BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF PUBLIC SERVICE COMPANY OF NEW MEXICO'S APPLICATION FOR APPROVAL OF PURCHASED POWER AGREEMENTS, ENERGY STORAGE AGREEMENTS, AND CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR 2029-2032 SYSTEM RESOURCES AND THE ABANDONMENT OF THE FOUR CORNERS POWER PLANT	)	**Docket No. 26-0000__**
PUBLIC SERVICE COMPANY OF NEW MEXICO,	)	
Applicant.	)	

DIRECT TESTIMONY

OF

RICHARD NICHOLAS WINTERMANTEL

May 29, 2026

NMPRC DOCKET NO. 26-0000___
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RICHARD NICHOLAS WINTERMANTEL

WITNESS FOR
PUBLIC SERVICE COMPANY OF NEW MEXICO

DIRECT TESTIMONY
OF RICHARD NICHOLAS WINTERMANTEL
NMPRC DOCKET NO. 26-0000___

I. INTRODUCTION AND PURPOSE

Q. Please state your name, business address, and place of employment.

A. My name is Richard Nicholas Wintermantel, and my business address is 3000 Riverchase Galleria Suite 575, Hoover, Alabama, 35224. I am employed by PowerGEM, LLC as Chief Services Officer.

Q. On whose behalf are you testifying in this matter?

A. I am testifying on behalf of the Applicant, Public Service Company of New Mexico ("PNM").

Q. Please summarize your educational background and professional qualifications.

A. My educational background and relevant employment experience are summarized in PNM Exhibit RNW-1 attached to my testimony.

Q. Have you previously testified in utility-related proceedings?

A. Yes. I presented testimony before the New Mexico Public Regulation Commission ("NMPRC" or "Commission") on behalf of PNM in PNM's San Juan Replacement Resource Filing in Case No. 19-00195-UT; PNM's Palo Verde Lease Replacement Filing in Case No. 21-00083-UT; PNM's 2026 Resource Filing in Case No. 23-00353-UT; and PNM's 2028 Resource Filing in Case No. 24-00271-UT. I have

also testified in Georgia, South Carolina, and North Carolina in utility-related proceedings. These proceedings are reflected in PNM Exhibit RNW-1.

Q. Please provide an overview of your expertise in performing resource adequacy and planning studies.

A. Since 2009, I have managed resource adequacy studies across the electric utility industry including target reserve margin studies; Effective Load Carrying Capability ("ELCC") studies of wind, solar, storage, and demand response resources; resource selection decisions; and ancillary service studies for integrating renewables. I performed these studies using PowerGEM's proprietary Strategic Energy Risk Valuation Model ("SERVM") used by utilities and system operators across the U.S. and internationally. Prior to 2009, I worked in various resource planning functions with the Southern Company, which included work for its operating companies as well as Southern Power.

Q. What is the purpose of your direct testimony?

A. My testimony discusses PNM's resource adequacy assessment for the 2029-2032 requested resource portfolio, and I present the loss of load expectation ("LOLE") for specific portfolios provided by PNM for 2029-2032 resources selection to ensure that resource adequacy metrics are met.

Q. Provide a brief overview of what your testimony concludes.

A. My testimony concludes the preferred resource portfolio brought forward by PNM is required to provide a path forward to resolve the resource adequacy need in 2029-2032. As part of the RFP analysis my team conducted in 2025, PNM's preferred portfolio provides a reliable system as measured by LOLE during 2029 and 2030 and provides PNM necessary resources as it plans for 2031 and 2032. This analysis assumed that a generic 344 MW of gas units come online in 2029 that are not part of the preferred resource portfolio in this case. The resource adequacy analysis was also refreshed in 2026 with 2026 IRP updates and any resource in-service updates to determine the resource need beyond this preferred portfolio for the 2029 – 2032 study period. This is all discussed in more detail below.

II. SYSTEM RESOURCE ADEQUACY MODELING

Q. Please describe your role in the PNM Integrated Resource Planning and 2029-2032 Resource Evaluation processes and how the SERVM model was utilized.

A. My team was responsible for the resource adequacy analysis, including the LOLE analysis conducted in the 2028 Resource Filing and PNM's 2023 Integrated Resource Plan ("IRP"), both of which were performed using SERVM. My team is also currently working on the 2026 IRP for PNM.

Q. Has this framework been utilized previously in electric resource planning in cases before the Commission?

A. Yes. The same resource adequacy framework used for PNM's 2026 Resource Filing and PNM's 2028 Resource Filing was used for this 2029-2032 resource analysis.

Q. Please define LOLE.

A. LOLE is a widely accepted metric for determining resource adequacy for electric systems to represent the expected number of days in a year that load will not be met given a specified resource portfolio.

Q. What is the LOLE standard used by PNM?

A. The LOLE metric used by PNM in its 2023 IRP was 0.1 days per year. In other words, PNM plans to deploy enough capacity that it would only expect to experience firm load shed events due to capacity shortages one day every 10 years. A firm load shed event occurs any time the system must reduce load by turning off power because the system did not have enough generation to serve customers.

Q. Is PNM's standard consistent with other standards?

A. Yes. This standard is used by many utilities and Independent System Operators ("ISOs")/Regional Transmission Operators ("RTOs"), which is referred to as the one-day-in-10-year standard. For reference, RTOs such as the PJM

Interconnection[1] and Midwest Independent System Operator (MISO)[2] use the one-day-in-10-year standard. Utilities such as Duke Energy[3] and Arizona Public Service Company[4] also use the same standard to ensure resource adequacy on their respective systems.

Q. What specific analysis was performed by your team in PNM's 2023 IRP?

A. For the 2023 IRP, my team calculated the planning reserve margin and marginal ELCCs[5] for new solar, wind, and storage projects using the LOLE analysis in SERVM. The planning reserve margin is determined by calculating the reserve margin required to meet the 0.1 days per year LOLE standard. ELCCs are determined by understanding how much additional load a new resource, such as solar, wind, or storage, can carry while still maintaining the 0.1 days per year LOLE standard. The ELCC results provide the reliability contribution of variable generation resources and energy limited resources as they are integrated into the system. As described by PNM witness Duane, the planning reserve margin and ELCCs were utilized in the EnCompass™ models for the 2029-2032 portfolio analysis. Similar analysis is being conducted for PNM's 2026 IRP.

[1] https://www.pjm.com/-/media/documents/manuals/m20a.ashx, page 8.
[2] https://cdn.misoenergy.org/Resource%20Accreditation%20White%20Paper%20Version%202.1630728.pdf, page 2.
[3] https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/chapter-1-changing-energy-landscape.pdf?rev=88d3584893bc4287be612875fae8bea8, page 7.
[4] https://www.aps.com/-/media/APS/APSCOM-PDFs/About/Our-Company/Doing-business-with-us/Resource-Planning-and-Management/APS_IRP_2023_PUBLIC.pdf?la=en&sc_lang=en&hash=DF34B49033ED43FF0217FC2F93A0BBE6, page 14.
[5] The Resource Adequacy Study which includes ELCC calculations can be found in Appendix M of the 2023 IRP, https://www.pnm.com/2023-irp.

III. PNM'S 2025 RELIABILITY ASSESSMENT OF PNM'S 2029-2032 RESOURCES

Q. Moving to the reliability assessment of PNM's selected 2029-2032 portfolio as part of this RFP, please describe the resources your team modeled in SERVM.

A. As PNM witness Duane discusses, for the purpose of the LOLE assessment, my team modeled (i) the resources in PNM's selected 2029 – 2032 portfolio shown in PNM Table RNW – 1, and (ii) an additional assumption of 344 MW of generic combusting turbine capacity (two 172 MW units) coming online in 2029 to evaluate system reliability against the 0.1 days/year LOLE standard. These generic units are modeled as an assumed system resource for reliability analysis and are not among the specific resources for which PNM seeks approval in this proceeding. This assumed generic capacity is addressed through supplemental procurement or other actions as discussed in PNM witness Duane's testimony.

PNM Table RNW-1 – 2029-2032 Preferred Portfolio

Unit Name	Technology	Capacity	Assumed Inservice Date
Wildcat BESS ESA	Battery	50	1/1/2029
Wildcat Solar PPA	Solar	90	1/1/2029
Britton BESS ESA	Battery	60	1/1/2029
Encino BESS ESA	Battery	110	1/1/2029
TAG II BESS ESA	Battery	90	1/1/2029
Palomas Wind PPAs	Wind	800	1/1/2029
La Luz II Project	CT	40	1/1/2031
Cat Hills BESS ESA	Battery	150	1/1/2031
Cat Hills Solar	Solar	150	1/1/2031
Gila Monster BESS ESA	Battery	150	1/1/2031

Q. Please describe the LOLE assessment process used in the 2029-2032 resource selection.

A. My team assessed the LOLE for 2029–2032 to understand if the portfolios developed by PNM met reliability requirements. This was accomplished by taking the PNM portfolio from PNM's EnCompass™ modeling, including any new resources selected in the portfolio analysis, and including them in SERVM's resource adequacy framework, and assessing the resulting LOLE in each study year. The current EnCompass™ modeling included the most up to date load forecast and resource mix for PNM.

Q. Please provide the reliability results for the 2029-2032 RFP Portfolio.

A. PNM Table RNW-2 below shows the LOLE results for the 2029–2032 study period for the selected portfolio. Being that the standard is 0.1 LOLE, this portfolio which

includes the generic 344 MW of firm capacity proves reliable in the early years. In 2031 and 2032, the LOLE is above 0.1 slightly.

PNM Table RNW-2 – Portfolio Reliability Results

Study Year	2029	2030	2031	2032
LOLE (Days per Year)	0.07	0.09	0.11	0.15

Q. What would the LOLE results show if no new resources were added to PNM's system in 2029-2032?

A. The results of the SERVM analysis for this scenario are shown in PNM Table PNM RNW-3 below. The reliability of the system would be substantially worse than the 0.1 LOLE target if no resources are built. For example, in 2030 if no resources are added, then the system would expect that PNM would not be able to serve load on 7.76 days of the year as opposed to the 0.1 LOLE target which expects a loss of load 1 day in ten years.

PNM Table RNW-3 – No New Resources Reliability Results

Study Year	2029	2030	2031	2032
LOLE (Days per Year)	6.67	7.76	15.45	17.27

IV. PNM'S 2026 IRP UPDATE AND IMPACT ON ITS RELIABILITY ASSESSMENT OF PNM'S 2029-2032 RESOURCES

Q. Please provide an update of the resource adequacy modeling being conducted as part of the 2026 IRP.

A. As part of PNM's 2026 IRP, PowerGEM has updated all underlying assumptions in its resource adequacy framework. This includes updated load shapes, solar shapes, wind shapes, existing resource assumption updates, transmission topology, ancillary service assumptions, and neighbor assistance assumptions. These underlying assumptions were last updated as part of the 2023 IRP. In between the 2023 IRP and the 2026 IRPs, only substantial changes such as peak and energy load forecasts and resource portfolios are modified for RFP analyses.

Q. Given that the resource adequacy analysis for this resource application was performed on the 2023 IRP framework and assumptions, what, if anything would change using the updated 2026 IRP framework?

A. Given the changes in the 2026 IRP, PowerGEM observes that the updated assumptions improve resource adequacy and lower the overall capacity need compared to the 2023 IRP framework. This is mostly due to a benefit seen in the net load shapes. The load forecasts for the 2026 IRP have decreased slightly from the earlier analyses conducted in 2025, and the updated wind shapes provide more benefit compared to the shapes used in the 2023 IRP analysis. While there are other moving components the overall direction is resource adequacy improved requiring less capacity.

Q. Also acknowledging that the Palomas wind resource is being delayed until fall of 2029 along with the updated 2026 IRP assumptions used in the resource adequacy framework, please provide the resulting LOLE by year with the

most recent 2026 IRP load forecast included and only the resources being approved as part of this resource application.

A. PNM Table RNW-4 below shows the results assuming the updated 2026 IRP resource adequacy framework and no resources beyond the resources being recommended as part of this RFP. The two generic frame resources are not included for this analysis. The second row shows the MW need by year to achieve 0.1 LOLE which PNM should seek in its RFP supplement or alternative methods to fill the need in 2029 as discussed by PNM witness Williams and Duane.

PNM TABLE RNW-4 – 2026 IRP Results

Study Year	2029	2030	2031	2032
LOLE (Days per year)	1.20	0.47	0.38	0.71
MW Needs	212	146	100	151

V. CONCLUSION

Q. Please summarize the conclusions and recommendations in your testimony.

A. Based on the analysis my team conducted, the resources being requested for approval, plus additional supplemental resources, are needed to ensure the system is resource adequate in 2029 and subsequent years. This is true in the original RFP analysis conducted in 2025 as well as the updated analysis which utilized the 2026 IRP assumptions.

Q. Does this conclude your testimony?

A. Yes.

GCG#535325

Resume of Richard Nicholas Wintermantel

PNM Exhibit RNW-1

Is contained in the following 4 pages.

Richard Nicholas ("Nick") Wintermantel | Chief Services Officer, PowerGEM, LLC

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Mr. Wintermantel has over 25 years of in industry experience with the majority of that in utility planning and electric market modeling, Areas of utility planning experience includes utility integrated resource planning (IRP) for vertically-integrated utilities, market price forecasting, resource adequacy modeling, RFP evaluations, environmental compliance analysis, asset management, financial risk analysis, and contract structuring. Mr. Wintermantel also has expertise in production cost simulations and evaluation methodologies used for IRPs and reliability planning. As a consultant with Astrapé Consulting, now part of PowerGEM, Mr. Wintermantel has managed reliability and planning studies for large power systems across the U.S. and internationally. Prior to joining Astrapé Consulting, Mr. Wintermantel was employed by the Southern Company where he served in various resource planning, asset management, and generation development roles.

Experience

Chief Services Officer at PowerGEM (May 2024 to current)
Lead a consulting team who performs resource adequacy analysis, ELCC analysis, renewable integration, expansion planning, and load flow analysis

Principal Consultant at Astrapé Consulting (2009 – April 2024)
Managed detailed system resource adequacy studies for large scale utilities
Managed ancillary service and renewable integration studies
Managed ELCC studies
Managed resource selection studies
Performed financial and risk analysis for utilities, developers, and manufacturers
Demand side resource evaluation
Storage evaluation
Served on IE Teams to evaluate assumptions, models, and methodologies for competitive procurement solicitations
Project Management on large scale consulting engagements
Production cost model development
Model quality assurance
Sales and customer service

Sr. Engineer for Southern Company Services (2007-2009)
Integrated Resource Planning and environmental compliance
Developed future retail projects for operating companies while at the Southern Company
Asset management for Southern Company Services

Sr. Engineer for Southern Power Company (Subsidiary of Southern Company) (2003-2007)
Structured wholesale power contracts for Combined Cycle, Coal, Simple Cycle, and IGCC Projects
Model development to forecast market prices across the eastern interconnect
Evaluate financials of new generation projects
Bid development for Resource Solicitations

Cooperative Student Engineer for Southern Nuclear (2000-2003)

Probabilistic risk assessment of the Southern Company Nuclear Fleet

Industry Specialization

Resource Adequacy Planning	Resource Planning	Integrated Resource Planning
Competitive Procurement	Asset Evaluation	Financial Analysis
Environmental Compliance Analysis	Generation Development	Capacity Value Analysis
Renewable Integration	Ancillary Service Studies	

Education

MBA, University of Alabama at Birmingham – Summa Cum Laude
B.S. Degree Mechanical Engineering - University of Alabama - Summa Cum Laude

Relevant Experience

Resource Adequacy Planning and Production Cost Modeling

Tennessee Valley Authority: Performed Various Reliability Planning Studies including Optimal Reserve Margin Analysis, Capacity Benefit Margin Analysis, and Demand Side Resource Evaluations using the Strategic Energy and Risk Valuation Model (SERVM) which is Astrapé Consulting's proprietary reliability planning software. Recommended a new planning target reserve margin for the TVA system and assisted in structuring new demand side option programs in 2010. Performed Production Cost and Resource Adequacy Studies in 2009, 2011, 2013, 2015 and 2017. Performed renewable integration and ancillary service work from 2015-2017.

Southern Company Services: Assisted in resource adequacy and capacity value studies as well as model development from 2009 – 2018.

Louisville Gas & Electric and Kentucky Utilities: Performed reliability studies including reserve margin analysis for its Integrated Resource Planning process.

Duke Energy: Performed resource adequacy studies for Duke Energy Carolinas, LLC and Duke Energy Progress, LLC in 2012 and 2016. Performed capacity value and ancillary service studies in 2018. Performed ELCC analysis in 2022, and Resource Adequacy and ELCC Analysis in 2023.

California Energy Systems for the 21st Century Project: Performed 2016 Flexibility Metrics and Standards Project. Developed new flexibility metrics such as EUE_{flex} and $LOLE_{flex}$ which represent LOLE occurring due to system flexibility constraints and not capacity constraints.

Terna: Performed Resource Adequacy Study used to set demand curves in Italian Capacity Market Design.

Pacific Gas and Electric (PG&E): Performed flexibility requirement and ancillary service study from 2015–2017. Performed CES Study for Renewable Integration and Flexibility from 2015 – 2016.

PNM (Public Service Company of New Mexico): Managed resource adequacy studies and renewable integration studies and ancillary service studies from 2013 – 2024. Performed resource selection studies in

2017 and 2018. Additional IRP and RFP work from 2020 – 2026.

GASOC: Managed resource adequacy studies from 2015 – 2018.

MISO: Provided resource adequacy support in regard to accreditation and LOLE studies from 2022-2026.

SPP: Managed resource adequacy study in 2017. Ongoing planned maintenance Study in 2020-2021.

Santee Cooper: Managed resource adequacy, ELCC, and solar integration studies in 2022-2024.

Dominion Energy South Carolina: Managed resource adequacy and ELCC studies in 2022-2023.

NWPP: Managed resource adequacy study for the northwest power pool in 2022.

Malaysia (TNB, Sabah, Sarawak)): Performed and managed resource adequacy studies from 2015-2018 for three different Malaysian entities.

ERCOT: Performed economic optimal reserve margin studies in cooperation with the Brattle Group in 2014 and 2018. The report examined total system costs, generator energy margins, reliability metrics, and economics under various market structures (energy only vs. capacity markets). Completed a Reserve Margin Study requested by the PUCT, examining an array of physical reliability metrics in 2014 (See Publications: Expected Unserved Energy and Reserve Margin Implications of Various Reliability Standards). Probabilistic Risk Assessment for the North American Electric Reliability Corporation (NERC) in 2014, 2016, and 2018.

FERC: Performed economics of resource adequacy work in 2012-2013 in cooperation with the Brattle Group. Work included analyzing resource adequacy from regulated utility and structured market perspective.

EPRI: Performed research projects studying reliability impact and flexibility requirements needed with increased penetration of intermittent resources in 2013. Created Risk-Based Planning system reliability metrics framework in 2014 that is still in use today.

Independent Evaluator Work for RFPs: Served on independent evaluator teams for capacity RFPs in Georgia, Arizona, Oregon, and Colorado (2010-2023).

Evergy: Managed resource adequacy study in 2022.

Ameren: Managed resource adequacy, ELCC, and flexibility analysis for ongoing planning and IRP support (2019-2023).

Expert Witness Testimony

Georgia Public Service Commission (2025): Testified on behalf of the Commission Staff as an Independent Evaluator for the Capacity all Source RFP. Docket 56298.

New Mexico Public Regulation Commission (2023/2024): Testified on behalf of Public Service Company of New Mexico in regard to the evaluation and recommendation of new generation resources. Case No. 21-00353-UT.

North Carolina Public Service Commission (2024): Testified on behalf of Duke Energy in regard to a Resource Adequacy and ELCC Study. Docket No. DOCKET NO. E-100, SUB 190.

Public Service Commission of South Carolina (2024): Testified on behalf of Duke Energy in regard to a Resource Adequacy and ELCC Study. Docket No. 2023-8-E and 2023-10-E.

New Mexico Public Regulation Commission (2025): Testified on behalf of Public Service Company of New Mexico in regard to the evaluation and recommendation of new generation resources. Case No. 24-00271-UT.

Santee Cooper (2023): Testified on behalf of Santee Cooper (2023) in South Carolina in regard to a resource adequacy and ELCC Study. DOCKET NO.2023-154-E.

Dominion Energy South Carolina (2023): Testified on behalf of Dominion Energy South Carolina (2023) in South Carolina in regard to a resource adequacy and ELCC Study. DOCKET NO.2023-9-E.

New Mexico Public Regulation Commission (2021): Testified on behalf of Public Service Company of New Mexico in regard to the evaluation and recommendation of new generation resources. Case No. 21-00083-UT.

Public Service Commission of South Carolina (2021): Testified on behalf of Duke Energy in regard to the Resource Adequacy Study and Storage ELCC conducted by Astrapé Consulting. DOCKET NO.2019-224-E, NO.2019-225-E.

New Mexico Public Regulation Commission (2019 and 2020): Testified on behalf of Public Service Company of New Mexico in regard to the evaluation and recommendation of replacement resources for San Juan Generation Station Units 1 and 4. Case No 19-00195-UT.

Public Service Commission of South Carolina (2019): Testified on behalf of Duke Energy in regard to the Solar Integration Study Astrapé Consulting conducted for the Companies' Avoided Cost Filing. Docket No. 2019-185-E. Docket No. 2019-186-E.

North Carolina Public Service Commission (2019): Testified on behalf of Duke Energy in regard to the Solar Integration Study Astrapé Consulting conducted for the Companies' Avoided Cost Filing. Docket No. 1995-1192-E.

Georgia Public Service Commission (2014): Testified on behalf of the Commission Staff as an Independent Evaluator for the Advanced Solar Initiative RFP. Docket 38877.

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AFFIDAVIT

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

RICHARD NICHOLAS WINTERMANTEL, Chief Services Officer, PowerGEM LLC, upon being duly sworn according to law, under oath, deposes and states: I have read the foregoing **Direct Testimony of Richard Nicholas Wintermantel,** and it is true and accurate based on my own personal knowledge and belief.

DATED this 29th day of May, 2026.

/s/ **Richard Nicholas Wintermantel**
RICHARD NICHOLAS WINTERMANTEL

GCG #535001