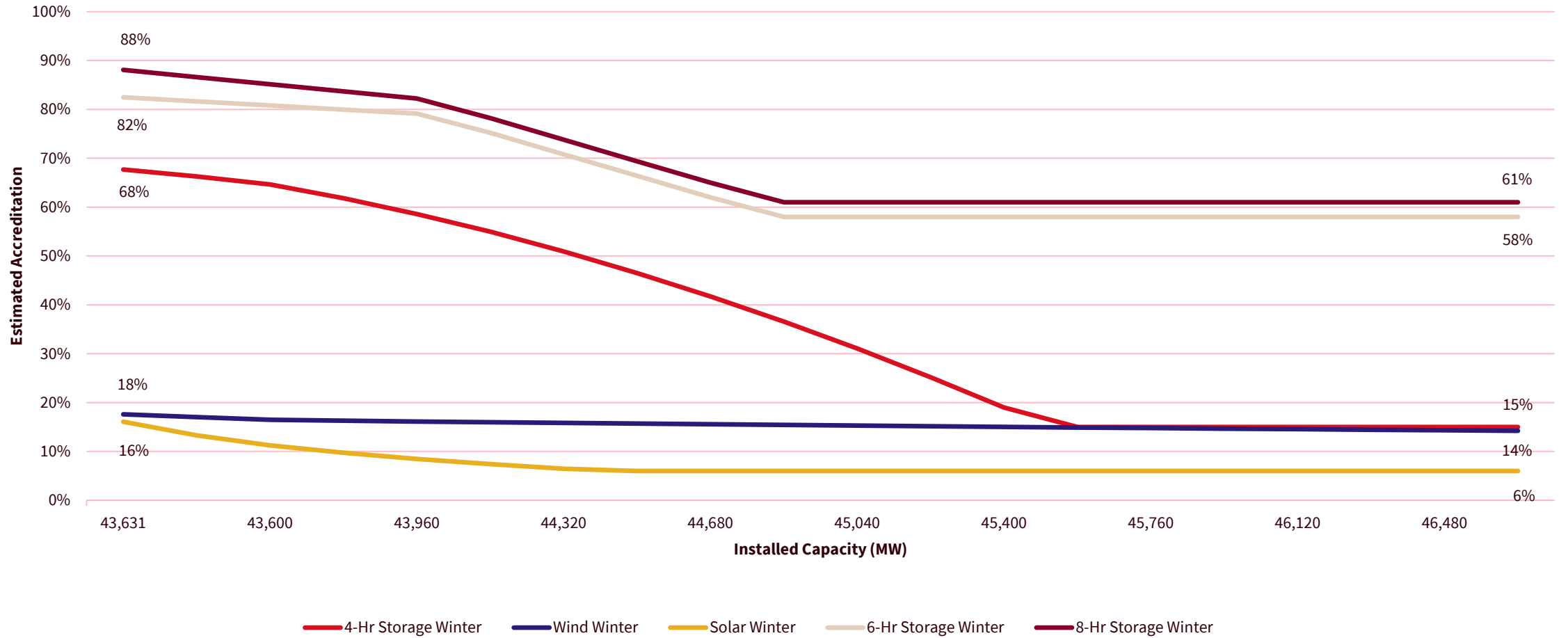
ELCC values allow the IRP to assess renewables based on their contribution to system reliability rather than just their rated capacity. ELCC is applicable exclusively to solar, wind, and storage.

ELCC by Installed Capacity: Summer



EFFECTIVE LOAD CARRYING CAPABILITY (ELCC) WINTER

ELCC by SPS Installed Capacity: Winter



SPS LOADS AND RESOURCES (L&R)

The Loads and Resources (L&R) Table provides a snapshot of the system's ability to meet customer demand by comparing forecasted peak load plus the required planning reserve margin against accredited available resources.

It includes existing and committed resources such as utility-owned generation, contracted purchased power, energy storage, demand-side resources, and other capacity relied upon by the system.

The L&R Table is used to identify periods of capacity surplus or shortfall and helps determine the timing and magnitude of future resource needs under different load forecast scenarios.

***Images are for illustrative purposes only and are based on the 2025 V2 Planning Forecast. An updated forecast will be developed for the IRP.**

Summer Position

Ownership	2026	2027	2028	2029	2030	2031	2032
RFP 2024	0	171	724	2,775	2,775	2,779	2,782
SPS	4,061	4,014	4,005	3,089	3,086	3,060	3,031
PPA	1,174	1,048	1,036	1,029	972	953	911
Customer	-4,543	-5,008	-5,651	-6,205	-6,997	-7,883	-8,439
SPP	-321	-354	-399	-472	-532	-599	-641
Total	372	-129	-284	217	-695	-1,690	-2,355

→ Planning Reserve Margin

Winter Position

Ownership	2026	2027	2028	2029	2030	2031	2032
RFP 2024	0	0	280	1,290	2,443	2,443	2,443
SPS	4,289	3,726	3,590	3,588	2,741	2,698	2,671
PPA	1,094	964	959	958	930	881	871
Customer	-3,962	-4,232	-4,906	-5,469	-5,962	-6,967	-7,871
SPP	-594	-614	-712	-838	-914	-1,068	-1,207
Total	827	-156	-789	-471	-762	-2,015	-3,094





EMERGING TECHNOLOGY



WE FIRST LOOK FOR EMERGING TECH THAT COULD BENEFIT SPS

Dispatchable Carbon-Free Technologies

Long Duration Energy Storage	Tech advancements are unlocking 8+ hours of storage cost effectively to improve variable renewables integration, enabling grid balancing and supporting resiliency	✓ Jobs ✓ Tax Credits	10 RFI Responses
Green Hydrogen	Carbon-free fuel that can power combustion turbines or other generation technologies to provide dispatchable power and minimize stranded assets	✓ Jobs ✓ Tax Credits	0 RFI Responses

Baseload Carbon-Free Technologies

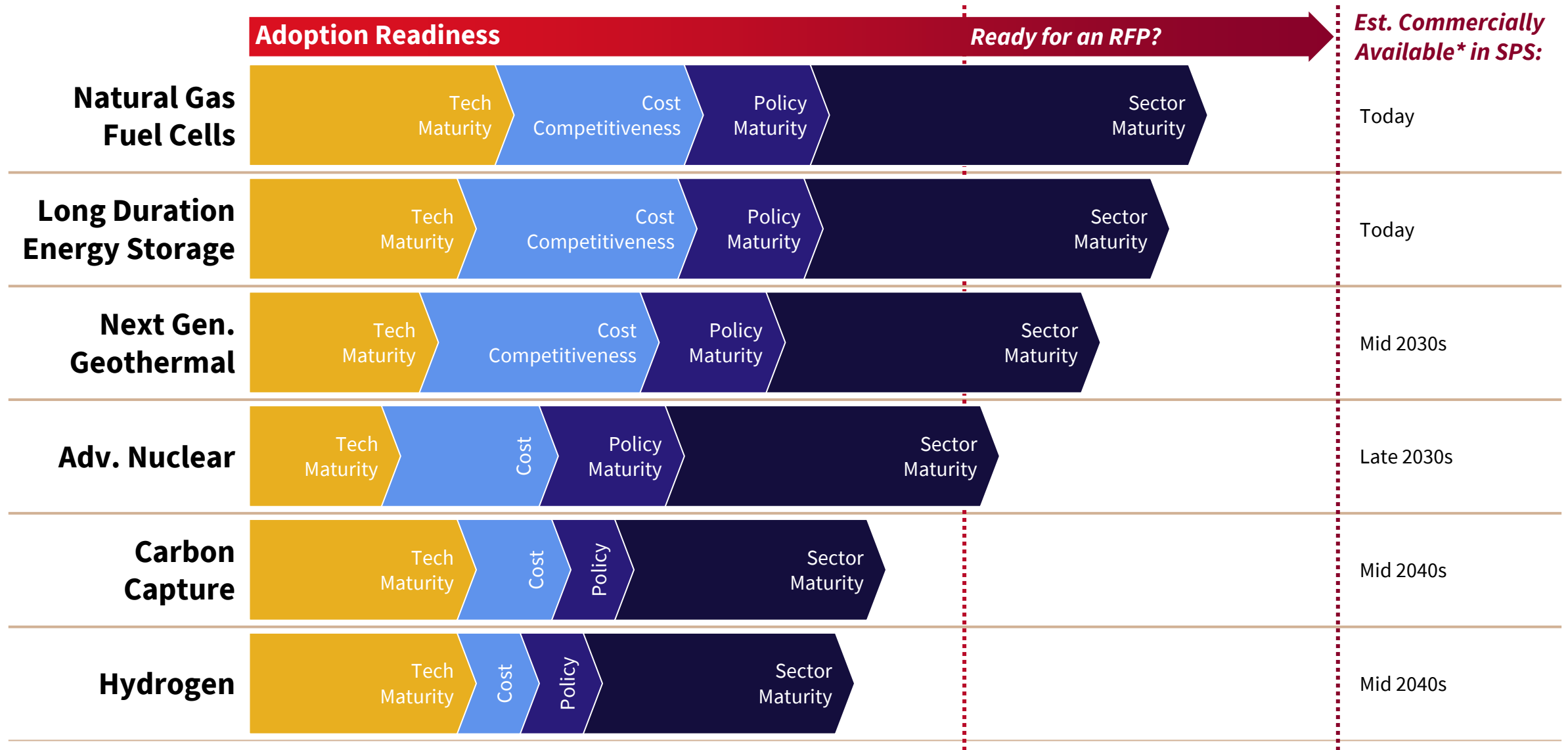
Next Generation Geothermal	Tech advancements are enabling the production of clean, firm baseload power affordably from heat underground across much of the western United States	✓✓ Jobs ✓ Tax Credits	3 RFI Responses
Advanced Nuclear	New designs and manufacturing approaches are driving down costs to provide clean, firm baseload power from long lived assets	✓✓ Jobs ✓ Tax Credits	0 RFI Responses
Green Hydrogen	Carbon-free fuel that can power combustion turbines or other generation technologies to provide baseload power and minimize stranded assets	✓ Jobs ✓ Tax Credits	0 RFI Responses

Other Emerging Technologies

Carbon Capture	Tech that can be added onto combined cycle gas turbines, coal plants or other baseload carbon-emitting generation technologies, minimizing stranded assets	✓✓ Jobs ✓ Tax Credits	1 RFI Response
Fuel Cells	Fast to deploy, low emission fossil-fuel generation that can provide dispatchable or baseload power and be easily converted to carbon-free	✓ Jobs ✓ Tax Credits	0 RFI Responses
Advanced Wind, Solar, Hydro	Tech that enable a step change in performance, operation and/or construction, resulting in lower costs	✓ Jobs ✓ Tax Credits	2 RFI Responses



WE THEN EVALUATE THE ADOPTION READINESS OF THESE EMERGING TECH





DEMAND SIDE & DISTRIBUTION RESOURCES



WHAT IS DEMAND RESPONSE?

- SPS Demand Response programs provide incentives to customers who can reduce their electricity when asked to do so by Xcel Energy during times of high energy demand on the grid.
- Allow customers to earn bill credits or incentives for participation and available controllable load.
- SPS utilizes DR programs as a resource to balance supply and demand, ultimately reducing the reliance on additional generation assets. Improving grid stability and lowering customer bills.



SPS'S PORTFOLIO OF DEMAND RESPONSE PROGRAMS

Interruptible Credit Option

SPS

- Available to C&I customers with 300+ kW of interruptible load.
- Year-Round control capability with limited restrictions on time of day or duration.
- Customer options: 40, 80, or 160 annual control hours with no-notice or 1-hour notice.

Load Management Standard Offer Program

TX

- Available to C&I customers or third-parties with 100+ kW of interruptible load.
- Summer-only control capability with time of day and day of week.
- Filed in the Energy Efficiency Plan & Report (EEPR)

Southwest Power Pool Integrated Marketplace

SPS

- Available to LGST customers with 300+ kW of interruptible load.
- Customers can “bid” their interruptible load as a resource in the SPP Integrated Marketplace.
- Pilot program for 2 years. Approval Summer 2025 (NM) & Fall 2025 (TX)

NEW IN 2025

Off-Peak Alternate Use Rider

TX

- Available to C&I customers with 300+ kW of interruptible load.
- Year-Round control capability with unlimited interruptions with no notice during “on-peak” times.
- Customers must come fully offline during interruptions.
- Approved by PUCT October 2025.

NEW IN 2025

Air Conditioning Control Programs

SPS

- Available to most Residential and Business customers.
- Temperature dependent, most interruptible load when cooling loads are high.
- Savers Switch only available in Amarillo city limits.



FORECASTING DEMAND RESPONSE PARTICIPATION

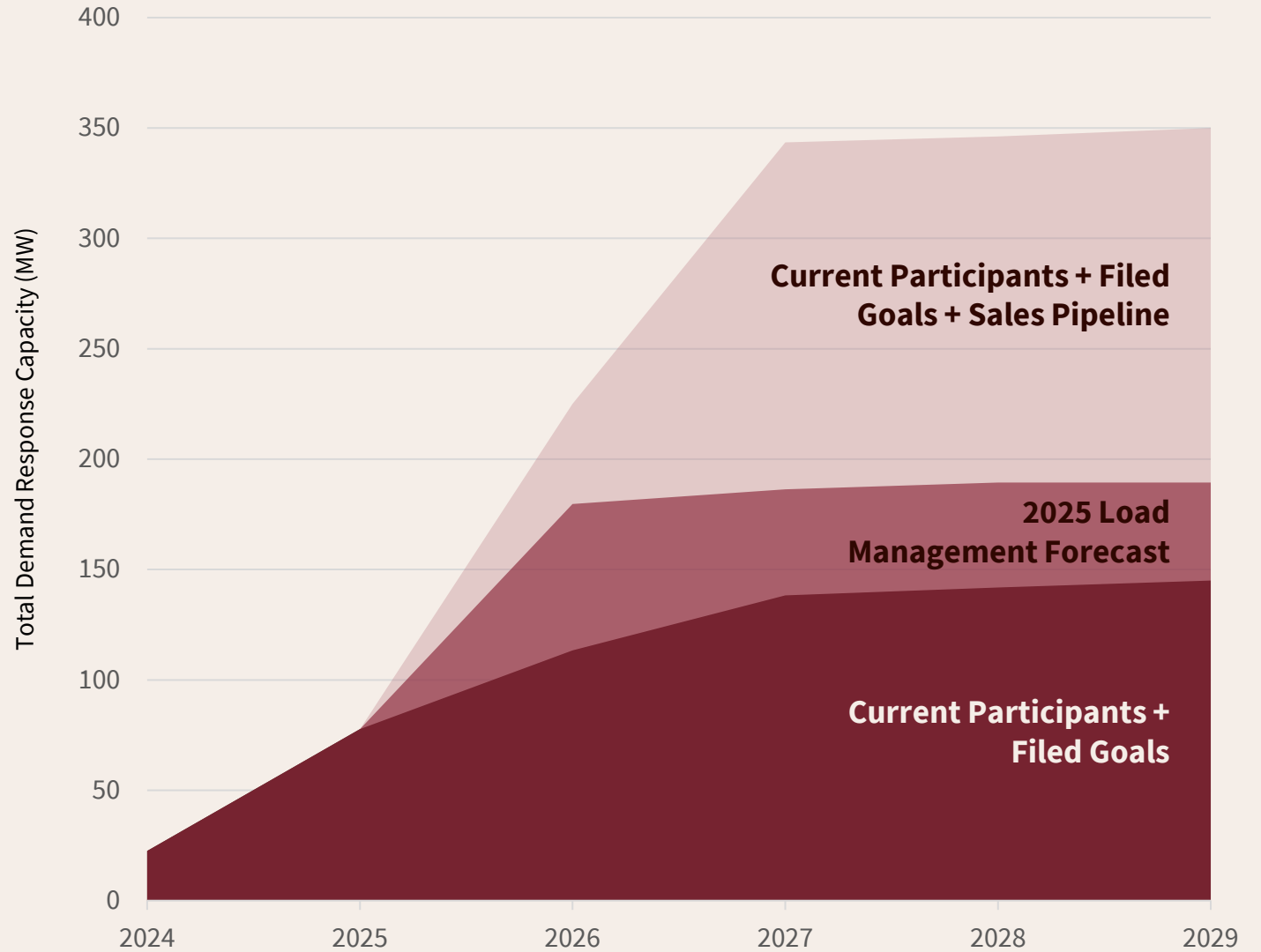
Forecasting demand response program participation requires finding the right balance of historic performance vs. growth goals and sales pipeline.

Rapid growth attributed to introduction of the Interruptible Credit Option and incremental growth in AC control programs.

- Forecasting steady portfolio capacity in 2029 and beyond with slight attrition in Savers Switch through 2054.
- Interruptible Credit Option, Load Management Standard Offer Program, Saver Switch are included in the 2025 LMF. Pilots or temporary programs are generally not included in the LMF.

Load Management Forecast (LMF) updated annually is a forecast looking ahead 30 years.

- Retrospective analysis, market trends, filed goals, and regulatory obligations are included when the forecast is prepared.
- In addition to the quantitative data, assumptions are provided to add context and narrative.



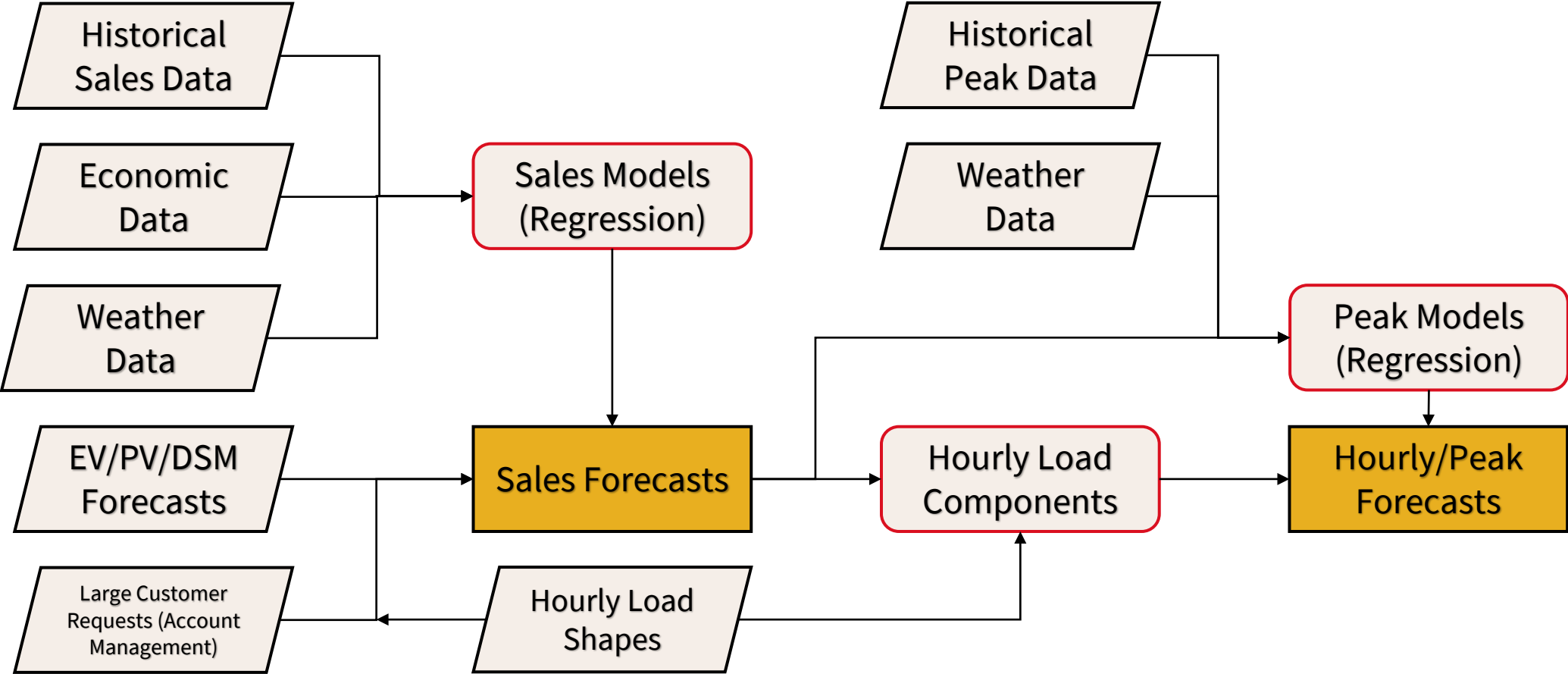


LOAD FORECASTING

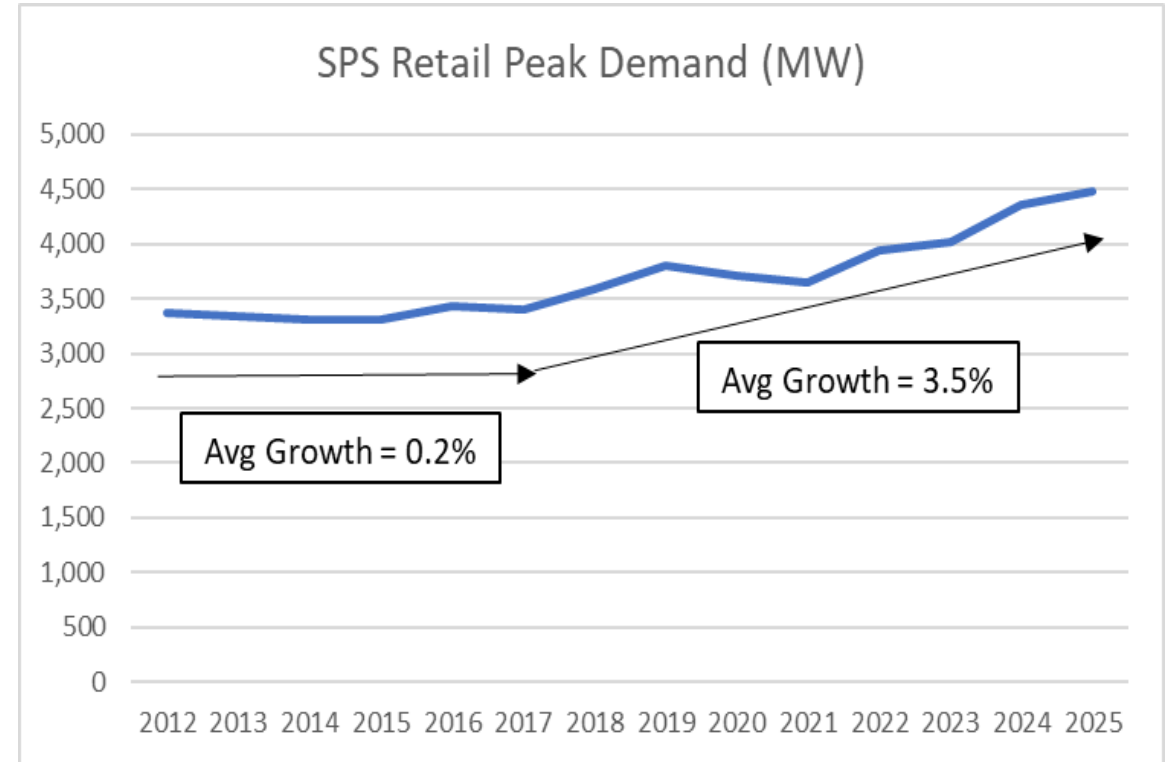
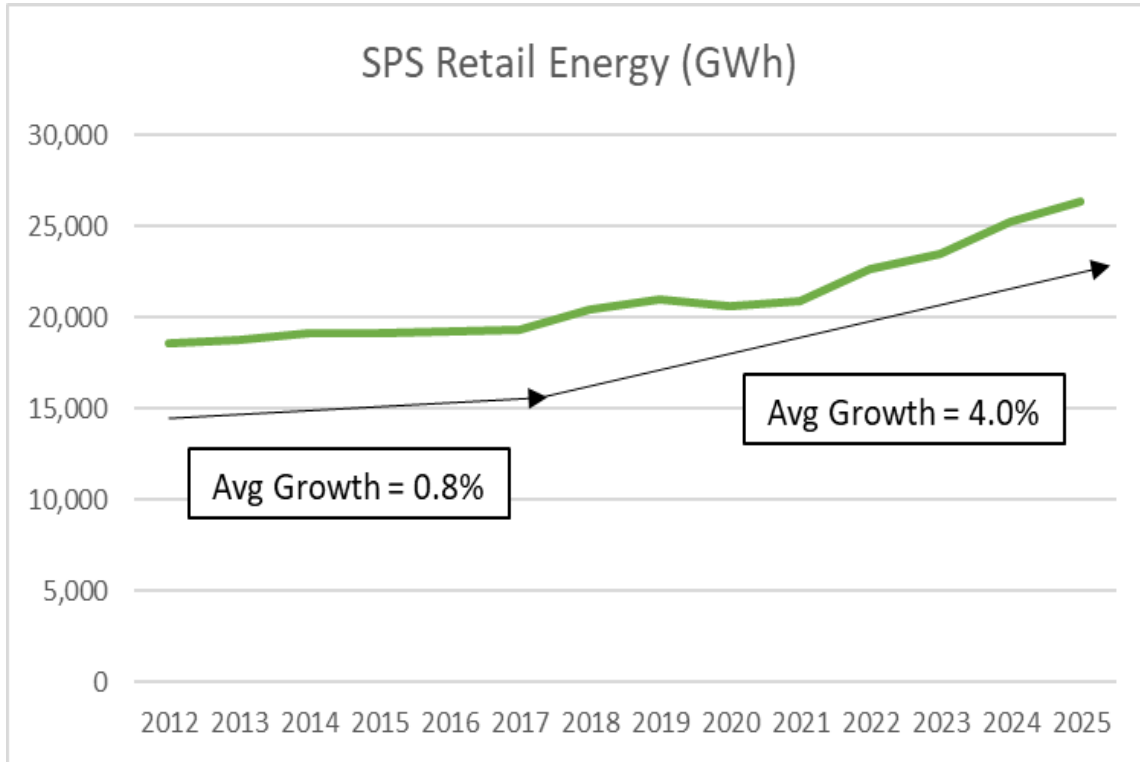
John Goodenough | Director, Energy & Demand Forecasting



WHAT GOES INTO A LOAD FORECAST?



RETAIL ENERGY AND PEAK DEMAND TRENDS



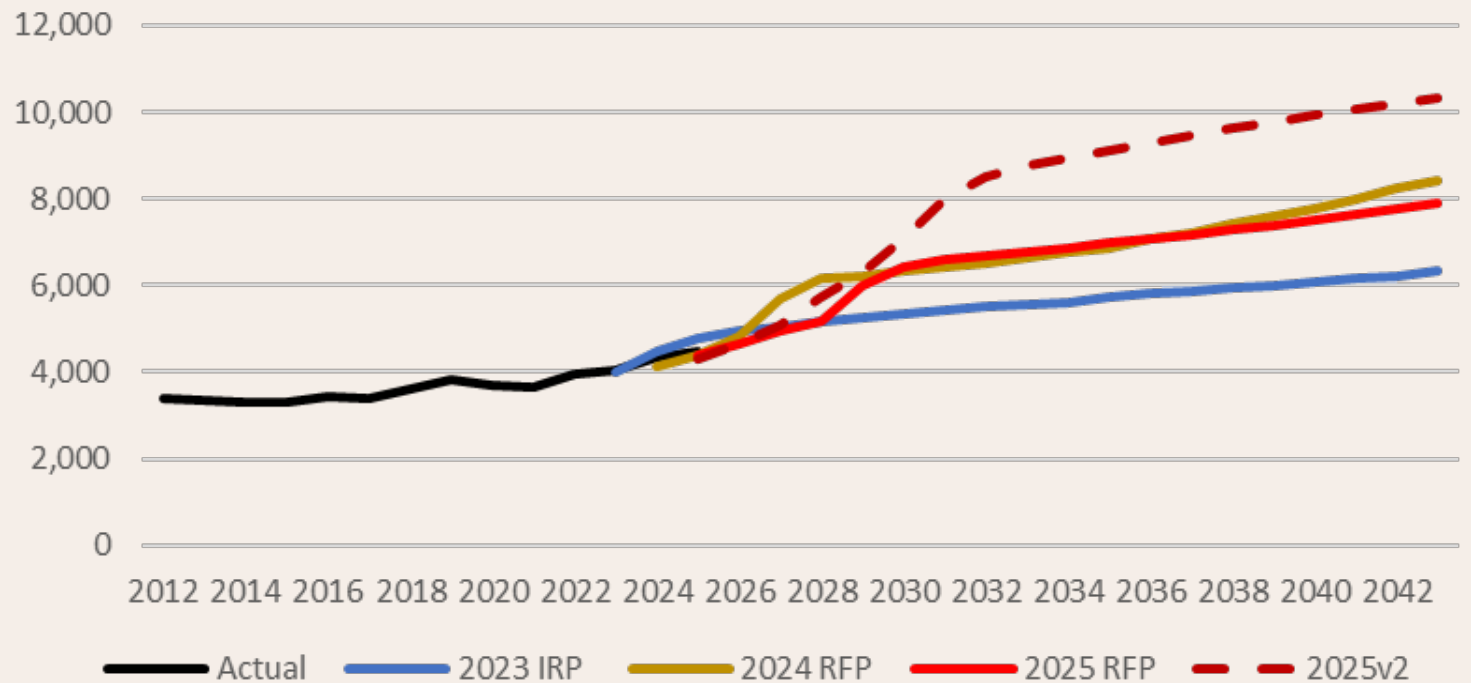
- Retail energy growth has accelerated since 2017, even with a pandemic related decline in 2020
- Driven primarily by oil and gas load in New Mexico

- Retail peak demand shows a similar trend
- Growth expected to continue primarily due to oil and gas expansion/electrification and data center loads

ACCELERATING GROWTH, SHIFTING TIMELINES

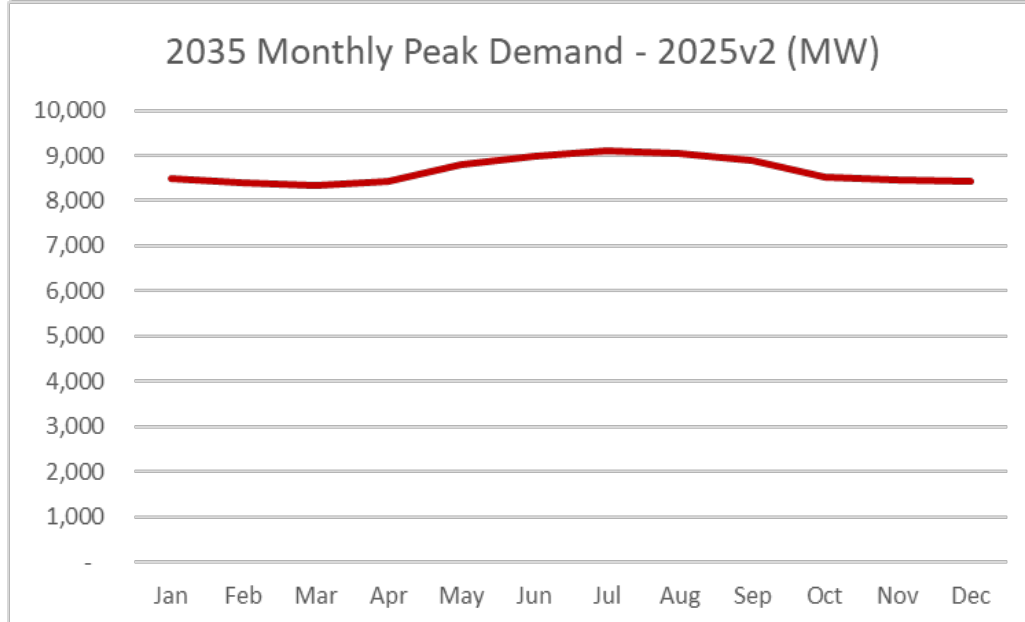
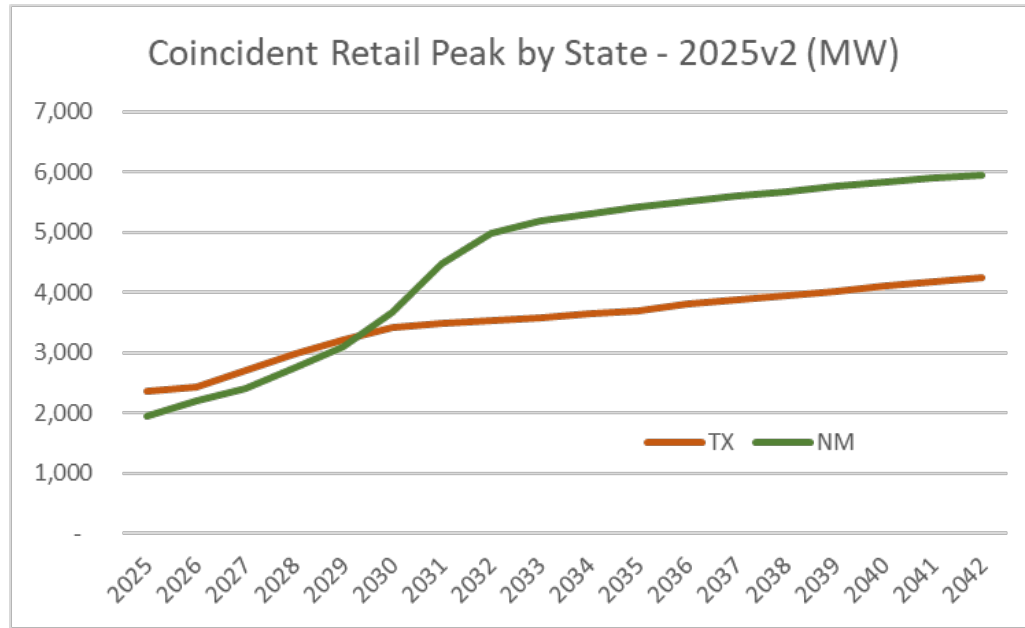
- 2023 IRP Planning forecast based on 85th percentile outlook
- Subsequent RFP forecasts incorporated more information on near to medium-term customer requests
 - Forecasts better capture large increase in customer requests starting in 2021
 - Timing of load additions account for system constraints
 - Long-term outlook still based on probabilistic modeling
- 2025v2 outlook incorporated probabilistic modeling for separately for large C&I load and other load, rather than total system
 - Better reflects the level of current requests and provides better planning for future requests
- 2026 IRP forecast will use a methodology similar to 2025v2

SPS Retail Peak Planning Forecasts (MW)



INCREASING NM SHARE OF FLATTENING RETAIL LOAD

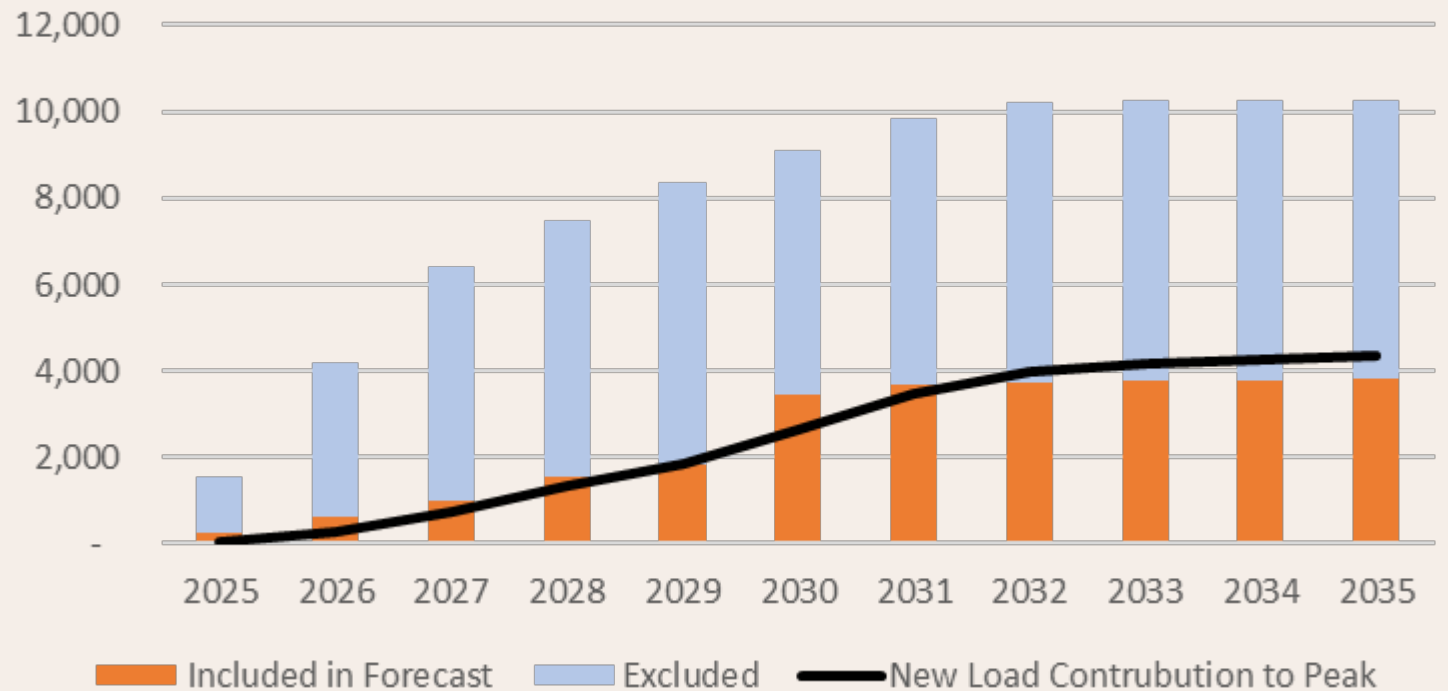
- Oil and gas electrification and expansion in New Mexico is expected to outpace data center growth in Texas
 - NM share of retail peak increases from 45 percent to 60 percent by 2035
- Large, relatively flat load additions increase system load factor from about 70 percent today to about 85 percent by 2035
- Winter peak demand expected to be about 92 percent of summer peak demand by 2035
 - Currently about 85 percent
- Similar results expected in 2026 IRP Forecast



CUSTOMER REQUESTS DRIVE LOAD GROWTH

- Significant uptick in customer requests and connection delays leading to substantial amount of load awaiting interconnection
- SPS assess loads based on multiple criteria for inclusion in the forecast
 - ~40 percent of the load from requests is ultimately included in the forecast
- Timing and pace of inclusions in the forecast includes assumptions about resolution of constraints
- Probabilistic modeling accounts for growth beyond specific project inclusions
- Similar results expected in 2026 IRP forecast

Cumulative Large Loads Awaiting Interconnection by Year of Requested Service (MW) - 2025v2





SOUTHWEST POWER POOL

Jarred Cooley – Strategic Planning



FERC AND SPP POLICY INITIATIVES

SPEED TO MARKET

- FERC Advanced Notice of Proposed Rulemaking RM26-4: Interconnection of Large Loads to the Interstate Transmission System
- SPP Large Load Integration/ Expedited Generator Interconnections – HILLS, HILLGA, ERAS, Priority Process, CHILLS, and PALS
- SPP 765kV Transmission Overlay
- SPP Consolidated Planning Process (CPP) – New generator interconnection process – Transition in 2026-27
- **SPP Transmission Cost Allocation Review (2026)**





SPP LOAD INTEGRATION HILLS/HILLGA/CHILLS/PALS



What is a “High-Impact Large Load” (HILL)?

A new commercial or industrial load, or increase in commercial or industrial load, at a single site connected through one or more shared Points of Interconnection (POIs) or delivery points, where such load is either:

- (1) 10 MW or more if connected to the Transmission System at a voltage level less than or equal to 69 kV; or
- (2) 50 MW or more if connected to the Transmission System at a voltage level greater than 69 kV.

An Electric Storage Resource is not considered a HILL. A load may be categorized as a HILL after the initial effective date of Attachment BA of the Tariff.

High Impact Large Loads must register as such in accordance with Attachment AE and follow the processes specified in Attachment BA.

FUTURE OF SPP'S SERVICES FOR LARGE LOADS

HILL/HILLGA

High Impact Large Load and/or Generation Assessment

Long-term firm transmission service for **large loads** when there is sufficient generation on the system today.

HILLGA – Temporary generator interconnection service for generation used to serve HILL

FERC approved – March 2026

CHILLS

Conditional High Impact Large Load Service

For **large loads** willing to take a long-term curtailable non-firm transmission service with a commitment to take firm transmission service.

FERC Filing - February 2026 – Pending approval

PAL

Price Adaptive Load

For **any load** (not just large loads) willing to take **price adaptive load** (PAL) service and withdrawal based on real-time market pricing. Proposal still being developed by SPP.

MOPC* Policy – January 2026

MOPC* Action – April 2026

*MOPC –SPP Market Operations and Policy Committee



CONSOLIDATED PLANNING PROCESS (CPP)



CONSOLIDATED PLANNING PROCESS (CPP)

- Just Approved – March 13, 2026
- MASSIVE CHANGE
 - Integrates generator interconnection, load growth, public policy, reliability, and economic, into a single study
 - Assigns generator interconnection costs based on benefits
- What will it do?
 - Reduce GI Queues
 - Improve Load interconnection and transmission service studies
 - Streamline and optimize planning
 - Provide greater cost certainty to GI developers
 - Improved cost sharing



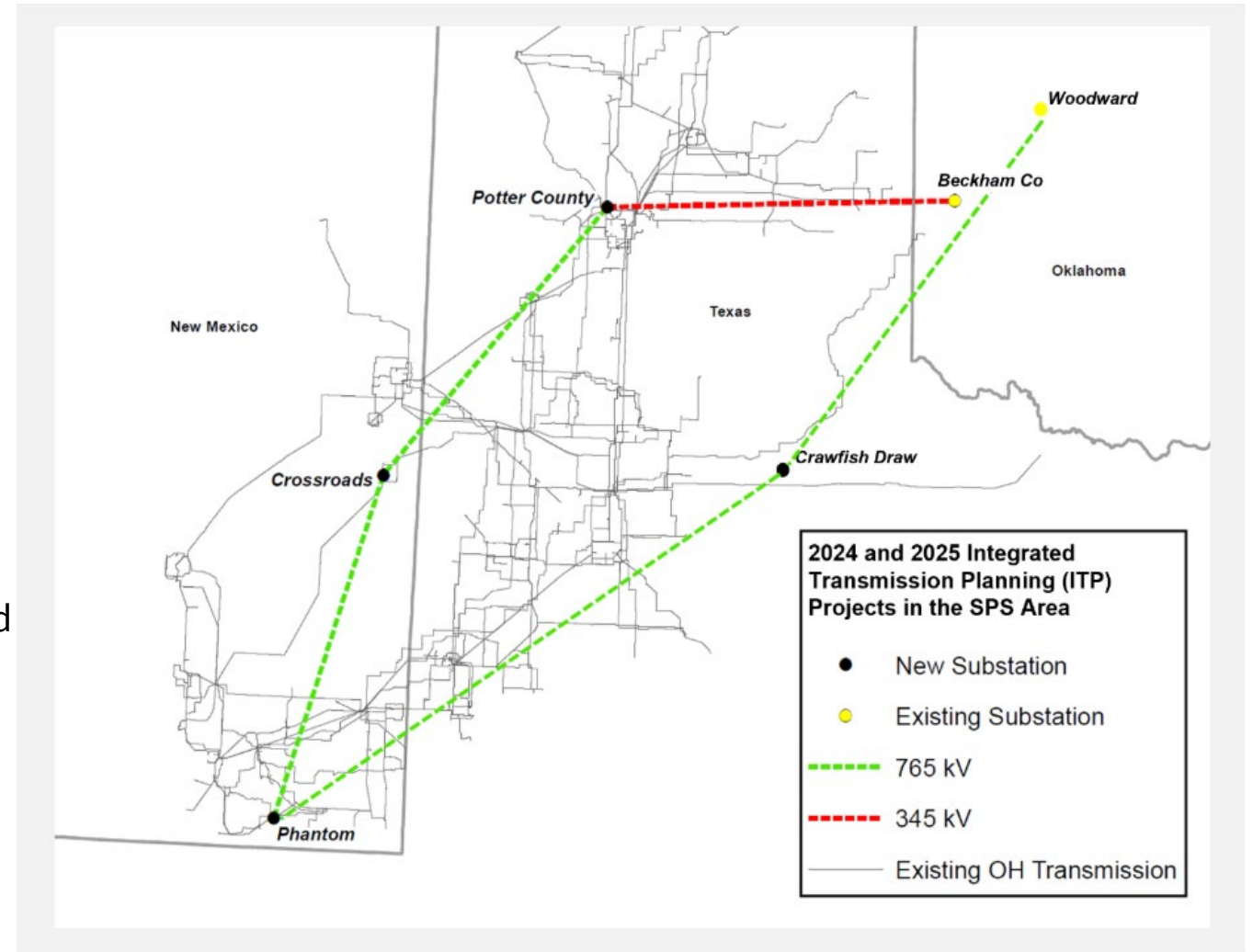


TRANSMISSION



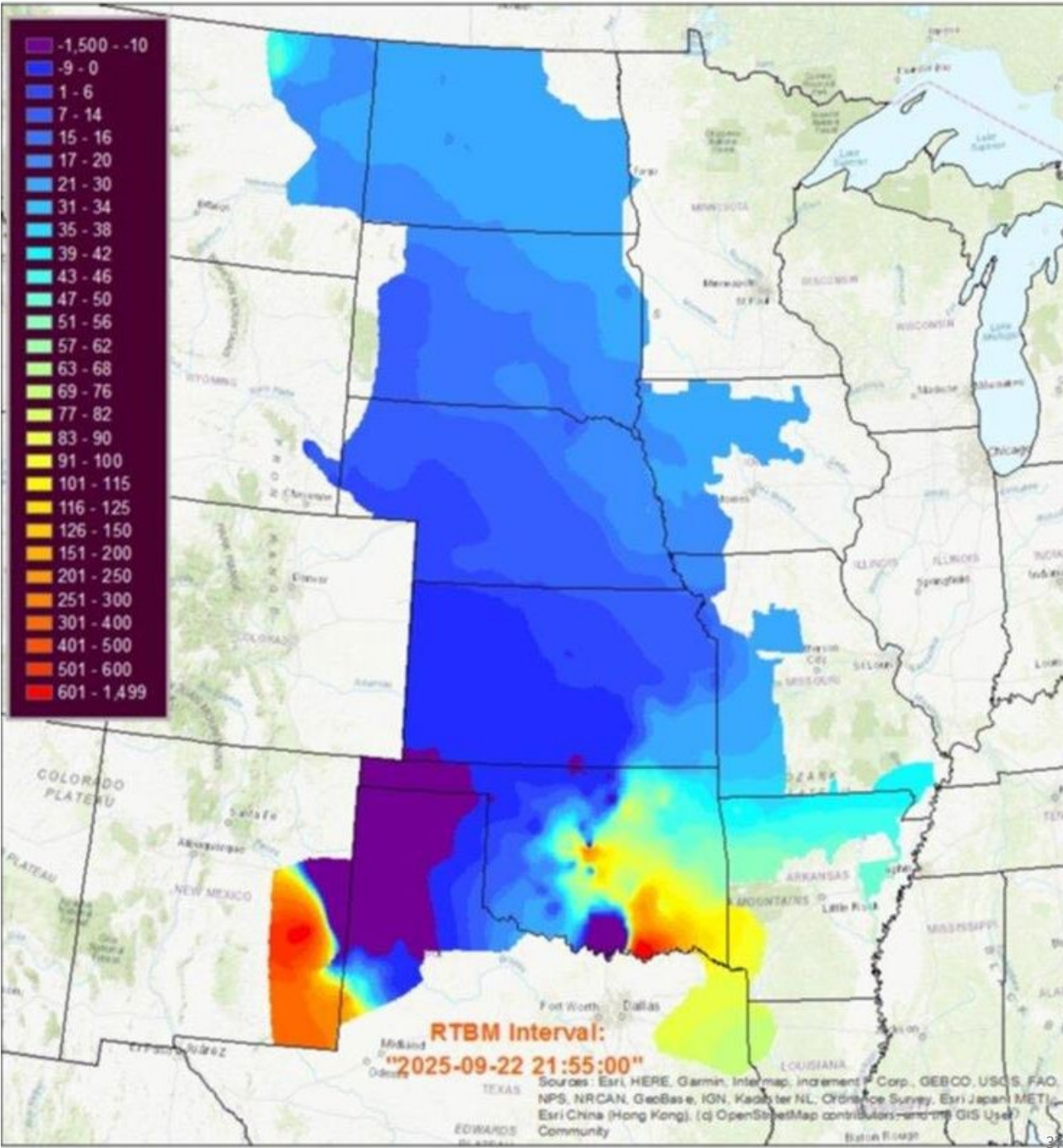
NEW TRANSMISSION - SPS

- SPP performs Integrated Transmission Planning (ITP) studies annually
 - Reliability and Economic analysis
- Recently Approved Transmission in SPS's region
 - Potter Co – Beckham Co 345 kV (2024 ITP)
 - Potter – Crossroads – Phantom 765 kV (2024 ITP)
 - Crawfish Draw – Phantom 765 kV (2025 ITP)
 - Crawfish Draw – Woodward 765 kV (2025 ITP)*
- 765 kV overlay in development at SPP
 - Currently approved projects are in TX, NM, OK, and LA
- Many reliability and economic needs are also in flight on the underlying systems
 - Line Rebuilds
 - Transformers
 - Capacitor banks



SPS CONGESTION AND CURTAILMENT

- Congestion in SE NM remains
- SPS assets near Lubbock declared a frequently constrained area (2025)
- Large transmission projects, in conjunction with the 2022, 2024, and 2025 RFP generators, coming into service soon should help



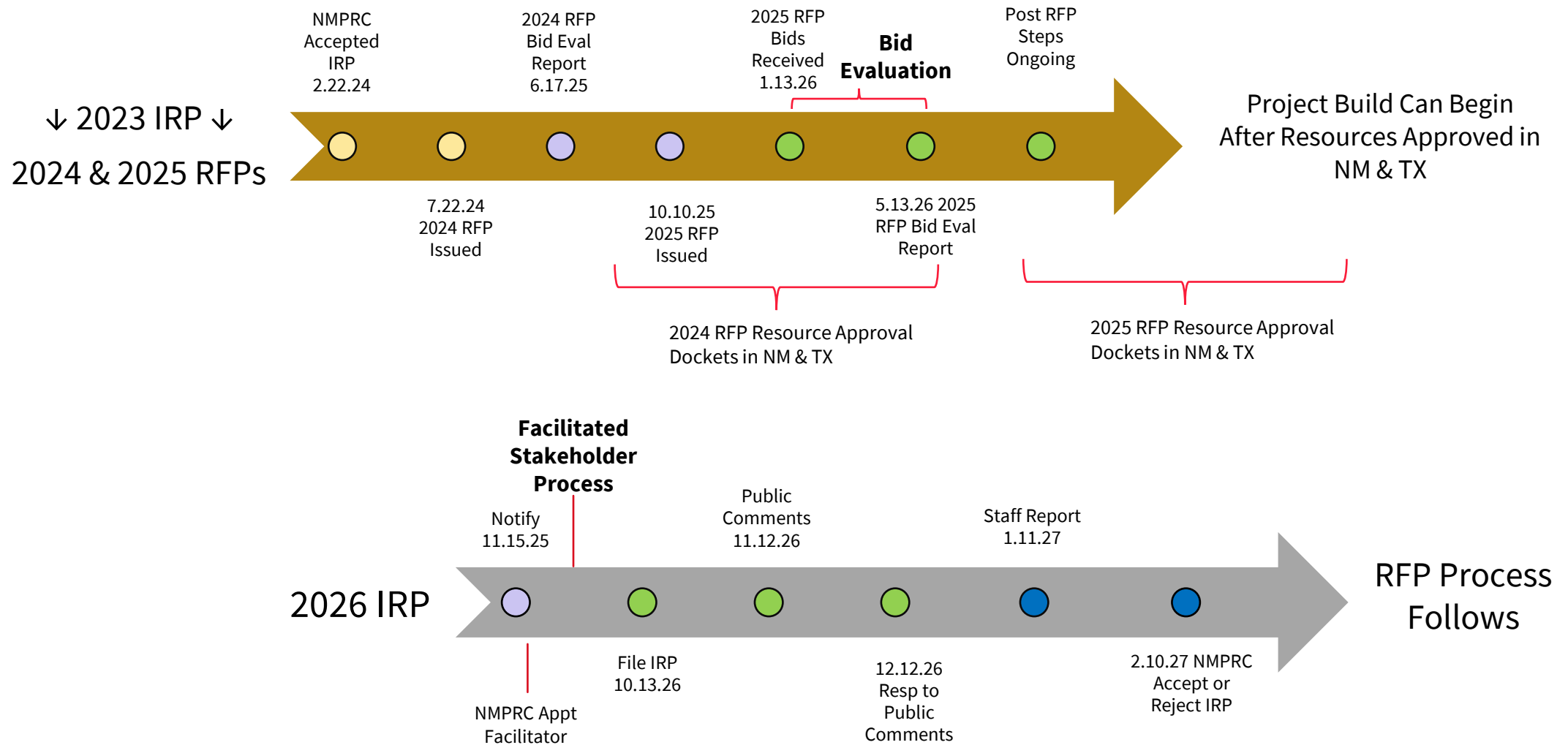




APPENDICES



SPS'S CURRENT STATUS ON IRP TIMELINE



SPP PRIORITY PROCESS – LETS MOVE FASTER

- Priority Process - an expedited generator interconnection study (PISIS) at an existing and approved generator interconnection site
- Limited in nature
 - Sunset following implementation of CPP
 - Generation must be in service within 5 years of Generator Interconnection Agreement (GIA) execution
 - Generation capacity limited to 20% of existing GIA
 - Requires higher eligibility and financial requirements – 100% site control and higher deposits and security



SPP HILLGA MISCELLANEOUS

- All HILLs must connect via Load Serving Entity (LSE)
- HILLGA provides interim generator interconnection service until permanent generation interconnection service provided under the SPP Definitive Interconnection System Impact Study (DISIS) or Consolidated Planning Process (CPP) can be completed
- HILLGA generator connecting at 765kV is limited to one bus station
- HILLGA generator required minimum ramp rate of 20MW/Min
- HILL/HILLGA request and deposit required for each Generating Facility
- Costs direct assigned – includes Network Upgrades and any needed control/system protection devices in Appendix C
- More than one HILL can be evaluated with one or more HILLGA - should be submitted together

