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

THOMAS P. DUANE

May 29, 2026

NMPRC DOCKET NO. 26-0000___
INDEX TO THE DIRECT TESTIMONY OF THOMAS P. DUANE

WITNESS FOR
PUBLIC SERVICE COMPANY OF NEW MEXICO

SPONSORED EXHIBITS

PNM Exhibit TPD-1	Education and Professional Qualifications of Thomas P. Duane
PNM Exhibit TPD-2	PNM Loads and Resources Tables
PNM Exhibit TPD-3	Resource Portfolio Modeling Assumptions
PNM Exhibit TPD-4	PNM Total Portfolio Carbon Emissions Summary

AFFIDAVIT

DIRECT TESTIMONY
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I. INTRODUCTION AND PURPOSE

Q. Please state your name, position, and business address.

A. My name is Thomas P. Duane. I am the Director of Integrated Resource Planning at Public Service Company of New Mexico ("PNM"). My business address is 2401 Aztec Rd. NE, Albuquerque, NM 87107.

Q. Please summarize your educational background and professional qualifications.

A. My education and professional qualifications are provided in PNM Exhibit TPD-1. Prior to my current role, I served as Manager, Transmission Planning for PNM and was responsible for the evaluation of the existing transmission planning functions, analyzing transmission system deficiencies, and creating plans for the capital expansion of the transmission system.

Q. Have you previously testified in regulatory proceedings?

A. Yes. The cases in which I have testified are identified in PNM Exhibit TPD-1.

Q. Please describe the responsibilities of the Integrated Resource Planning Department.

A. The Integrated Resource Planning Department is responsible for developing PNM's resource plans and the regulatory filings to support those resource plans, including the triennial Integrated Resource Plan ("IRP") and associated updates. The Integrated

Resource Planning Department is also responsible for performing resource planning analysis to support resource additions and abandonment/retirement of existing resources, all of which require New Mexico Public Regulation Commission ("NMPRC" or "Commission") approval such as those being requested in this docket.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to discuss the Phase 3 modeling evaluation performed by PNM for PNM's 2029-2032 RFP that supports the preferred portfolio of resources that PNM is asking the Commission to approve in PNM's Application as introduced in the testimony of PNM witness Sanders. As explained by PNM witness Nagel, there were three phases to the 2029-2032 RFP evaluation process. The modeling performed as part of Phase 3 evaluates shortlisted RFP bids with the ultimate goal of identifying a preferred least cost portfolio to serve system needs that continues to meet environmental requirements and ensure resource adequacy in the 2029 to 2032 timeframe.

Q. How is your testimony organized?

A. First, I will discuss the purpose of issuing the RFP followed by a review of resource adequacy and how this is viewed within PNM's resource planning objectives and standards. Then, I will discuss the Phase 3 analysis PNM performed to determine the resources for which approval is being requested. I then describe how the proposed resource additions fit into PNM's overall strategy for transitioning its electric supply to carbon-free resources consistent with New Mexico's guiding

energy policy, the Energy Transition Act ("ETA"), in a safe and reliable way. Finally, I offer my conclusions as they relate to PNM's Application.

II. PNM'S RESOURCE PLANNING OBJECTIVES AND STANDARDS

Q. Please explain why PNM issued the 2029-2032 RFP?

A. PNM's 2023 IRP included an Action Plan item to issue an all-source RFP for needed resources coming online between 2029 and 2032. The task sought to define resources and file well in advance for resource approvals (PPAs/ESAs/CCNs) with the NMPRC, balancing resource selections between utility-owned and third-party contracts to ensure project timelines properly support reliability and ensure resource adequacy. The 2029 to 2032 timeframe also required the determination of for the Reeves Generating Station ("Reeves") disposition at the end of its depreciable life in 2030 and replacement for PNM's share of the Four Corners Power Plant ("FCPP" or "Four Corners") upon expiration of the associated coal supply contract. The 2023 IRP Action Plan further included assessment of resources approaching the end of contract or end of depreciable life to study the necessity of extending operations of existing resources to enable reliable operations of the system.

In addition to the Action Plan items mentioned above, the 2029 to 2032 RFP was used to address the latest load forecast projections which include several large load additions. The large load additions were contemplated in PNM's 2023 IRP Supplemental Analysis filed in October of 2024 forecast and are discussed in the

direct testimony of PNM witnesses Aguirre and Williams along with resources for economic development as envisioned by Senate Bill 170 ("SB 170").

Q. What large load additions are included in the Phase 3 analysis?

A. The large load additions are summarized below:

- Rate 36B customer load increases;
- New large load growth of 350 MW for customers with a signed contract (reimbursement agreement); and
- Additional load of 200 MW to accommodate provisions of SB 170.

Q. When evaluating new resources for PNM's system, what factors does PNM consider?

A. PNM considers several factors, including resource adequacy (reliability), public policy goals/laws (e.g., the ETA), portfolio costs, and impacts to the environment. New resources must be considered in the context of existing resources and how the resources can meet the potential loss of load events that can occur to ensure the system continues to have adequate resources to meet planning standards.

Q. Briefly explain resource adequacy and why it is a necessary consideration in assessing new resources.

A. Resource adequacy is the ability of a bulk electric power system to serve load across a broad range of weather and system operating conditions, subject to a long-run reliability standard. No electric system is perfectly reliable; there is always a chance

that generator failures, transmission system outages and/or extreme weather conditions that impact supply and demand could compound with one another to result in the inability to serve customer load. The resource adequacy of a system depends on the characteristics of electricity demand, seasonal and hourly patterns, weather sensitivity and generation resources (size, dispatchability, outage rates, and other limitations on availability, such as the variable production of renewable resources). If the availability of resources is adequate to meet load across a wide range of conditions and limit loss of load events to a reasonable level—where "reasonable" is defined by a reliability target—then a system is considered to have an adequate supply of resources. A reliable grid today generally requires three distinct types of resources, each serving a different role:

- Carbon free energy — like solar, wind, and efficiency — supplies most annual energy needs at low cost, but it is variable and weather dependent.
- Dynamic balancing resources — short duration storage and demand response — manage fast changes and help smooth variability, but they operate over limited hours, not days.
- Firm generating resources are what sustain the system during extended stress events — periods of high demand and/or low or no renewable output or depleted storage.

Q. What role did the Integrated Resource Planning Department play in evaluating potential resource portfolios in this filing?

A. PNM's Integrated Resource Planning team performed detailed portfolio modeling of a shortlist of RFP bids, focusing on portfolio economic, environmental, and reliability analyses. The Integrated Resource Planning team incorporates the bid costs, terms and operating characteristics into the planning models including costs and schedule of estimated transmission improvements needed to accommodate the bids prior to initiating the portfolio analysis. The outcome of the portfolio analyses informs the RFP administration and evaluation team in determining a recommendation for a preferred portfolio of resources.

Q. Briefly explain PNM's resource adequacy planning standards.

A. PNM's resource adequacy planning standard is to target a 0.1 LOLE (Loss of Load Expectation) reliability criterion. A 0.1 LOLE represents a loss of load event once every ten years. PNM relies on modeling analysis to verify that proposed resource portfolios reasonably meet or exceed the stated reliability criterion.

To add perspective to the indicated reliability criteria, PNM performed a resiliency analysis which was included as part of the 2023 IRP report. While PNM's resource adequacy evaluations target 0.1 LOLE reliability criteria or better, PNM's resiliency analysis noted the following:

- Different resource portfolios that meet the same resource adequacy planning standard have varying performance during extreme events. All tested portfolios met the same LOLE standard. PNM's resiliency study shows that although the portfolios are all achieved the same resource adequacy standard, their resiliency performance varies widely in extreme

weather simulations. In other words, the likelihood that an extreme event might result in an outage – and the size of its impact – may vary under different portfolios.

- Firm generation resources reduce the severity of extreme event impacts in both summer and winter and perform better from a resiliency standpoint. During severe weather events, firm resources that are not energy-limited, help reduce both magnitude and duration of load outages and generally reduce the instantaneous power lost (peak MW). Firm resources need not be conventional fuel based but instead could include hydrogen-fueled generators or long-duration storage.

Based on these considerations, PNM will consider firm-generating resources in a portfolio meeting a 0.1 LOLE to have greater resiliency value than dynamic balancing resources or carbon free energy resources even if the overall portfolio has a 0.1 LOLE. The 2023 IRP resiliency study provides important additional insights on overall portfolio reliability and considerations when evaluating the resource composition of a portfolio.

Diversity generally improves the overall resiliency of a generation portfolio. A portfolio that is dominated by one technology or fuel (prime mover) type can be vulnerable to a single issue reducing or eliminating a significant portion of the portfolio capability. Wind, solar, 4- and 8-hour battery storage, and various types of thermal plants such as nuclear and natural gas have different performance profiles across hours and seasons. Geographic and technology diversity lowers the risk that negative events impact resource types simultaneously.

Q. Are PNM's resource adequacy planning standards consistent with the best practices in the industry?

A. Yes. PNM's 0.1 LOLE reliability criterion is based on industry best practices for resource adequacy. Please see the direct testimony of PNM witness Wintermantel for further details on how LOLE is determined for PNM's proposed portfolio of resources in this Application.

III. RESOURCE PORTFOLIO MODELING AND ANALYSIS PERFORMED TO DETERMINE THE PREFERRED PORTFOLIO

Q. Please briefly describe the resources proposed in this Application.

A. The new resources in the portfolio for which approvals are being sought in this application include purchase power agreements ("PPAs") for solar and wind resources, energy storage agreements ("ESAs") for battery energy storage systems ("BESS"), and a certificate of public convenience and necessity ("CCN") for a small peaking gas facility, as follows:

1. Palomas Wind PPAs – Purchase of energy from 800 MW of wind facilities located in San Miguel County and Torrance County, New Mexico. The Palomas Wind will require construction of the Mid-State Transmission Line as discussed in the direct testimony of PNM witnesses Williams and Hakimian. The cost of the transmission line was included as part of the total cost for the Palomas wind bid.

2. Cat Hills Solar PPA – Purchase of energy from a 150 MW solar facility located in Valencia County, New Mexico.
3. Cat Hills BESS ESA – Contract to utilize energy storage from a 150 MW 4-hour battery energy storage system co-located with the Cat Hills solar facility.
4. Wildcat Solar PPA – Purchase of energy from a 90 MW solar facility located in McKinley County, New Mexico.
5. Wildcat BESS ESA – Contract to utilize energy storage from a 50 MW 4-hour battery energy storage system co-located with the Wildcat solar facility.
6. Gila Monster BESS ESA – Contract to utilize energy storage from a 150 MW 4-hour battery energy storage system located in Sandoval County, New Mexico.
7. TAG II BESS ESA – Contract to utilize energy storage from a 90 MW 8-hour battery energy storage system located with the existing TAG Solar and BESS facilities in Sandoval County, New Mexico.
8. Britton BESS ESA – Contract to utilize energy storage from a 60 MW 8-hour battery storage system co-located with the existing Britton Solar facility in Torrance County, New Mexico.
9. Encino BESS ESA – Contract to utilize energy storage from a 110 MW 8-hour battery storage system co-located with the existing Encino Solar Facility in Sandoval County, New Mexico.

10. La Luz II Project– CCN for a utility-owned 40 MW peaking natural gas generator located next to the existing La Luz Energy Center in Valencia County, New Mexico.

Q. Did the Phase 3 evaluation address other approvals being requested in this application in addition to the new resources?

A. Yes. PNM is requesting approval for the abandonment of PNM's share of Four Corners in this Application. The resources being requested include resources that will replace the Four Corners resource. In addition, the evaluation assessed whether extending Reeves operation beyond its depreciable life of 2030 would be a better cost option for customers than replacing the resource with bids received in the RFP. The evaluation, which included the costs of extending Reeves operation through 2044, resulted in a recommendation to continue Reeves operation.

Q. Please describe the general framework PNM used to determine the resource portfolio presented in this filing.

A. The first step was to issue an RFP and obtain bids for resources deliverable to PNM's system in the 2029 through 2032 timeframe. PNM issued the original RFP in December of 2024 and asked for offers to be submitted for resources that could be delivered by the summers of 2029, 2030, 2031, or 2032. A short-list of bids was developed in Phase 2 of the process that was passed on to my group for detailed evaluation in Phase 3. Following development of the short-list from the original bids, a bid "refresh" was requested for the short-listed bids to update cost

information due to Federal tax incentive changes implemented in July 2025, shortly after the bids were received. The refreshed bids were received by August 8, 2025. PNM requested an extension to January 9, 2026, to submit a preferred portfolio to the Independent Monitor to accommodate the delay associated with the bid refresh. The refreshed bid information was used to populate a database of candidate resources and to study the bids in the Phase 3 evaluation as discussed in more detail in my testimony. The evaluation establishes portfolios of candidate resources to be considered and narrowed to recommended changes to PNM's resource portfolio.

Q. Was PNM's evaluation consistent with the 2023 IRP Statement of Need and Action Plan accepted by the Commission and supplemented on October 10, 2024?

A. Yes. The general framework for the portfolio analysis used to determine the resource portfolio presented in this case started with the modeling process and protocols utilized in PNM's 2023 IRP. As described earlier, the RFP addressed specific items in the 2023 IRP Action Plan.

Q. What modeling tools did PNM use to perform its resource portfolio analysis?

A. PNM used the Yes Energy® EnCompass™ Software platform to perform its economic analysis. EnCompass™ is a power supply optimization software developed and licensed by Yes Energy® that uses mixed integer programming to simultaneously optimize multiple objectives and constraints (financial, physical, operational, reliability, etc.). PNM also relied on the Strategic Energy Evaluation

and Risk Model ("SERVM") under a consulting agreement with PowerGem, LLC to assess a portfolio's ability to meet the resource adequacy criteria.

Q. Please summarize the key assumptions used in the Phase 3 evaluation that have been updated since the 2023 IRP filing.

A. PNM used the 2023 IRP modeling assumptions as the starting point for its portfolio evaluation. Key modeling inputs that were updated from the 2023 IRP Supplemental Analysis dated October 10, 2024, include the following:

- The study horizon, to examine the 20-year period of 2026-2045;
- Loads and resources tables before and after adding the resources identified in this application (PNM Exhibit TPD-2);
- Commodities pricing (PNM Exhibit TPD-3);
- Fixed production revenue requirements for the existing PNM system;
- The Effective Load Carrying Capabilities or "ELCC" assumptions for renewable, energy storage, and demand response resources (PNM Exhibit TPD-3);
- Generic candidate resources, technology cost curves (PNM Exhibit TPD-3); and use of the explicit bids received from the 2029-2032 RFP solicitation;
- Resources approved in Cases Nos. 24-00271-UT and 25-00048-UT;
- Generic gas resources/costs based on the latest available data from the Electric Power Research Institute or "EPRI".

Q. How does PNM compare the relative economics between resource portfolios?

A. PNM measures long-term costs by using EnCompass™ to compare the difference in the net present value ("NPV") of revenue requirements necessary to meet retail customer loads over a 20-year planning period. This is consistent with the requirement in the Commission's IRP Rule [17.7.3.7(P) and 17.7.3.8 NMAC] to consider resource portfolio costs over a 20-year planning period. PNM's calculation of long-term costs and comparative savings includes the following:

- Cost to operate and maintain existing resources over 20 years;
- Cost to build, operate, and maintain any resources added in the 20-year study period; and
- Costs associated with retirement or abandonment of any resources during the 20-year study period.

The resulting portfolios were constructed subject to the following constraints: all portfolios had to meet the forecast demand and energy requirements of PNM's customers and meet regulatory requirements such as New Mexico's Renewable Portfolio Standard and the ETA. All the costs of construction or acquisition of resources, fuel/variable production costs, O&M, and other costs (including the costs for known transmission network upgrades) were translated into estimated revenue requirements. The NPV of portfolio costs is calculated for the 20-year study period, which is used to compare costs of different portfolios on an equivalent basis.

Q. How were retirements or abandonment of existing resources factored into PNM's Phase 3 evaluation?

A. PNM evaluated whether Reeves should continue operation after reaching the end of its depreciable life in 2030. Cost estimates to extend the operating life of Reeves through 2044 were used to evaluate whether a life extension would be economic as opposed to costs associated with retirement and decommissioning and replacement of its capacity. Scenarios modeling Reeves retirement and replacement in 2030 and scenarios modeling the extension were run and compared to determine whether the extension provides a better economic outcome than the 2030 retirement and replacement. The Phase 3 analysis also identified sufficient resources to replace PNM's planned abandonment of FCPP in 2031. Modeling input includes retiring Four Corners in July of 2031. The capital expansion capability of EnCompass™ is used in establishing the resources from the short-listed RFP bids to cover any planning reserve margin deficiency resulting from the removal of Four Corners from PNM's portfolio.

Q. What role does Reeves play in PNM's resource portfolio?

A. Reeves is a firm generation resource that can be dispatched almost any time for normal or emergency conditions. Its primary role in recent years has been to serve as a peaking resource that helps serve load during peak load periods providing capacity value to PNM's resource portfolio. As a firm generating resource, it adds to the overall resiliency of PNM's generation portfolio. Due to Reeves location in PNM's largest load center, the facility has also played an important role in maintaining transmission flows within limits during peak load periods and planned and unplanned transmission outages. The transmission role continues to be relied

on today and a significant portion of the plant's operation will be during periods when transmission limits in PNM's local network around Albuquerque would be exceeded without the Reeves dispatch. It is also dispatched when major transmission lines connecting Four Corners and Albuquerque are out-of-service.

Q. What was the outcome of the evaluation of extending Reeves?

A. Reeves was identified as a facility that would reach the end of its depreciable life by the end of 2030, although a specific retirement date was not defined. In the 2023 IRP, Reeves was assumed to retire at the end of the depreciable life, with the intention of evaluating retirement once replacement resource alternatives were known through the planned RFP. The 2029-2032 RFP evaluation was used to assess portfolios that provide replacement resources beyond 2030 for Reeves to be retired at the end of 2030. The evaluation also established portfolios with Reeves extended through 2044 to determine if the portfolios provided a lower cost for customers. In order to perform this analysis, PNM worked with an outside consultant to develop the capital cost and ongoing maintenance investments needed for continued operation of Reeves to the end of 2044. PNM witness Warner addresses the capital and fixed costs developed for use in the analysis. The comparison of portfolios showed that extending Reeves operable life reduced the 20-year NPV by $75 million over the least cost portfolio where Reeves is retired at the end of 2030. The preferred portfolio with the Reeves extension had a 20-year NPV that was $50 million lower than the least cost portfolio without the Reeves extension. The cost of the extension was found to be below the cost to replace Reeves at the end of

2030 with resources bid into the RFP. The Reeves extension was consistently selected as lower cost in all portfolios with the overall value being the greatest in scenarios including the large load additions covered by this Application. With large load additions, portfolios with the Reeves extension were shown to have a 20-year NPV reduction of over $140 million compared to portfolios with Reeves retired in 2030.

Q. Explain the analysis and resulting resources identified for replacement of Four Corners?

A. PNM first analyzed the best mix of RFP bids without inclusion of the large loads added to the forecast. The analysis modeled a Four Corners retirement in July of 2031 and an extension of Reeves through 2044. This established a preferred portfolio of resources as replacements for FCPP that include the following additions in 2031:

- 150 MW/150 MW Cat Hills (Huning Solar) - 4-hr BESS
- 40 MW La Luz II Project
- 150 MW Gila Monster 4-hr BESS

The analysis also identified a least-cost portfolio with a $24 million lower NPV that included a 60 MW 8-hr BESS in place of the 40 MW La Luz II Project. Consistent with PNM's resiliency analysis performed as part of its accepted 2023 IRP and discussed earlier in this testimony, the La Luz II Project will provide a firm generating resource and contribute to increased system resiliency in PNM's

generation portfolio. The La Luz II Project contributes to the category of firm generating resources which provide the greatest reliability contribution to the generation portfolio under extreme events but have low overall capacity factors resulting in a minimal contribution to carbon emissions. The La Luz II Project provides fast-starting, flexible capacity that can respond to real-time system needs, support reliability, and maintain grid stability. That is the primary reason the La Luz II Project was selected over the BESS project. The La Luz II Project serves as a bridge resource that enables PNM to continue progress toward renewable integration while maintaining grid reliability. This helps ensure that PNM can meet both its fundamental obligation to deliver safe, reliable, and reasonably priced power to its customers while meeting the carbon intensity and clean energy milestones of the ETA.

Q. Did PNM also evaluate continued participation in FCPP like the evaluation for extending Reeves operation?

A. Yes, however, there are no terms currently defined by the FCPP participants for continued operation beyond expiration of the coal contract in 2031. As a result, such an evaluation requires PNM to estimate costs that would result from an extension scenario. PNM used the next logical abandonment date for Four Corners of 2038 for the purpose of understanding the costs and environmental compliance outcomes that would result from PNM remaining as a participant in the facility. The 2038 date is based on ensuring sufficient time to meet obligations of the co-tenancy and lease agreement expirations in 2041.

Q. Describe the evaluation on continued participation in the FCPP to 2038 and outcome of the evaluation?

A. PNM obtained high level estimates from Arizona Public Service Company for the cost of capital improvements, ongoing O&M and fuel cost to continue participation at PNM's current MW capacity until 2038. Contract terms were assumed to mimic those in place today. The evaluation assumes PNM is still obligated to meet the ETA carbon emissions requirement of remaining at or below 200 lbs./MWh beginning in 2032. Analysis showed that PNM could not comply with the ETA limit without curtailing PNM's share of output below PNM's allowed minimum load share based on the physical minimum load for each generating unit. As a result, continued participation beyond 2031 is not considered feasible.

Four Corners participants can curtail below the minimum load share provided other plant participant shares maintain the total unit operation above the physical minimum operation. Such curtailments are not guaranteed. Even if PNM does curtail below the minimum load share without restrictions, results indicate that continued PNM participation would come at a substantial cost in order for PNM to meet its required carbon intensity requirements. To do so would require PNM to pay for its minimum fuel obligation, pay its required portion of the operations and maintenance costs, but also that PNM's resource portfolio would need additional solar and storage resources in order to minimize costs to displace sufficient dispatch of the Four Corners power plant and natural gas facilities to stay under the 200 lbs. CO_2/MWh limit. The additional resources combined with the costs for Four

Corners added almost $500 million to the 20-year NPV of revenue requirements over the preferred portfolio. As a result, fulfilling PNM's current contractual obligations and exiting in 2031 is still the most economical path for customers.

Q. Has PNM evaluated an early exit from Four Corners prior to 2031?

A. Yes. As discussed in the testimony of PNM witness Sanders, PNM performed an analysis for an exit in 2024 to support PNM's Four Corners Abandonment filing in Case No. 21-00017-UT.

As an Action Plan item of PNM's 2023 IRP, PNM also evaluated an exit in 2026. With substantial changes in new resource costs, supply chain constraints since performing the 2021 evaluation, the 2024 analysis did not conclude that an exit prior to 2031 would provide reasonable savings to customers. The reduction in savings since the 2021 analysis was driven in large part by the rising cost and timeframe of replacement resources as well as the buyout costs associated with an early exit. The analysis also showed that if replacement resources were delayed or forecasted energy and system demands changed, there were cost increases for an early exit of up to $385 million. PNM determined there was significant economic risk associated with an early exit and as such, favored continuing to utilize the resources to serve customers until 2031. PNM included the analysis in the "PNM 2023 Integrated Resource Plan First Annual Action Plan Report Update – Case No. 23-00409-UT"

As discussed by PNM witness Sanders, PNM is requesting a variance from the required modeling of abandonment of FCPP in 2024 and 2028 in Case No. 21-

00017-UT. Further evaluation of an early exit based on the timing of this resource filing is not reasonable. It would not be feasible to abandon FCPP in 2028 because suitable replacement resources likely could not be procured, approved, and operational in 2028. PNM would have to risk acquiring replacement power on the wholesale market. The estimated cost for such purchases is $300 million based on analysis of forward market prices and the cost would be passed on to customers. The ability to transfer ownership of the asset by 2028 has not been determined so it is not clear what, if any, other costs would be avoided.

Q. What was the resulting portfolio from the short-listed RFP bids after evaluating the large load requirements, the extension of Reeves and the Four Corners abandonment?

A. Based on bids received in the RFP, a portfolio consisting of 759 MW of 4-hr BESS, 300 MW of 8-hr BESS, 216 MW of gas, 50 MW of long-duration storage, 489 MW of solar and 800 MW of wind was selected as the preferred portfolio. This portfolio includes the Reeves extension and replacement resources for exiting PNM's share of Four Corners in 2031.

Q. Was additional analysis performed following determination of a portfolio based on RFP bids that addressed the large load requirements, the extension of Reeves and the Four Corners abandonment?

A. Yes. It was noted that the Phase 3 modeling analysis consistently selected the shortlisted natural gas options, due in large part to the limited amount of firm

generating resources available for evaluation in Phase 3. Subsequent portfolio analysis was performed on the shortlisted options which led PNM to determine that cost savings would be possible if the portfolio included additional firm dispatchable capacity options. Unfortunately, PNM did not receive bids for other types of firm generating capacity including geothermal, nuclear, viable long duration storage, or more conventional peaking resources such as aeroderivative or frame combustion turbines that passed the evaluation requirements to be included in the Phase 3 analysis. A sensitivity analysis was performed where large frame combustion turbines ("CTs") were included as a selectable option along with the RFP bids. The parameters for modeling the CTs were based on the latest technology information and costs from EPRI. The analysis showed that significantly fewer total resources were needed in scenarios where large frame CTs are included as they provided more economies of scale for firm capacity resources. In scenarios where large frame CTs are modeled, the 20-year NPV was found to be $600 million lower than the least cost portfolio including only RFP resources.

Q. Considering the savings shown with the large frame CT sensitivity, what was the resulting preferred portfolio of RFP bids based on the analysis and what additional actions are recommended?

A. The preferred portfolio includes the RFP bid resources requested in this Application. The preferred portfolio consists of 350 MW of 4-hr BESS, 260 MW of 8-hr BESS, 40 MW of natural gas, 240 MW of solar and 800 MW of wind. The preferred portfolio also included the potential for up to two large frame CTs,

totaling 372 MW, based on the gas sensitivity, but these additional resources are not part of the resources requested in this application. They were simply to test if PNM's RFP had yielded the best possible resources from the market to serve the last portion of the portfolio need. The total installed capacity of this portfolio is 552 MW less than the portfolio consisting of all RFP bids and, as noted above, results in a substantial reduction in the 20-year NPV. Due to the significant cost savings potential for customers, this led to a recommendation by the RFP evaluation team to supplement the short-listed RFP bids with the issuance of a RFP supplement that would focus on lowering costs to customers. As such, PNM determined it would be beneficial to further probe the market for more optimal alternatives rather than moving forward with only the bids available in the Phase 3 analysis.

Q. Is this preferred portfolio identified in the previous question the proposed portfolio being requested in the Application?

A. Yes, with the exception that the proposed portfolio in the Application does not include the additional resources that will be obtained through the RFP supplement. These resources were modeled as two large frame CTs in order to obtain a complete preferred portfolio in the modeling analysis. As a result, the Application resources are being referenced as the proposed portfolio instead of the preferred portfolio to make a distinction between the modeling analysis portfolio that meets all planning requirements including meeting the 0.1 LOLE reliability requirement while the resources in the Application require the outcome of the RFP supplement to meet all planning requirements.

Q. Please summarize the results of the Phase 3 modeling evaluation.

A. The Phase 3 modeling evaluation reviewed the bids received from the 2029-2032 RFP for addressing the objectives outlined in the Application testimony. The Phase 3 analysis supported the resources being requested in this Application as the best mix of resources to meet the RFP objectives from bids received in the RFP. The evaluation demonstrated that extending Reeves operation provided significant cost benefits to PNM's generation portfolio over retiring Reeves in 2030. The analysis further identified the replacement resources for abandoning Four Corners in 2031 which significantly reduces the carbon intensity of PNM's generation portfolio. Finally, the evaluation established additional resources to cover the large load additions in the latest load forecast. Based on results of covering the large loads entirely with RFP bids, it was determined that a RFP supplement should be pursued to seek potentially lower cost resource(s) to complete the portfolio.

Q. Please briefly describe the reliability analysis performed by PowerGem.

A. PowerGEM performs consulting services and analysis on PNM's behalf using the SERVM model. Like its role in Case No. 24-00271-UT, PowerGem performed LOLE analyses of PNM's preferred portfolio to test resource adequacy. The goal of the PowerGem evaluation is to ensure portfolios established in the EnCompass™ analysis reasonably meet the reliability criteria of 0.1 LOLE. SERVM and its applications in this proceeding are more fully described by PNM witness Wintermantel.

Q. Will PNM's proposed portfolio meet resource adequacy requirements with the combination of the PPAs, ESAs and CCN's requested in this Application?

A. Yes. The requested proposed portfolio meets or exceeds the 0.1 LOLE resource adequacy target with the expected outcome of the RFP supplement included. The adequacy assumes that additional generating resources will be included following evaluation and application of such resources from the RFP supplement.

Q. Have there been any changes in the ability to acquire the resources being requested in this Application since completing the analysis?

A. Yes, in negotiating the contract for the Palomas wind PPA, it has been determined that the in-service date needs to be moved to fall of 2029 and the resource would not be available to serve load before the summer 2029. The Palomas delay is also associated with a revised energy cost of $64.55 MWh. The RFP supplement will address any remaining need for 2029 summer capacity and will be filed with the NMPRC for approval.

Q. Why is PNM still recommending approval of the Palomas wind PPA if it cannot meet an in- service date before Summer 2029 and with a price increase to $64.55/MWh?

A. The IRP team evaluated the cost of eliminating the wind from consideration and determined that the portfolio NPV increased by over $1 billion dollars over the original preferred portfolio. The increase is attributed to the higher cost of utilizing

other RFP bids in place of the Palomas wind. This is discussed in more detail in PNM witness Barnard's testimony. While the delay and price increase did not change the recommended preferred portfolio, which included Palomas, it did increase the preferred portfolio NPV by $190 million.

Q. Discuss whether PNM expects updated assumptions in the 2026 IRP will result in a portfolio consistent with the recommendations of the Phase 3 analysis?

A. PNM worked with PowerGEM to update assumptions for the resource adequacy analysis conducted in SERVM in support of the 2026 IRP. These updates including load shapes, solar shapes, and wind shapes resulted in new Effective Load Carrying Capability (ELCCs) values for the various technology classes. The updated ELCCs show a greater overall capacity value for PNM's total resource portfolio than indicated by the values utilized in the Phase 3 analysis. As a result, PNM established a reduced amount of capacity needed from the RFP supplement for the 2026 IRP process. PNM issued the RFP supplement for up to 250 MW of accredited capacity which is below the amount identified in the original Phase 3 modeling analysis. PNM expects to utilize the RFP supplement analysis to address the remaining unmet need for PNM's loads in the 2029-32 timeframe. The RFP supplement analysis is expected to utilize the overall framework of assumptions used in the 2026 IRP. Notable updates include technology costs adjusted for tax law changes, where applicable, commodity price updates, load forecast updates and a revised reserve margin target. This will ensure that the final selection of resources is aligned with PNM's most up-to-date planning assumptions.

IV. CONSISTENCY WITH SAFE AND RELIABLE TRANSITION TO CARBON-FREE RESOURCES AND PNM'S IRP

Q. Has PNM shown that its preferred portfolio of resources, including the PPAs, ESA's and thermal generation, is consistent with the provision of safe and reliable electric utility service at the lowest reasonable cost, considering both short- and long-term costs and all other relevant factors like the ETA, as required by Rule 551.8(D)(6)?

A. Yes, as supported through my testimony, PNM's recommended portfolio of resources in this application, along with resources obtained through an RFP supplement, will allow PNM to deliver reliable electric service to its customers. The preferred portfolio is based on analyses to determine the resources that result in the lowest reasonable cost portfolio based on the short-list of bids and projections of technology costs beyond 2032 to establish the 20-year portfolio NPVs. PNM's analysis also demonstrates that the preferred portfolio supports PNM moving to a carbon free resource fleet and continuing to adhere to the emission limits of the ETA as discussed below.

Q. How does the proposed portfolio support PNM's efforts to transition to a carbon-free generation portfolio?

A. The portfolio of resources included in this Application aligns with PNM's ongoing transition to a fully carbon-free generation fleet by 2045. The recommended

portfolio includes a large amount of new wind resources and additional solar resources which are the primary sources of renewable energy for serving projected system load requirements. The recommended renewable resources also include tax credit cost benefits that will not be available for projects that begin active construction after July 4, 2026, or for projects that are not fully energized and in service by December 31, 2027. The recommended portfolio utilizes substantial amounts of new 4-hour and 8-hour storage to shift renewable resource energy production to periods when system resources are most needed on the system. As with the resource additions approved in Case No. 24-00271-UT, PNM's analysis continues to show that additional storage is required to optimize and balance variable energy resource output and reliably serve system needs under the wide variety of possible system conditions. Even with the addition of new gas resources in 2029, as assumed in the Phase 3 analysis to lower costs and subject to the RFP supplement, the portfolio stays within the requirements of the ETA. PNM Exhibit TPD-4 shows the projected emissions rate is within the requirements of the ETA following addition of the resources discussed in my testimony. Exhibit TPD-4 also shows total projected carbon emissions of PNM's portfolio decrease from approximately 2.5 million tons in 2030 to below 2 million tons in the 2030's even with the addition of natural gas firm generating resources included in the preferred portfolio of resources.

Q. How does the extension of the operational life of Reeves fit within the ETA transition to clean energy?

A. The extension of Reeves is subject to the Phase 3 modeling requirement that all portfolios meet the ETA carbon emission standards, future RPS requirements, and be carbon-free by 2045. Given those constraints, the extension of Reeves operation provides the lowest cost path over any portfolio that replaced Reeves with new, greenfield resources from shortlisted RFP proposals. This benefits customers by keeping costs low by making use of existing assets, while maintaining a portfolio that meets the ETA emissions requirements. Reeves, which is a firm generating resource, primarily contributes to ensuring capacity to meeting resource adequacy requirements. While Reeves contributes approximately 10 percent of the total carbon emissions in PNM's resource portfolio following retirement of Four Corners, this is sufficiently low enough to manage and maintain compliance with the ETA limit.

Q. Please explain how the requested abandonment of FCPP fulfills the intent of the ETA.

A. FCPP emits substantially more carbon than any other resource in PNM's generation portfolio contributing approximately 50% of the total carbon emissions in PNM's resource portfolio today. The exit from FCPP is a significant factor in reducing PNM's total emissions to a level that will allow PNM to meet the 200 lb./MWh carbon intensity limit in 2032 and beyond as required by the ETA.

Q. Is PNM's Application in this filing consistent with PNM's 2023 IRP, as required by Rule 551.8(D)(8)?

A. Yes, the preferred portfolio, as assessed with estimated firm generating resource additions obtained through a RFP supplement, and conclusions are consistent with PNM's 2023 IRP in the following ways:

- The resources requested in this Application consist of a mix comprised largely of renewable generation and battery storage resources, a small amount of thermal generation that is fully depreciated by December 31, 2044, that are consistent with the revised Statement of Need in the 2023 IRP Supplemental Analysis Filing made October 10, 2024; and
- The preferred portfolio is expected to align with the 2023 IRP resource adequacy standard of 0.1 LOLE after PNM performs its resource evaluation from the RFP Supplement.
- The preferred portfolio aligns with the 2023 IRP assumption of abandonment of PNM share of FCPP by 2031.
- The preferred portfolio is consistent with the 2023 IRP "All Technologies" scenario which utilized a combination of carbon free resources, dynamic balancing resources, and firm generating resources to minimize system costs and leverage complementary attributes of the resource diversity.
- The preferred portfolio of resources requested in this Application was determined from a competitive solicitation to ensure customers benefit from the best available low cost bid options.

V. PUBLIC INTEREST

Q. Please explain how the proposed portfolio of resources in PNM's Application, as assessed with firm generating resource additions obtained through a RFP supplement serve the public interest.

A. The proposed resource portfolio is in the public interest because it meets increasing load obligations while balancing risk, maintaining reliability, reducing long-term customer costs, and continues to transition to a carbon-free portfolio. It aligns with state policy objectives, including clean energy targets while enabling economic development. The proposed portfolio satisfies the statutory requirements of the ETA through replacement of PNM's share of Four Corners with renewables, storage, and low carbon resources that adhere with the ETA emission limits. The recommendations comply with the New Mexico Public Regulation Commission's core mandates of reasonable cost, reliable service, and risk mitigation, while delivering environmental and economic benefits to New Mexico customers. Taken together, these attributes demonstrate that the portfolio delivers tangible, long-term benefits to customers.

Q. Will the proposed portfolio of resources in PNM's Application support PNM's ability to provide safe and reliable service for all customers?

A. Yes. As discussed in this testimony and other testimony included with this Application, the proposed resource additions maintain the reliability criteria

utilized for resource planning when combined with the expected outcome of the RFP supplement.

VI. CONCLUSION

Q. Please summarize your testimony and conclusions.

A. My testimony addressed the analysis of short-listed bids performed during the Phase 3 RFP evaluation. The analysis utilized optimization tools to determine the preferred resources for meeting the objectives of the RFP. The analysis supports the resources being requested in this application as representing the preferred additions from the RFP bids to PNM's portfolio of resources. The analysis recommends that operation of Reeves be extended beyond the end of its depreciable life in 2030. The analysis shows that the preferred resource additions include replacement for the Four Corners resource that PNM plans to abandon in 2031 and that such abandonment supports PNM's continued transition to a carbon free resource portfolio and continues to adhere to the emission limits of the ETA.

Q. Does this conclude your testimony?

A. Yes, it does.

GCG#535323

Education and Professional Qualifications of Thomas P. Duane

PNM Exhibit TPD-1

Is contained in the following 2 pages.

EDUCATION AND PROFESSIONAL QUALIFICATIONS OF THOMAS P. DUANE

Name: Thomas P. Duane

Address: Public Service Company of New Mexico
414 Silver Ave SW
Albuquerque, New Mexico 87102

Position: Manager, Transmission Planning

Education: Bachelor of Science in Electrical Engineering,
University of Colorado, Boulder, Colorado 1980

Master of Science in Electrical Engineering,
Electric Utility Management Program,
New Mexico State University, Las Cruces, New Mexico 1998

Employment: Public Service Company of New Mexico, Albuquerque, New Mexico

- Director, Integrated Resource Planning 2024-Present
- Transmission Planning Engineer, Manager Transmission Planning (12 Years) 1984-1996, 2006-2024
- Manager, Production Modeling 1996-2005
- Operations Engineer, Wholesale Power Marketing Analyst 1981-1984, 2005

Licensure: Licensed Professional Engineer in the State of New Mexico

Professional Affiliations: Member of Institute of Electrical and Electronic Engineers ("IEEE") Power Engineering Society and Computer Society

Experience:

- Power System Analysis, Planning and Operations – Steady State, Dynamic Stability, Transient, Short Circuit, Power Operations, Production Costs, Generation Dispatch, Resource Planning.
- Committee Representation – Over 25 years in inter-utility coordination groups, WECC and ERCOT reliability committees, RTO Tariff negotiations, stakeholder groups and industry organizations.

Previous Testimony:

New Mexico Public Regulation Commission (2025): Provided testimony on behalf of Public Service Company of New Mexico regarding the selection of resources associated with expansion of Rate 36B customer load and associated resource acquisition. Case No. 25-00048-UT.

New Mexico Public Regulation Commission (2024): Provided testimony on behalf of Public Service Company of New Mexico regarding the portfolio analysis and selection of resources associated with the 2028 resource application. Case No. 24-00271-UT.

New Mexico Public Regulation Commission (2023): Provided testimony on behalf of Public Service Company of New Mexico regarding transmission system impacts associated with the 2026 resource application. Case No. 23-00353-UT.

New Mexico Public Regulation Commission (2023): Provided testimony on behalf of Public Service Company of New Mexico regarding transmission system impacts associated with TAG solar facility interconnection. Case No Case No. 23-00251-UT.

New Mexico Public Regulation Commission (2021): Provided testimony on behalf of Public Service Company of New Mexico regarding transmission system impacts associated with replacement resources for 114 MW of Palo Verde Nuclear generation. Case No Case No. 21-00215-UT.

New Mexico Public Regulation Commission (2020): Provided rebuttal testimony on behalf of Public Service Company of New Mexico regarding transmission system impacts associated with replacement resources for San Juan Generation Station Units 1 and 4. Case No 19-00195-UT.

County of Torrance, Seventh Judicial District Court (2020) – Application for Order of Immediate Possession, State of New Mexico, Case D-722-CV-2020-00083, Provided affidavit regarding the need for immediate possession of right-of-way to maintain an existing transmission line.

Federal Energy Regulatory Commission (2010): Provide affidavit on the PNM Balancing Authority Area System Import Limit (SIL) calculations used in the Triennial Market Power Update. Docket Nos. ER96-1551, ER01-615 and ER09-746.

PNM Loads and Resources Tables

PNM Exhibit TPD-2

Is contained in the following 4 pages.

PNM System Loads and Resources - 2029-2032 Resource Application - Existing & Approved Resources[1]

Description	UCAP 2026	UCAP 2027	UCAP 2028	UCAP 2029	UCAP 2030	UCAP 2031	UCAP 2032	UCAP 2033
Forecasted System Peak Demand	2,406	2,555	2,586	3,346	3,384	3,421	3,461	3,507
Forecasted Incremental Energy Efficiency	(48)	(62)	(72)	(83)	(95)	(106)	(116)	(125)
Forecasted Incremental Customer Sited PV	(37)	(52)	(35)	(43)	(52)	(60)	(68)	(76)
Net System Peak Demand (MW)	2,322	2,442	2,478	3,220	3,237	3,255	3,277	3,305
Four Corners	160	160	160	160	160	160	0	0
Total Coal Resources (MW)	160	160	160	160	160	160	0	0
Palo Verde Units 1, 2, & 3	282	282	282	282	282	282	282	282
Total Nuclear Resources (MW)	282	282	282	282	282	282	282	282
Reeves	140	140	140	140	140	0	0	0
Afton	230	230	230	230	230	230	230	230
Lordsburg	82	82	82	82	82	82	82	82
Luna	184	184	184	184	184	184	184	184
Rio Bravo	141	141	141	141	141	141	141	141
Valencia	150	150	161	161	161	161	161	161
La Luz	37	37	37	37	37	37	37	37
Total Natural Gas Resources (MW)	965	965	976	976	976	836	836	836
Total Demand Response Programs (MW)	23	23	23	23	23	23	23	23
Wind Purchase (La Joya II)	42	42	42	42	42	42	42	42
Wind Purchase (NMWEC + Repower)	60	60	60	60	60	60	60	60
Wind Purchase (Red Mesa)	30	30	30	30	30	30	30	30
Utility-Scale Solar PV (22MW - 2011 REPP)	1	1	1	1	1	1	1	1
Utility-Scale Solar PV (21.5MW - 2013 REPP)	1	1	1	1	1	1	1	1
Utility-Scale Solar PV (23MW - 2014 REPP)	1	1	1	1	1	1	1	1
Utility-Scale Solar PV (40MW - 2015 REPP)	2	2	2	2	2	2	2	2
Utility-Scale Solar PV (50MW - 2019 REPP)	3	2	2	2	2	2	2	2
Arroyo Solar	15	13	12	12	12	12	12	12
Jicarilla 2 - Solar Direct Program	2	2	2	2	2	2	2	2
Jicarilla 1 Solar	3	2	2	2	2	2	2	2
San Juan Solar	10	9	8	8	8	8	8	8
Atrisco Solar	16	14	13	13	13	13	13	13
Dale Burgett Geothermal Plant	5	5	5	5	5	5	5	5
Community Solar I and II	6	9	13	13	13	13	13	13
Facebook Solar Energy Center 1, 2, & 3	1	1	1	1	1	1	1	1
Britton Solar PV	2	2	2	2	2	2	2	2
Encino Solar PV	2	2	2	2	2	2	2	2
Encino North PV	3	2	2	2	2	2	2	2
Route 66 Solar PV	3	2	2	2	2	2	2	2
Sky Ranch Solar PV	10	8	8	8	8	8	8	8
Casa Mesa Wind	15	15	15	15	15	15	15	15
La Joya I Wind	50	50	50	50	50	50	50	50
TAG Solar PV	7	6	6	6	6	6	6	6
Quail Ranch Solar PV	5	5	4	4	4	4	4	4
Sunbelt Solar PV	0	0	4	4	4	4	4	4
Four Mile Solar	0	5	4	4	4	4	4	4
Star Light Solar	0	5	4	4	4	4	4	4
Windy Lane Solar	0	4	4	4	4	4	4	4
Total Renewable Resources (MW)	295	300	301	301	301	301	301	301
Arroyo Storage	131	129	121	121	121	121	121	121
Jicarilla 1 Storage	17	17	16	16	16	16	16	16
San Juan Storage	87	86	81	81	81	81	81	81
Atrisco Storage	261	257	243	243	243	243	243	243
Sky Ranch Storage	44	43	40	40	40	40	40	40
TAG Storage	44	43	40	40	40	40	40	40
Quail Ranch Energy Storage	87	86	81	81	81	81	81	81
Sky Ranch Energy Storage	87	86	81	81	81	81	81	81
Route 66 Energy Stroage	44	43	40	40	40	40	40	40
Sandia Energy Storage	52	51	49	49	49	49	49	49
Sun Lasso Energy Storage	0	0	121	121	121	121	121	121
Corazon Energy Storage	0	0	121	121	121	121	121	121
Sunbelt Energy Storage	0	0	40	40	40	40	40	40

PNM System Loads and Resources - 2029-2032 Resource Application - Existing & Approved Resources[1]								
Four Mile Storage	0	86	81	81	81	81	81	81
Star Light Storage	0	86	81	81	81	81	81	81
Windy Lane Storage	0	58	55	55	55	55	55	55
Total Storage Resources (MW)[2]	854	1,070	1,294	1,294	1,294	1,294	1,294	1,294
Total Firm Wholesale Purchases (MW)	0	0	0	0	0	0	0	0
Total Resources (MW)[2]	2,579	2,799	3,037	3,037	3,037	2,896	2,736	2,736
Reserve Margin (MW)	257	358	558	(183)	(201)	(359)	(541)	(569)
Reserve Margin (%)[3]	11%	15%	23%	-6%	-6%	-11%	-17%	-17%
Targeted Reserve Margin (%)[4]	16%	16%	16%	16%	16%	16%	16%	16%
Targeted Reserve Margin (MW)[4]	371	391	397	515	518	521	524	529
Additional Firm Capacity to Meet Targeted Reserve Margin (MW)	115	33	0	698	719	880	1065	1098

Notes:

1. Resource projections for thermal units are based on unforced capacity (UCAP), while projections for renewable and energy-limited resources rely on their effective load carrying capability (ELCC), consistent with the methodologies defined in PNM's 2023 IRP. These values represent the capacity contributions of each resource type and do not correspond to nameplate capacity.

2. Does not include any distribution sited storage facilities as approved in Case No. 23-00162-UT or any distributed sited storage pending approval in Case no. 25-00055-UT

3. The 16% planning reserve margin is the current target as determined in PNM's 2023 IRP (Case No. 23-00409-UT).

4. In July of 2031, Four Corners 3 & 4 will be retired from PNM's portfolio.

PNM System Loads and Resources - 2029-2032 Resource Application - Preferred Portfolio[1]

Description	UCAP 2026	UCAP 2027	UCAP 2028	UCAP 2029	UCAP 2030	UCAP 2031	UCAP 2032	UCAP 2033
Forecasted System Peak Demand	2,406	2,555	2,586	3,346	3,384	3,421	3,461	3,507
Forecasted Incremental Energy Efficiency	(48)	(62)	(72)	(83)	(95)	(106)	(116)	(125)
Forecasted Incremental Customer Sited PV	(37)	(52)	(35)	(43)	(52)	(60)	(68)	(76)
Net System Peak Demand (MW)	2,322	2,442	2,478	3,220	3,237	3,255	3,277	3,305
Four Corners	160	160	160	160	160	160	0	0
Total Coal Resources (MW)	160	160	160	160	160	160	0	0
Palo Verde Units 1, 2, & 3	282	282	282	282	282	282	282	282
Total Nuclear Resources (MW)	282	282	282	282	282	282	282	282
Reeves	140	140	140	140	140	140	140	140
Afton	230	230	230	230	230	230	230	230
Lordsburg	82	82	82	82	82	82	82	82
Luna	184	184	184	184	184	184	184	184
Rio Bravo	141	141	141	141	141	141	141	141
Valencia	150	150	161	161	161	161	161	161
La Luz	37	37	37	37	37	37	37	37
La Luz II	0	0	0	0	0	39	39	39
GT Frame-7's	0	0	0	337	337	337	337	337
Total Natural Gas Resources (MW)	965	965	976	1,313	1,313	1,353	1,353	1,353
Total Demand Response Programs (MW)	23	23	23	23	23	23	23	23
Wind Purchase (La Joya II)	42	42	42	38	38	38	38	38
Wind Purchase (NMWEC + Repower)	60	60	60	54	54	54	54	54
Wind Purchase (Red Mesa)	30	30	30	27	27	27	27	27
Utility-Scale Solar PV (22MW - 2011 REPP)	1	1	1	1	1	1	1	1
Utility-Scale Solar PV (21.5MW - 2013 REPP)	1	1	1	1	1	1	1	1
Utility-Scale Solar PV (23MW - 2014 REPP)	1	1	1	1	1	1	1	1
Utility-Scale Solar PV (40MW - 2015 REPP)	2	2	2	2	2	1	1	1
Utility-Scale Solar PV (50MW - 2019 REPP)	3	2	2	2	2	2	2	2
Arroyo Solar	15	13	12	12	12	11	11	11
Jicarilla 2 - Solar Direct Program	2	2	2	2	2	2	2	2
Jicarilla 1 Solar	3	2	2	2	2	2	2	2
San Juan Solar	10	9	8	8	8	7	7	7
Atrisco Solar	16	14	13	12	12	12	12	12
Dale Burgett Geothermal Plant	5	5	5	5	5	5	5	5
Community Solar I and II	6	9	13	13	13	12	12	12
Facebook Solar Energy Center 1, 2, & 3	1	1	1	1	1	1	1	1
Britton Solar PV	2	2	2	2	2	2	2	2
Encino Solar PV	2	2	2	2	2	2	2	2
Encino North PV	3	2	2	2	2	2	2	2
Route 66 Solar PV	3	2	2	2	2	2	2	2
Sky Ranch Solar PV	10	8	8	8	7	7	7	7
Casa Mesa Wind	15	15	15	13	13	13	13	13
La Joya I Wind	50	50	50	45	45	45	45	45
TAG Solar PV	7	6	6	6	6	5	5	5
Quail Ranch Solar PV	5	5	4	4	4	4	4	4
Sunbelt Solar PV	0	0	4	4	4	4	4	4
Four Mile Solar	0	5	4	4	4	4	4	4
Star Light Solar	0	5	4	4	4	4	4	4
Windy Lane Solar	0	4	4	4	4	4	4	4
Palomas Wind	0	0	0	215	215	215	215	215
Cat Hills Solar	0	0	0	0	0	6	6	6
Wildcat Solar	0	0	0	4	4	4	4	4
Total Renewable Resources (MW)	295	300	301	497	497	498	498	498
Arroyo Storage	131	129	121	120	120	111	111	111
Jicarilla 1 Storage	17	17	16	16	16	15	15	15
San Juan Storage	87	86	81	80	80	74	74	74
Atrisco Storage	261	257	243	240	240	223	223	223
Sky Ranch Storage	44	43	40	40	40	37	37	37
TAG Storage	44	43	40	40	40	37	37	37
Quail Ranch Energy Storage	87	86	81	80	80	74	74	74
Sky Ranch Energy Storage	87	86	81	80	80	74	74	74

PNM System Loads and Resources - 2029-2032 Resource Application - Preferred Portfolio[1]

Route 66 Energy Stroage	44	43	40	40	40	37	37	37
Sandia Energy Storage	52	51	49	48	48	45	45	45
Sun Lasso Energy Storage	0	0	121	120	120	111	111	111
Corazon Energy Storage	0	0	121	120	120	111	111	111
Sunbelt Energy Storage	0	0	40	40	40	37	37	37
Four Mile Storage	0	86	81	80	80	74	74	74
Star Light Storage	0	86	81	80	80	74	74	74
Windy Lane Storage	0	58	55	54	54	51	51	51
Cat Hills BESS	0	0	0	0	0	111	111	111
Wildcat BESS	0	0	0	40	40	37	37	37
Gila Monster BESS	0	0	0	0	0	111	111	111
TAG BESS	0	0	0	60	60	60	60	60
Briton BESS	0	0	0	40	40	40	40	40
Encino BESS	0	0	0	74	74	74	74	74
Total Storage Resources (MW)[2]	854	1,070	1,294	1,494	1,494	1,621	1,621	1,621
Total Firm Wholesale Purchases (MW)	0	0	0	0	0	0	0	0
Total Resources (MW)[2]	2,579	2,799	3,037	3,769	3,769	3,937	3,777	3,777
Reserve Margin (MW)	257	358	558	550	532	682	500	471
Reserve Margin (%)[3]	11%	15%	23%	17%	16%	21%	15%	14%
Targeted Reserve Margin (%)[4]	16%	16%	16%	16%	16%	16%	16%	16%
Targeted Reserve Margin (MW)[4]	371	391	397	515	518	521	524	529
Additional Firm Capacity to Meet Targeted Reserve Margin (MW)	115	33	0	0	0	0	25	58

Notes:

1. Resource projections for thermal units are based on unforced capacity (UCAP), while projections for renewable and energy-limited resources rely on their effective load carrying capability (ELCC), consistent with the methodologies defined in PNM's 2023 IRP. These values represent the capacity contributions of each resource type and do not correspond to nameplate capacity.

2. Does not include any distribution sited storage facilities as approved in Case No. 23-00162-UT or any distributed sited storage pending approval in Case no. 25-00055-UT

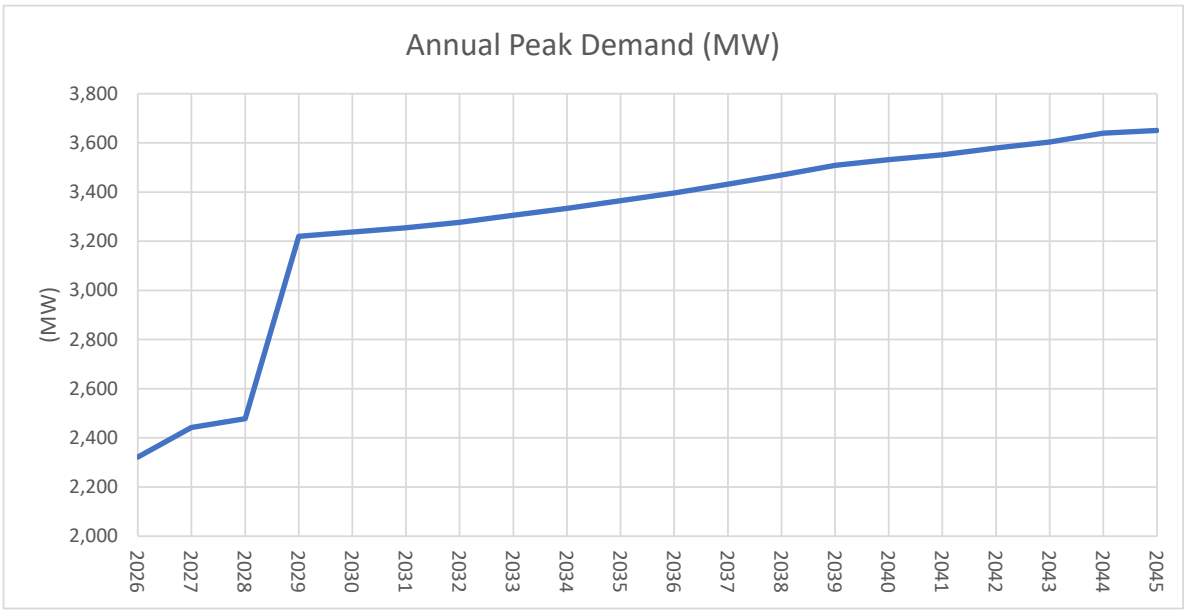
3. The 16% planning reserve margin is the current target as determined in PNM's 2023 IRP (Case No. 23-00409-UT).

4. In July of 2031, Four Corners 3 & 4 will be retired from PNM's portfolio.

Resource Portfolio Modeling Assumptions

PNM Exhibit TPD-3

Is contained in the following 5 pages.


Annual Peak Demand (MW)
(MW)
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3,600
3,400
3,200
3,000
2,800
2,600
2,400
2,200
2,000
2026
2027
2028
2029
2030
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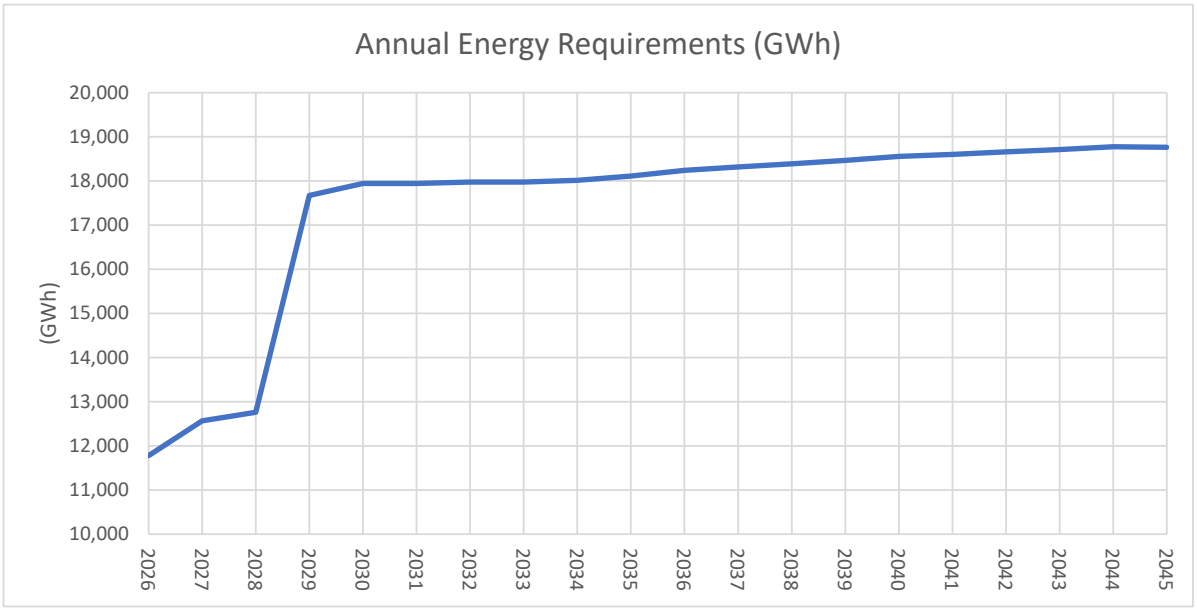
Annual Energy Requirements (GWh)
(GWh)
20,000
19,000
18,000
17,000
16,000
15,000
14,000
13,000
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11,000
10,000
2026
2027
2028
2029
2030
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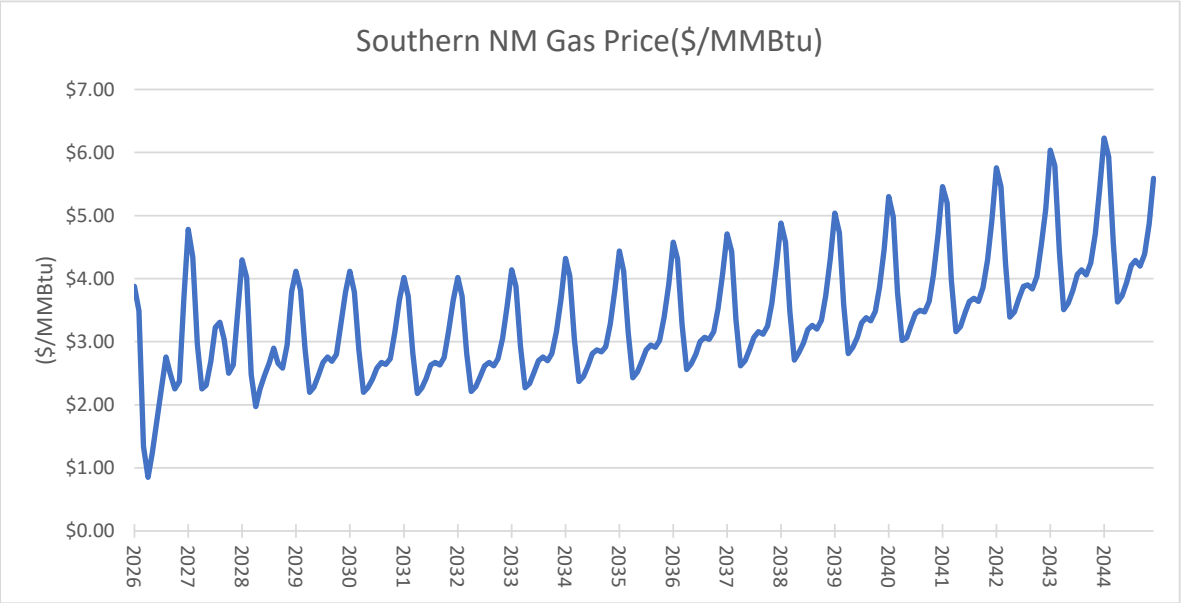
Southern NM Gas Price($/MMBtu)
($/MMBtu)
$7.00
$6.00
$5.00
$4.00
$3.00
$2.00
$1.00
$0.00
2026
2027
2028
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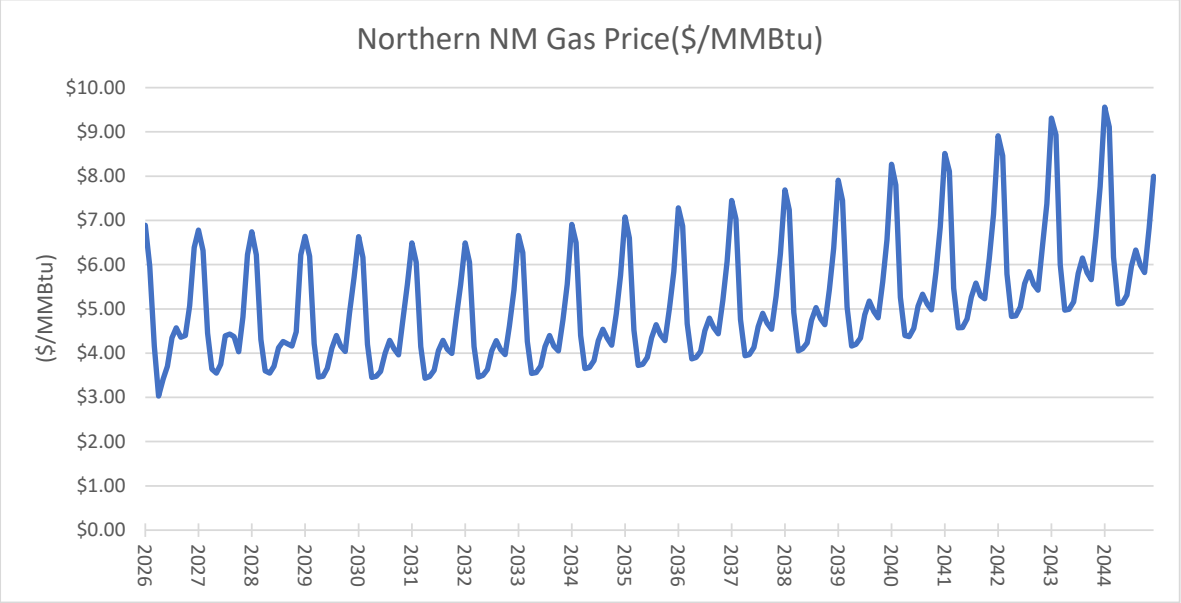
2043
2044


Northern NM Gas Price($/MMBtu)
($/MMBtu)
$10.00
$9.00
$8.00
$7.00
$6.00
$5.00
$4.00
$3.00
$2.00
$1.00
$0.00
2026
2027
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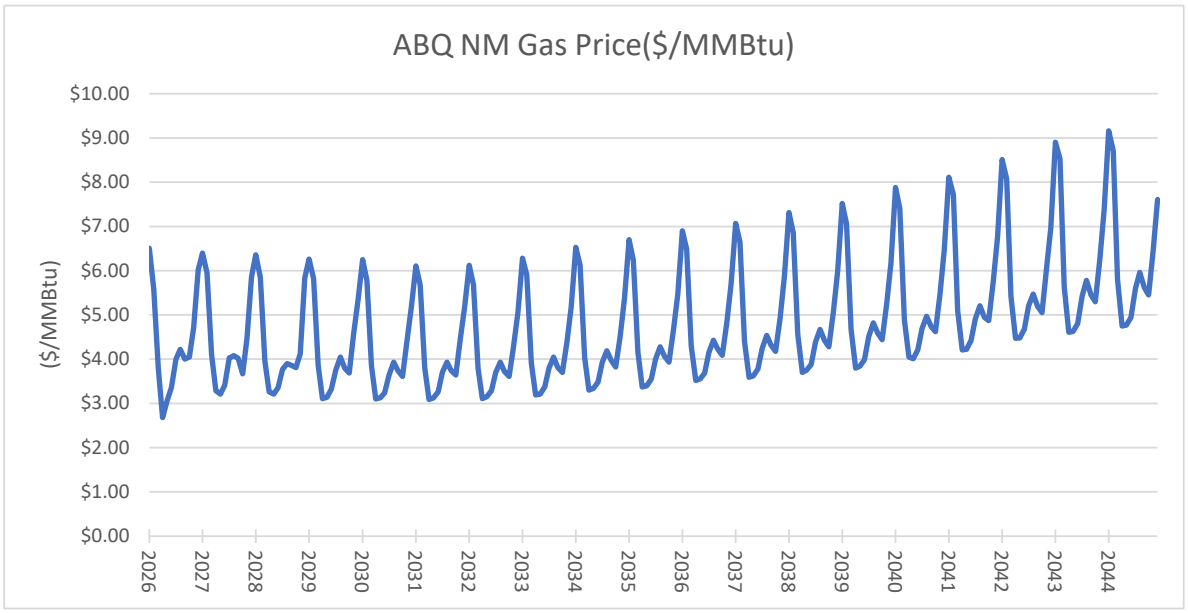
ABQ NM Gas Price($/MMBtu)
($/MMBtu)
$10.00
$9.00
$8.00
$7.00
$6.00
$5.00
$4.00
$3.00
$2.00
$1.00
$0.00
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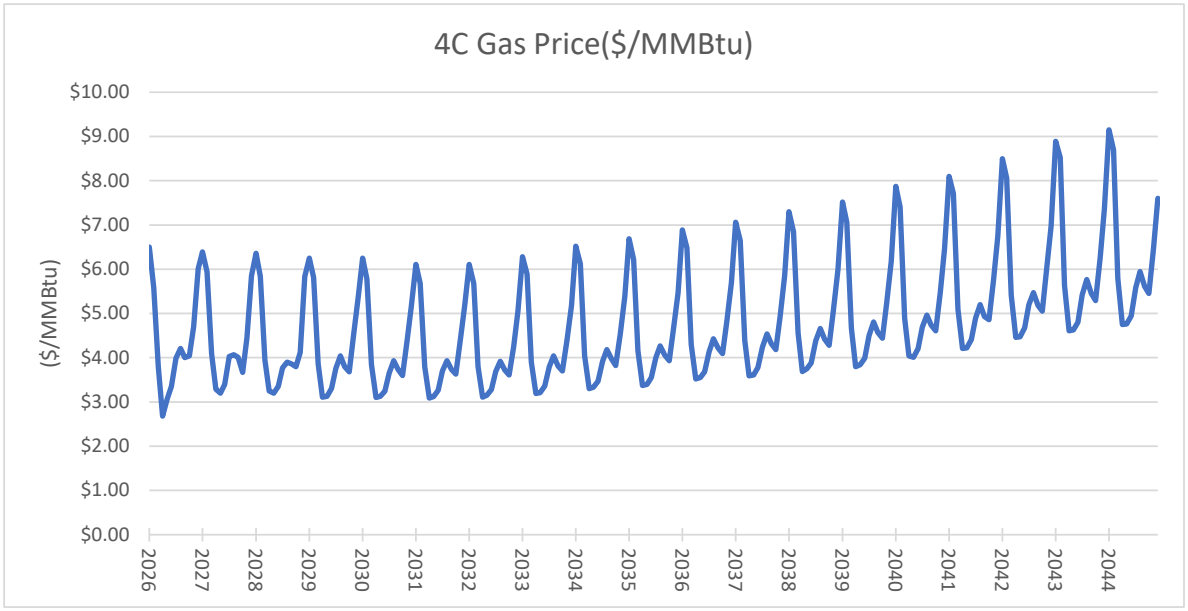
4C Gas Price($/MMBtu)
($/MMBtu)
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$9.00
$8.00
$7.00
$6.00
$5.00
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$3.00
$2.00
$1.00
$0.00
2026
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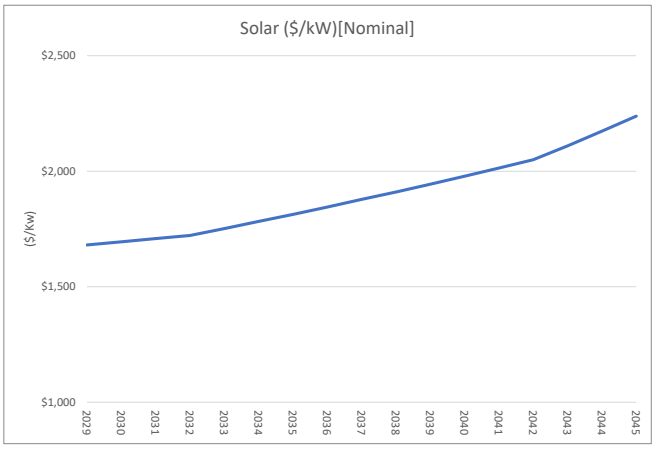
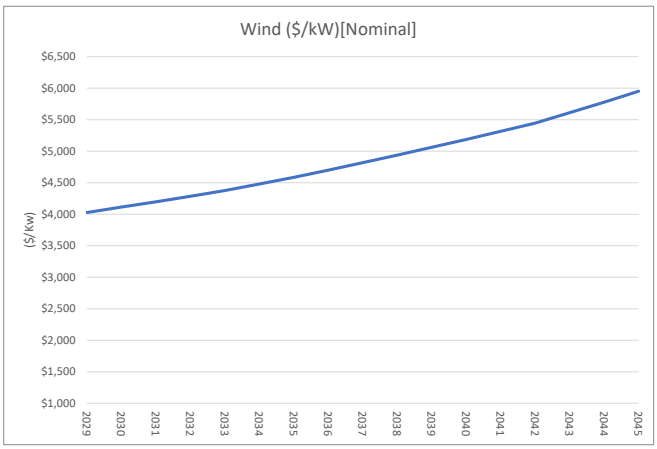
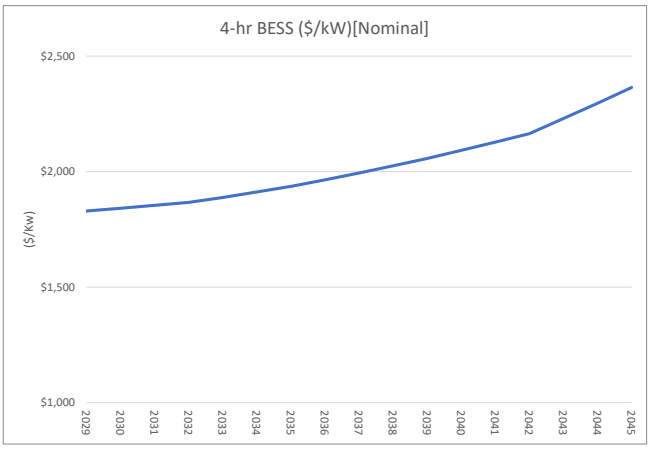

Solar ($/kW)[Nominal]
$2,500
$2,000
$1,500
$1,000
($/kW)
2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045


Wind ($/kW)[Nominal]
$6,500
$6,000
$5,500
$5,000
$4,500
$4,000
$3,500
$3,000
$2,500
$2,000
$1,500
$1,000
($/kW)
2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045


4-hr BESS ($/kW)[Nominal]
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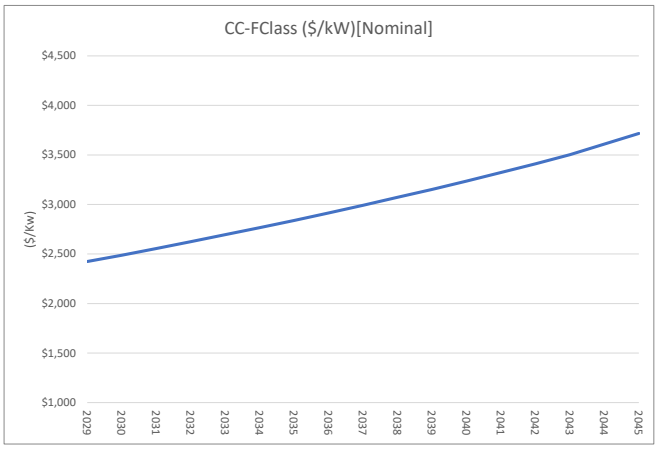
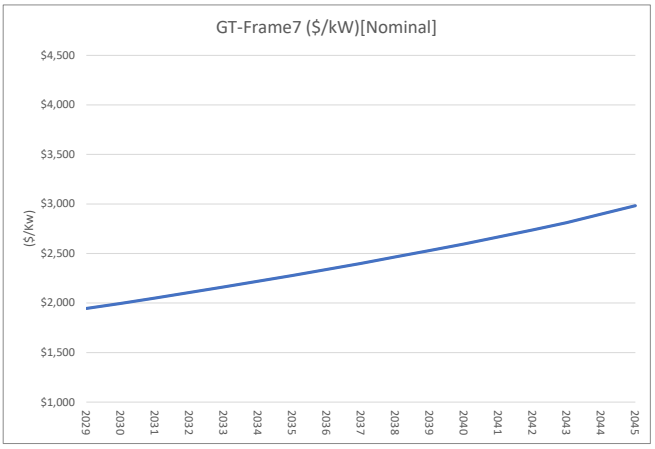
$1,000
($/kW)
2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045


CC-FClass ($/kW)[Nominal]
$4,500
$4,000
$3,500
$3,000
$2,500
$2,000
$1,500
$1,000
($/kW)
2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045


GT-Frame7 ($/kW)[Nominal]
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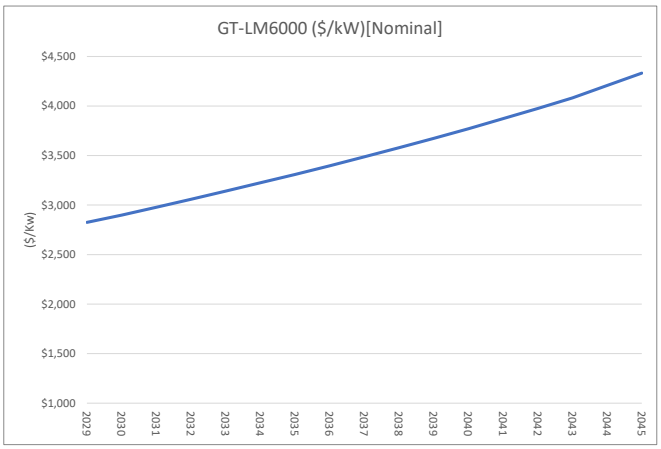
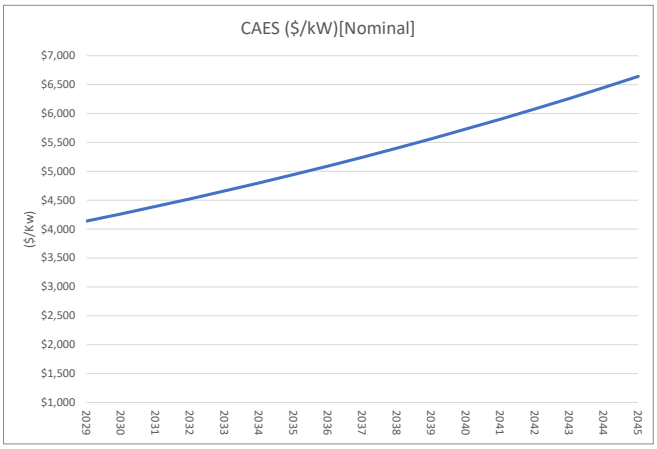
$4,000
$3,500
$3,000
$2,500
$2,000
$1,500
$1,000
($/kW)
2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045


GT-LM6000 ($/kW)[Nominal]
$4,500
$4,000
$3,500
$3,000
$2,500
$2,000
$1,500
$1,000
($/kW)
2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045


CAES ($/kW)[Nominal]
$7,000
$6,500
$6,000
$5,500
$5,000
$4,500
$4,000
$3,500
$3,000
$2,500
$2,000
$1,500
$1,000
($/kW)
2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045

BESS 8-hr (% ELCC)																					
Load Level (MW)	Existing	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0
200		60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3
400		52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6
600		46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0
800		40.15	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2

BESS 4-hr (% ELCC)																					
Load Level (MW)	Existing	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
0	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4
850		85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5
1050		79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6
1250		71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5
1450		59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0
1650		48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1	55.4	55.4	55.4	55.4	55.4	55.4
1850		34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	42.9	42.9	42.9	42.9	42.9	42.9
2000		21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	27.8	27.8	27.8	27.8	27.8	27.8
2500		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

Solar (% ELCC)																					
Load Level (MW)	Existing	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
0	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98	7.48	7.48	7.48	7.48	7.48	7.48
1500		1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.87	1.87	1.87	1.87	1.87	1.87
2000		0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	1.01	1.01	1.01	1.01	1.01	1.01
2500		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.12	0.12	0.12	0.12	0.12	0.12
3000		0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.09	0.09	0.09	0.09	0.09	0.09
3500		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4000		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Wind (% ELCC)		
Load Level (MW)	Existing	All-years
0	30	30
600		28
800		26
1000		24
1200		22
1400		20
1600		18
1800		16
2000		14

DR (% ELCC)		
Load Level (MW)	Existing	All-years
0	70	70
33		47
66		24
99		1

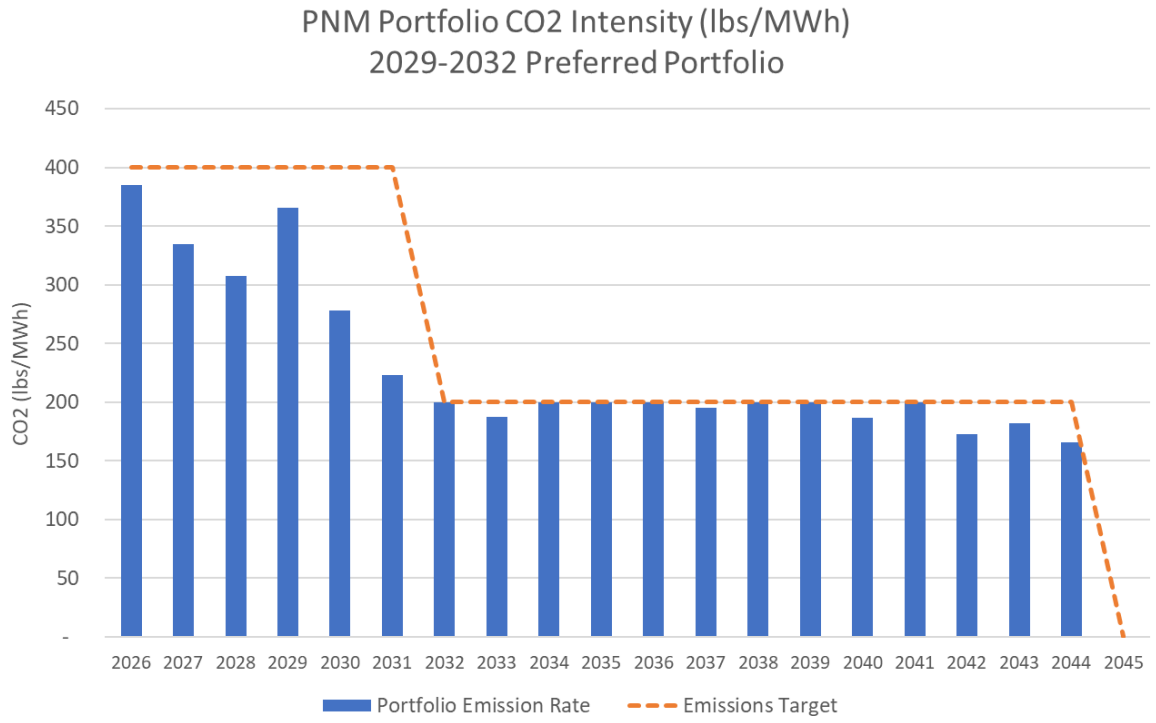
PNM Total Portfolio Carbon Emissions Summary

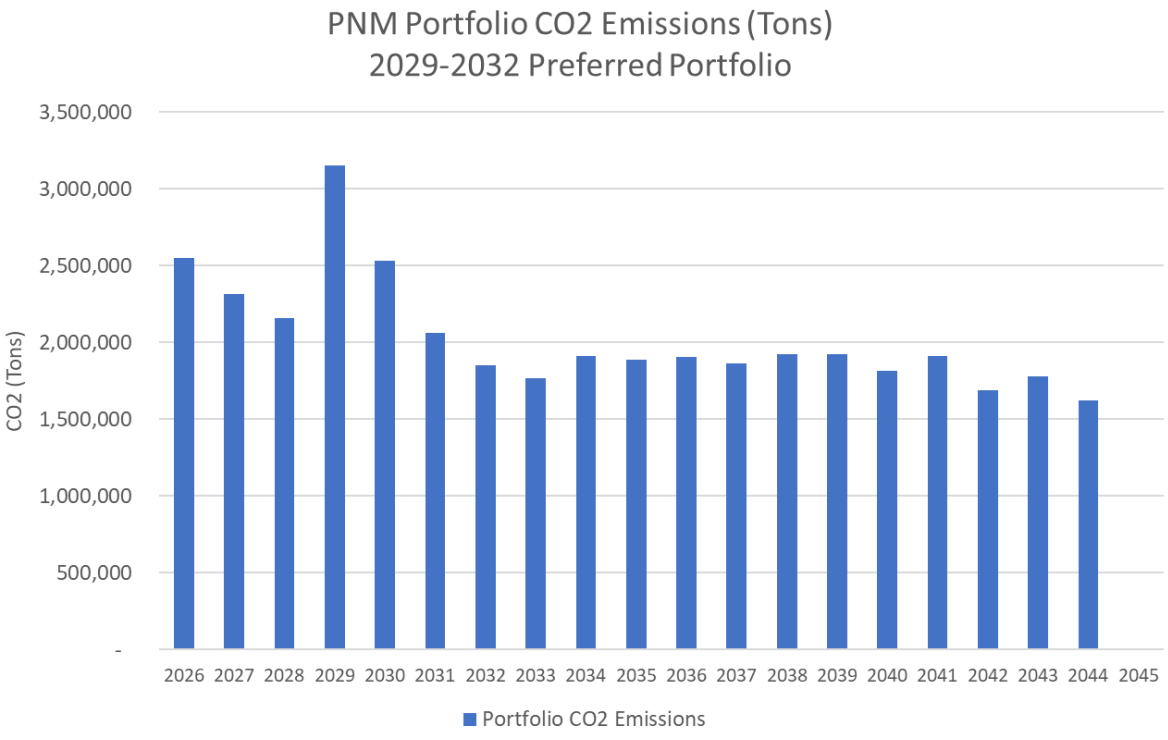
PNM Exhibit TPD-4

Is contained in the following 1 page.

PNM Exhibit TPD-4

PNM Total Portfolio Carbon Emissions Summary[1]





[1] Based on two generic frame CTs as discussed in testimony.

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, ENERY 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.	)	

AFFIDAVIT

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

THOMAS P. DUANE, Director, Integrated Resource Planning, Public Service Company of New Mexico, upon being duly sworn according to law, under oath, deposes and states: I have read the foregoing **Direct Testimony of Thomas P. Duane,** and it is true and accurate based on my own personal knowledge and belief.

DATED this 29th day of May, 2026.

/s/ Thomas P. Duane__
THOMAS P. DUANE

GCG #534999