

**BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION**

**IN THE MATTER OF PUBLIC SERVICE )  
COMPANY OF NEW MEXICO’S )  
APPLICATION FOR APPROVAL OF ITS )  
RENEWABLE ENERGY ACT PLAN )  
FOR 2024 AND PROPOSED 2024 RIDER )  
RATE UNDER RATE RIDER NO. 36, )  
 )  
PUBLIC SERVICE COMPANY OF NEW )  
MEXICO, )  
 )  
 )  
Applicant. )  
\_\_\_\_\_ )**

**Case No. 23-00\_\_\_\_-UT**

**DIRECT TESTIMONY  
OF  
NICHOLAS L. PHILLIPS**

**June 1, 2023**

**NMPRC CASE NO. 23-00\_\_\_\_-UT**  
**INDEX TO THE DIRECT TESTIMONY OF NICHOLAS L. PHILLIPS**

**WITNESS FOR**  
**PUBLIC SERVICE COMPANY OF NEW MEXICO**

I. INTRODUCTION AND PURPOSE .....1

II. ELEMENTS OF PNM’S 2024 PLAN .....4

III. REASONABLE AND CONSISTENT PROGRESS TOWARD MEETING THE  
REA’S INCREASING RPS AND CARBON-FREE STANDARD .....9

IV. REQUIREMENTS FROM CASE NO. 22-00143-UT .....13

V. LIGHTNING DOCK REPORTING REQUIREMENTS PURSUANT TO THE  
FINAL ORDERS IN CASE NOS. 18-00158-UT, 20-00124-UT, 21-00143-UT,  
and 22-00143-UT .....13

VI. VARIANCE FROM RULE 530 .....15

VII. CONCLUSION.....16

PNM EXHIBIT NLP-1                      Resume

PNM EXHIBIT NLP-2                      2024 RPS Plan

SELF AFFIRMATION

**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

1

**I. INTRODUCTION AND PURPOSE**

2 **Q. PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.**

3 **A.** My name is Nicholas L. Phillips. I am the Director of Integrated Resource Planning  
4 for Public Service Company of New Mexico (“PNM” or “Company”). My business  
5 address is 414 Silver Avenue SW, Albuquerque, New Mexico 87102.

6

7 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**  
8 **PROFESSIONAL QUALIFICATIONS.**

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

11

12 **Q. PLEASE DESCRIBE YOUR RESPONSIBILITIES AS DIRECTOR OF**  
13 **INTEGRATED RESOURCE PLANNING.**

14 **A.** As director of PNM’s Integrated Resource Planning, I supervise the team that is  
15 responsible for developing PNM’s resource plans and the regulatory filings to  
16 support those resource plans, including the annual Renewable Energy Act  
17 procurement plans to comply with the renewable portfolio standard (“RPS”) and  
18 the triennial Integrated Resource Plan (“IRP”).

19

**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

1 **Q. HAVE YOU PREVIOUSLY TESTIFIED IN PROCEEDINGS BEFORE THE**  
2 **NEW MEXICO PUBLIC REGULATION COMMISSION**  
3 **(“COMMISSION”)?**

4 **A.** Yes. Cases in which I have testified before the Commission are identified in PNM  
5 Exhibit NLP-1.

6

7 **Q. ARE YOU SPONSORING ANY OTHER EXHIBITS?**

8 **A.** Yes, PNM Exhibit NLP-2, which is the 2024 Renewable Energy Act Procurement  
9 Plan (“2024 Plan” or “Plan”).

10

11 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?**

12 **A.** My testimony addresses the following matters:

13 1. I describe the approvals requested in this case and identify the other  
14 witnesses who are presenting direct testimony on behalf of PNM;

15 2. I provide an overview of the 2024 Plan;

16 3. I describe how PNM is positioned to satisfy current RPS requirements and  
17 meet future increases in the RPS requirements;

18 4. I provide information required under Section 62-16-4(G) of the Renewable  
19 Energy Act, NMSA 1978, §§ 62-16-1 to -10 (2004, as amended through  
20 2019) (“REA”) and 17.9.572 NMAC (“Rule 572”);

21 5. I respond to certain reporting requirements PNM agreed to in Case No. 18-  
22 00158-UT regarding the Lightning Dock Geothermal Facility (“Lightning  
23 Dock”); and

**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

1           6. I support PNM’s request for a variance from the data filing requirements  
2           of 17.9.530 NMAC (“Rule 530”).

3

4 **Q.   WHAT COMMISSION APPROVALS IS PNM REQUESTING IN THIS**  
5 **CASE?**

6 **A.**PNM is requesting the following:

- 7           1. Approval of PNM’s 2024 Plan;
- 8           2. Approval to reset the rate for PNM’s Renewable Energy Rider, Rider No.  
9           36 (“Rider 36” or “Renewable Energy Rider”) to \$0.0073448/kWh,  
10          effective January 1, 2024, for recovery of RPS procurement costs  
11          anticipated to be incurred during 2024, including costs for registering and  
12          retiring renewable energy certificates (“RECs”) in the Western Renewable  
13          Energy Generation Information System (“WREGIS”); and
- 14          3. To the extent necessary, a variance from the data filing requirements of  
15          17.9.530 NMAC.

16

17 **Q.   IS PNM PROPOSING NEW PROCUREMENTS AS PART OF THE 2024**  
18 **PLAN?**

19 **A.**No.

20

21 **Q.   PLEASE INTRODUCE THE OTHER PNM WITNESSES WHO ARE**  
22 **PRESENTING DIRECT TESTIMONY IN THIS CASE.**

23 **A.**The following witnesses are filing direct testimony on behalf of PNM:

**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

- 1           • Mr. Shane Gutierrez, Senior Project Manager, Financial Modeling, provides  
2           the RPS projections for the 2024 and 2025 plan years;
- 3           • Mr. Thomas S. Baker, Senior Manager, Cost of Service and Corporate  
4           Budget, presents the revenue requirements that support PNM’s proposed  
5           new rate for Rider 36; and
- 6           • Mr. Aaron Braasch, Senior Pricing Analyst, presents PNM’s proposed new  
7           rate for Rider 36, to be effective as of January 1, 2024.

8

9

**II. ELEMENTS OF PNM’S 2024 PLAN**

10

11 **Q. PLEASE DESCRIBE PNM’S REQUIREMENTS UNDER THE REA.**

12 **A.** The REA establishes the following RPS requirements for public utilities in New  
13 Mexico:

- 14           • No later than January 1, 2020, renewable energy shall comprise no less than  
15           twenty percent of each public utility’s total retail sales to New Mexico  
16           customers;
- 17           • No later than January 1, 2025, renewable energy shall comprise no less than  
18           forty percent of each public utility’s total retail sales to New Mexico  
19           customers;
- 20           • No later than January 1, 2030, renewable energy shall comprise no less than  
21           fifty percent of each public utility’s total retail sales to New Mexico  
22           customers;

**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

- 1           • No later than January 1, 2040, renewable energy shall comprise no less than  
2           eighty percent of all retail sales of electricity in New Mexico, provided that  
3           compliance with this standard until December 31, 2047, shall not require  
4           the public utility to displace any zero carbon resources in the utility’s  
5           generation portfolio on the effective date of the 2019 amendments; and
- 6           • No later than January 1, 2045, zero carbon resources shall supply one  
7           hundred percent of all retail sales of electricity in New Mexico.

8

9           The REA places some limits on achievement of these requirements, including the  
10          need to “maintain and protect the safety, reliable operation and balancing of loads  
11          and resources on the electric system” and to “prevent unreasonable impacts to  
12          customer electricity bills, taking into consideration the economic and  
13          environmental costs and benefits of renewable energy resources and zero carbon  
14          resources.” NMSA 1978, §§ 62-16-4(A) and (B). The REA requires a utility to  
15          “generate or procure renewable energy at or below the reasonable cost threshold...  
16          to the extent necessary to meet the applicable renewable portfolio standard.”  
17          NMSA 1978, § 62-16-4(E). The REA defines the reasonable cost threshold, or  
18          RCT, as “an average annual levelized cost of sixty dollars (\$60.00) per megawatt-  
19          hour at the point of interconnection of the renewable energy resource with the  
20          transmission system, adjusted for inflation after 2020.” NMSA 1978, § 62-16-3(E).

21

22

23   **Q.   PLEASE DESCRIBE PNM’S 2024 PLAN.**

**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

1    **A.**    The 2024 Plan, which describes how the Company intends to meet the RPS  
2            requirement in 2024, is attached as PNM Exhibit NLP-2 to my testimony.

3  
4            PNM’s 2024 Plan projects that PNM will exceed the 2024 RPS requirement. The  
5            actual surplus or deficit of RECs will depend on actual generation levels at PNM’s  
6            various renewable facilities, actual retail sales, and participation in PNM’s  
7            voluntary renewable energy programs. As shown by PNM witness Gutierrez, PNM  
8            is projecting that it will have more than sufficient RECs generated from existing  
9            resources to meet the RPS in 2024 and 2025. The Plan also proposes a change in  
10           the Rider 36 rate effective January 1, 2024. This change reflects the recovery of the  
11           costs of REA procurements during 2024, as well as the costs associated with the  
12           registration and retirement of RECs through the Western Renewable Energy  
13           Generation Information System (“WREGIS”). The costs that make up the Rider 36  
14           rate are discussed in Mr. Baker’s Direct Testimony, and the development of the  
15           new Rider 36 rate is explained by Mr. Braasch.

16

17    **Q.    PLEASE DESCRIBE THE STRATEGIES PNM USES TO MINIMIZE**  
18            **COSTS OF RENEWABLE ENERGY INTEGRATION, AS REQUIRED BY**  
19            **17.9.572.14(B)(9) NMAC.**

20    **A.**    PNM is not proposing any new procurements in this case. Generally though,  
21            integration of renewable resources requires PNM to carry sufficient flexible  
22            resources—including battery energy storage systems and flexible gas generation—  
23            and commit increased amounts of operating reserves in order to manage the



**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

1           variability and uncertainty of variable energy resources.<sup>1</sup> Along with the addition  
2           of flexible capacity and storage resources, procuring resources in geographically  
3           diverse areas can reduce variability of the portfolio. Geographic diversity of  
4           resources is dependent on the availability of sufficient transmission. Design of  
5           individual renewable facilities with higher inverter loading ratios can also decrease  
6           variability of output during peak production periods; though the economics must  
7           be compared against the undelivered energy from overloading the inverters.  
8           Finally, PNM has participated in the California ISO's Energy Imbalance Market  
9           since April 2021. As reported in PNM's Annual Report on the Costs and Savings  
10          of Participating in the EIM, PNM achieved \$34.6 million in gross savings in 2022.  
11          PNM expects its participation in EIM to continue to help reduce operating costs,  
12          including the cost of renewable energy integration.<sup>2</sup> PNM's system is currently  
13          in a period of transition due to the rapid increase in the amount of variable  
14          generation on the system. As we address this transition, PNM will continue to  
15          utilize these strategies to minimize renewable energy integration costs. PNM will  
16          also work with consultants and national laboratories to explore additional strategies  
17          to minimize costs of renewable energy integration.  
18

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<sup>1</sup> Uncertainty is associated with weather/meteorological forecasts used to predict renewable energy output. Variability reflects the change in output given weather/meteorological conditions. Hence, even if forecasting was certain (i.e., perfect forecasts) variability would still exist.

<sup>2</sup> PNM files quarterly and annual compliance reports in Case No. 18-00261-UT, *In the Matter of Public Service Company of New Mexico's Request for a Commission Order Governing the Accounting Treatment of Costs Related to Joining the Western EIM*. In its most recent quarterly report filed on May 3, 2022, PNM reported that it achieved benefits of \$3,310,000 in the first quarter of 2022 through participation in the EIM.

**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

1 **Q. IS THE 2024 PLAN CONSISTENT WITH PNM’S INTEGRATED**  
2 **RESOURCE PLAN (“IRP”), AS REQUIRED BY 17.9.572.14(B)(10) AND**  
3 **(14) NMAC?**

4 **A.** Yes. PNM filed its 2020 IRP on January 29, 2021, and filed an addendum on  
5 September 3, 2021. A second addendum was filed on April 27, 2022. The 2020  
6 IRP includes all the REA resources in the 2024 Plan and considers how PNM will  
7 cost effectively and reliably be able to meet its RPS goals from 2021 through 2040.  
8 The 2024 Plan is consistent with PNM’s 2020 IRP including the updates provided  
9 to the NMPRC in PNM’s second addendum which addresses delays in projected  
10 renewable resource commercial operation dates.

11

12 **Q. IS THE RENEWABLE ENERGY INDUSTRY CONTINUING TO**  
13 **EXPERIENCE DISRUPTIONS THAT AFFECT UTILITY-SCALE**  
14 **RENEWABLE PROJECTS?**

15 **A.** Yes. Global supply chains continue to experience disruptions caused by the  
16 lingering after-effects of the COVID-19 pandemic and war in Ukraine, changes in  
17 United States customs requirements, and the Department of Commerce  
18 investigations into certain trade practices have disrupted the renewable energy  
19 industry and caused delays in projects and increases in renewable energy costs  
20 nationwide.

21

22

**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

1 **Q. HOW HAVE THOSE DISRUPTIONS IMPACTED PNM’S CURRENT AND**  
2 **FUTURE RPS COMPLIANCE?**

3 **A.** These disruptions have caused delays in previously approved renewable energy and  
4 battery storage projects that were originally expected to come online in 2023  
5 including Jicarilla Solar and Arroyo Solar, as identified in recent updates to  
6 NMPRC cases 19-00195-UT and 20-00182-UT. However, even after accounting  
7 for these delays, PNM still expects to be able to exceed its required renewable  
8 energy production amount in 2024 and 2025 as laid out by PNM witness Gutierrez.  
9 PNM recognizes that the assumptions related to projected renewable energy  
10 production included in this Application and testimonies, especially the estimates  
11 for 2025, are subject to change. PNM expects minimal impacts to the 2024 Plan  
12 year. PNM witness Gutierrez uses conservative expectations for projects that are  
13 still uncertain as to whether they will come online in 2024 and 2025. PNM will  
14 continue to provide updates in other dockets as required by the NMPRC.  
15 Regardless of any potential changes, PNM expects to be able to exceed compliance  
16 with its RPS requirements in 2024 and 2025.

17  
18 **III. REASONABLE AND CONSISTENT PROGRESS TOWARD MEETING**  
19 **THE REA’S INCREASING RPS AND CARBON-FREE STANDARD**

20  
21 **Q. IS PNM POSITIONED TO MAKE REASONABLE AND CONSISTENT**  
22 **PROGRESS TOWARDS MEETING THE REA’S INCREASING RPS**

**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

1           **STANDARDS AND ZERO CARBON RESOURCE STANDARD IN 2045?**  
2           **[17.9.572.10(A) AND SECTION 62-16-4(A)(6)]**

3           **A.**    Yes. Because PNM obtained a financing order in Case No. 19-00018-UT and will  
4           be issuing associated energy transition bonds, PNM is adhering to the requirements  
5           of Section 62-18-10(D) of the Energy Transition Act, which states:

6                           For a qualifying utility that receives approval of a financing order and issues  
7                           sources of energy transition bonds, the qualifying utility's generation and  
8                           sources of energy procured pursuant to power purchase agreements with a  
9                           term of twenty-four months or longer, and that are dedicated to serve the  
10                          qualifying utility's retail customers, shall not emit, on average, more than  
11                          four hundred pounds of carbon dioxide per megawatt-hour by January 1,  
12                          2023, and not more than two hundred pounds of carbon dioxide per  
13                          megawatt-hour by January 1, 2032 and thereafter. Compliance shall be  
14                          measured and verified every three years with the first period commencing  
15                          on January 1, 2023. The commission shall adopt rules to implement the  
16                          requirements of this subsection.  
17

18           While the Commission has not formally established rules for calculating  
19           compliance, adhering to the requirements will ensure that PNM makes reasonable  
20           and consistent progress on its way towards a carbon-free system and will help PNM  
21           achieve the increasing RPS standards under Section 62-16-4(A) of the REA.

22

23           **Q.    HAS PNM PROVIDED THE CAPITAL, OPERATING AND FUEL COSTS**  
24           **FOR CERTAIN RESOURCES AS REQUIRED BY 17.9.572.14(B)(6)**  
25           **NMAC?**

26           **A.**    Yes. Rule 572.14(B)(6) requires utilities to include in their annual REA plans:  
27                           the capital, operating and fuel costs on a per-megawatt-hour basis during the  
28                           preceding calendar year of each nonrenewable generation resource rate-base[d]  
29                           by the utility, or dedicated to the utility through a power purchase agreement of

**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

1           one year or longer, and the nonrenewable generation resources' carbon dioxide  
2           emissions on a per-megawatt-hour basis during that same year[.]

3  
4           The required information can be found in Section V of PNM's 2024 RPS plan  
5           (Exhibit NLP-2).

6  
7   **Q.   HOW WOULD YOU RECOMMEND THE COMMISSION AND OTHER**  
8   **STAKEHOLDERS TREAT THE INFORMATION PROVIDED IN**  
9   **SECTION V OF THE 2024 PLAN?**

10          PNM has provided the “capital, operating and fuel costs on a per-megawatt-hour  
11          basis” as required by NMSA 1978, Section 62-16-4(G)(2). However, this data is of  
12          limited utility and is generally not valid in comparing resources to each other except  
13          in specific circumstances. The per-megawatt-hour costs set out in the table referred  
14          to in Section V of the 2024 Plan are not indicative of the value of the associated  
15          resources to PNM's system and customers. Comparing resources on a per-  
16          megawatt-hour basis is only valid when comparing like-for-like resources, and best  
17          suited for non-capacity resources that incur costs solely as a function of providing  
18          energy, such as PPAs that only include a \$/MWh charge. Consider, for example, an  
19          energy storage resource such as a battery. A battery does not produce any energy  
20          itself; it only stores energy produced by another resource. The cost of that energy  
21          is a function of the other resources that produce the energy used to charge the  
22          battery. Consequently, the \$/MWh cost of the battery would be infinite since it  
23          produces no energy on its own. But the battery does provide capacity value. Non-

**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

1 renewable resources like a combined cycle or gas peaking plant also provide  
2 capacity value. The value of capacity is typically related to the fixed costs of a  
3 resource, or, in the context of a PPA/ESA, the demand or capacity charge. To  
4 maintain reliability, PNM must have enough effective load carrying capability to  
5 meet the highest instantaneous customer demand plus a reserve margin. Once PNM  
6 makes an investment in these facilities, the costs continue to be incurred,  
7 irrespective of the number of kilowatt hours generated and sold or the number of  
8 customers taking service. This translates to fixed cost investments/obligations that  
9 do not vary with energy production but allow PNM to meet its customer demands  
10 (net of renewable generation) in the hours throughout a year when net demands are  
11 at peak. It is not valid to lump these types of investments into a \$/MWh  
12 representation and then compare them to other \$/MWh costs that do not provide  
13 the same reliability and firm capacity. Furthermore, because fixed costs do not vary  
14 with energy production, differences in energy production from year to year will  
15 cause the \$/MWh costs to vary, even if the total fixed cost dollars themselves do  
16 not change. Thus, PNM does not use a simplistic levelized cost of energy (\$/MWh)  
17 approach when evaluating system resources. Instead, PNM utilizes complex system  
18 modeling tools that examine fixed and variable costs of resources on a net present  
19 value basis when determining the lowest reasonable cost to reliably meet customer  
20 requirements.

21

**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

**IV. REQUIREMENTS FROM CASE NO. 22-00143-UT**

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**Q. PLEASE DESCRIBE THE REQUIREMENT FROM THE FINAL ORDER IN CASE NO. 22-00143-UT SPECIFIC TO THE 2024 PLAN.**

**A.** Decretal Paragraph H of the Recommended Decision in Case No. 22-00143-UT, which was approved by the Commission, sets forth one requirement for PNM’s 2023 RPS filing: “PNM shall continue reporting about Lightning Dock as it has and in the manner described in section 4.3.3. of this RD.” I discuss these requirements in Section V of my testimony.

**V. LIGHTNING DOCK REPORTING REQUIREMENTS PURSUANT TO THE FINAL ORDERS IN CASE NOS. 18-00158-UT, 20-00124-UT, 21-00143-UT, and 22-00143-UT**

**Q. PLEASE DESCRIBE PNM’S REPORTING REQUIREMENTS RELATED TO LIGHTNING DOCK.**

**A.** Lightning Dock is a facility located near Lordsburg, New Mexico that generates electricity from geothermal resources. In Case No. 18-00158-UT, the Commission approved PNM’s 2019 RPS Plan, which included an agreement between PNM and Staff to make certain reports regarding Lightning Dock in future REA plan filings. These reporting requirements are to:

- State the annual energy output by the facility for the prior calendar year and the first three months of the following year;

**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

- 1           • Identify any change or supplement, including assignments, to the Lightning  
2           Dock PPA or the Consent Agreement, and explain whether PNM believes  
3           the change or supplement is material;
- 4           • Report any seller Events of Default in the prior calendar year and up until  
5           the filing date of the testimony;
- 6           • Report any future bankruptcy proceeding related to the Lightning Dock  
7           procurement during the prior calendar year and up until the filing date of  
8           the testimony; and
- 9           • Report about changes, if any, to PNM’s credit analysis of Lightning Dock  
10          and Cyrq Energy and, if no credit analysis was performed that year, include  
11          a simple explanation of why no new credit analysis was required.

12          The Recommended Decisions, as accepted by the Commission in Case Nos. 19-  
13          00159-UT, 20-00124-UT, 21-00143-UT, and 22-00143-UT continued these  
14          requirements. PNM witness Gutierrez addresses the first question in his testimony;  
15          I will address the remaining four questions.

16

17   **Q.   HAS THERE BEEN ANY CHANGE OR SUPPLEMENT, INCLUDING**  
18   **ASSIGNMENTS, OF THE PPA OR THE CONSENT AGREEMENT SINCE**  
19   **JUNE 4, 2018, THE DATE PNM ENTERED INTO THE CONSENT**  
20   **AGREEMENT?**

21   **A.   No.**

22



**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

1 **Q. HAVE THERE BEEN ANY LIGHTNING DOCK EVENTS OF DEFAULT**  
2 **IN THE PRIOR CALENDAR YEAR AND TO DATE IN 2023?**

3 **A.** Energy production from the facility continues to fall short relative to the projections  
4 set forth in its Power Purchase Agreement with PNM. While PNM and Lightning  
5 Dock disagree with the amount of energy the facility is required to produce, both  
6 parties remain in regular contact to discuss plans to increase production from the  
7 facility and PNM is not currently pursuing further action at this time.

8  
9 **Q. HAVE THERE BEEN ANY BANKRUPTCY PROCEEDINGS RELATED**  
10 **TO THE LIGHTNING DOCK PROCUREMENT IN THE PRIOR**  
11 **CALENDAR YEAR AND TO DATE IN 2023?**

12 **A.** No.

13  
14 **Q. HAVE THERE BEEN ANY CHANGES TO PNM'S CREDIT ANALYSIS OF**  
15 **LIGHTNING DOCK OR CYRQ ENERGY?**

16 **A.** No.

17

18 **VI. VARIANCE FROM RULE 530**

19

20 **Q. IS PNM REQUESTING A VARIANCE FROM THE RULE 530**  
21 **REPORTING REQUIREMENTS?**

22 **A.** PNM is requesting that the Commission grant a variance from the data filing  
23 requirements of Rule 530 to the extent that it is required. Rule 530 requires the

**DIRECT TESTIMONY OF  
NICHOLAS L. PHILLIPS  
NMPRC CASE NO. 23-00\_\_\_\_-UT**

1 filing of extensive data schedules that are unnecessary for review and approval of  
2 the Rider 36 rate PNM seeks approval of here. The Commission has granted similar  
3 variances from Rule 530 in the past, e.g., *Order Granting Variances*, Case No. 12-  
4 00007-UT (February 3, 2012).

5

6 **VII. CONCLUSION**

7

8 **Q. PLEASE SUMMARIZE THE REASONS WHY PNM'S 2024 PLAN IS IN**  
9 **THE PUBLIC INTEREST AND SHOULD BE APPROVED.**

10 **A.** The 2024 Plan is in the public interest because it satisfies the policy goals  
11 established in the REA, including the RPS requirement for 2024, and complies with  
12 all applicable requirements of Rule 572. The 2024 Plan does not require the  
13 addition of new resources and continues to rely on resources previously approved  
14 by the Commission in prior PNM plans. For these reasons, PNM's 2024 Plan is in  
15 the public interest and should be approved.

16

17 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

18 **A.** Yes.

GCG#530976

**Nicholas L. Phillips**  
**EDUCATIONAL AND PROFESSIONAL SUMMARY**

**Address:** Public Service Company of New Mexico 414 Silver Avenue, SW, MS-0915, Albuquerque, New Mexico 87102

**Position:** Director, Integrated Resource Planning, June 2019 to present

**Education:** Bachelor of Science in Electrical Engineering, Washington University in St. Louis/University of Missouri - St. Louis Joint Engineering Program

Master of Engineering in Electrical Engineering, Electric Power and Energy Systems, Iowa State University of Science and Technology

Master of Science in Computational Finance and Risk Management, University of Washington Seattle

**Employment:** Employed by Public Service Company of New Mexico since 2019.

Principal with Brubaker & Associates, Inc. ("BAI"), a consulting firm specializing in public utility regulation, energy, and economics.

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

**Testimony/Affidavits Presented Before:**

Kansas Public Service Commission  
Michigan Public Service Commission  
Missouri Public Service Commission  
Wisconsin Public Service Commission  
Wyoming Public Service Commission  
California Public Utilities Commission  
Nevada Public Utilities Commission  
Idaho Public Utilities Commission  
Federal Energy Regulatory Commission  
New Mexico Public Regulation Commission

**NMPRC Testimony:**

Case No. 13-00390-UT	PNM's SJGS Units 1 and 4 Abandonment
Case No. 15-00261-UT	PNM's 2015 General Rate Case
Case No. 15-00312-UT	PNM's AMI Application
Case No. 16-00276-UT	PNM's 2016 General Rate Case
Case No. 17-00044-UT	SPS Application for Wind CCN & PPA
Case No. 19-00018-UT	PNM's SJGS Units 2 and 3 Abandonment
Case No. 19-00195-UT	PNM's SJGS Replacement Resources Application
Case No. 20-00087-UT	PNM's Energy Efficiency 2021 Plan Application
Case No. 20-00124-UT	PNM's 2021 Renewable Energy Plan
Case No. 20-00182-UT	PNM's SJGS Replacement Resources Compliance Application

Case No. 20-00218-UT  
Case No. 21-00031-UT  
Case No. 21-00083-UT  
Case No. 22-00143-UT  
Case No. 23-00138-UT

PNM's Demand Response Application  
Application for Facebook PPA and ESA 3  
Palo Verde Abandonment and Replacement  
PNM's 2023 RPS Application  
PNM's Energy Efficiency 2024 Plan Application

GCG#528279v3

**BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION**

**IN THE MATTER OF PUBLIC SERVICE )  
COMPANY OF NEW MEXICO'S )  
APPLICATION FOR APPROVAL OF ITS )  
RENEWABLE ENERGY ACT PLAN )  
FOR 2024 AND PROPOSED 2024 RIDER )  
RATE UNDER RATE RIDER NO. 36, )  
)  
PUBLIC SERVICE COMPANY OF NEW )  
MEXICO, )  
)  
Applicant. )  
\_\_\_\_\_ )**

**Case No. 23-00\_\_-UT**

**PUBLIC SERVICE COMPANY OF NEW MEXICO'S  
RENEWABLE ENERGY ACT PLAN  
FOR 2024**

**June 1, 2023**

# **PUBLIC SERVICE COMPANY OF NEW MEXICO'S RENEWABLE ENERGY ACT PLAN FOR 2024**

## **I. INTRODUCTION**

Public Service Company of New Mexico (“PNM” or “Company”) files this Renewable Energy Act Plan for 2024 (“2024 Plan” or “Plan”) pursuant to the Renewable Energy Act (“REA”), NMSA 1978, §§ 62-16-1 to -10 (2004, as amended through 2019) and 17.9.572 NMAC (“Rule 572”) of the rules of the New Mexico Public Regulation Commission (“NMPRC” or “Commission”). The Plan is supported by the testimony and exhibits of PNM witnesses Nicholas Phillips, Shane Gutierrez, Beilen Nesbitt, and Aaron Braasch.

## **II. SUMMARY OF 2024 PLAN**

The 2024 Plan shows that PNM expects to fully comply with its Renewable Portfolio Standard (“RPS”) requirements in 2024 and 2025 using resources previously approved by the Commission. PNM will recover the costs of implementing the 2024 Plan, including costs for registering and retiring renewable energy certificates (“RECs”) in the Western Renewable Energy Generation Information System (“WREGIS”) through an adjusted rate for PNM’s Renewable Energy Rider, Rider No. 36, effective January 1, 2024.

## **III. RPS AND RCT CALCULATIONS**

PNM’s projected RPS requirements and the corresponding portfolio procurement costs and net compliance costs for 2024 are shown in Table 1.

In summary, Table 1 shows the following:

- RPS Requirement: PNM’s projected Net RPS Goal, after taking into account adjustments for voluntary tariff sales, is 1,607,163 MWh in 2024 and 3,211,680 MWh in 2025.
- RPS Compliance: PNM projects that it will meet the RPS requirements in 2024 and 2025.

**PUBLIC SERVICE COMPANY OF NEW MEXICO  
RENEWABLE ENERGY ACT PLAN FOR 2024**

**PNM 2024 RPS Plan- Table 1**

<b>2024 Plan RPS and RCT Summary</b>		
<i>Line</i>	<b>2024 Plan RPS and RCT Summary</b>	<b>2024</b>
1	Annual Retail Sales (MWh)	9,626,962
2	(-) Voluntary Tariff Sales (MWh)	1,591,150
3	Net Annual Retail Sales (MWh)	8,035,813
4	RPS (%)	20%
5	RPS (MWh)	1,607,163
<b>RPS Compliance &amp; Diversity</b>		<b>2024</b>
6	Portfolio RECs	3,150,206
7	Portfolio REC Surplus to Bank	1,543,044
8	Prior-Year Banked RECs	540,008
9	On-Year REC Bank	2,083,052
10	RECs used for RPS Compliance	1,607,163
11	Portfolio Percent of Annual Sales (%)	20%
12	Portfolio Percent of RPS Goal (%)	100%
13	Wind Diversity (%)	40%
14	Solar Diversity (%)	57%
15	Other Diversity (%)	1%
16	DG Diversity (%)	2%
<b>Portfolio Cost</b>		<b>2024</b>
17	Portfolio Cost (\$)	\$59,021,533

The RCT for 2024 is \$63.68 per MWh, equal to \$60 per MWh adjusted for inflation after 2020.

**IV. RENEWABLE ENERGY RESOURCES**

PNM’s renewable energy portfolio consists of the resources shown below, all of which have been approved by the Commission in previous cases. The costs associated with registering and retiring RECs with WREGIS is currently \$0.008 per REC.

**PUBLIC SERVICE COMPANY OF NEW MEXICO  
RENEWABLE ENERGY ACT PLAN FOR 2024**

**Existing Wind:**

- New Mexico Wind Energy Center (“NMWEC”): This is a 200 MW wind generation facility located in eastern New Mexico that is owned and operated by NextEra Energy Resources. Under a 25-year purchased power agreement (“PPA”), PNM purchases all of the energy and RECs produced by NMWEC. The NMWEC was declared in-service in October 2003. As part of the approvals in Case No. 17-00129-UT, the NMWEC was re-powered with new wind turbine blades and nacelles in 2018 and the term of the PPA was extended to 2045. A portion of the NMWEC output is used to supply energy and MWh-RECs for the Sky Blue program (“PNM Sky Blue”) that PNM offers pursuant to Rule 572.18. RECs used for PNM Sky Blue sales are not used for RPS compliance, consistent with Rule 572.10(A). The projected number of NMWEC RECs available for RPS compliance, excluding those RECs retired for PNM Sky Blue, is 571,976 MWh-RECs in 2024 and 572,313 RECs in 2025. The gross cost for NMWEC generation and RECs is projected to be \$15.6 million in 2024 and 2025.

- Red Mesa Wind Energy Center: This is a 102 MW wind facility located in Cibola County, about 50 miles west of Albuquerque. PNM has a 20-year PPA to procure energy and RECs from this facility. Purchases under the PPA began on January 1, 2015. The energy is delivered to PNM at the Red Mesa station on the Kermac-West Mesa transmission line. Annual production is expected to be 208,000 MWh in both 2024 and 2025 and the gross cost is projected to be \$6.9 million in 2024 and \$7.1 million in 2025.

- La Joya Wind Facility, Phase 2 (“La Joya II”): This is 140 MW wind facility 18 miles east of Estancia, New Mexico in Torrance County. PNM has a 20-year PPA to procure energy and MWh-RECs from this facility. Annual production is expected to be 491,582 MWh in 2024 and



**PUBLIC SERVICE COMPANY OF NEW MEXICO  
RENEWABLE ENERGY ACT PLAN FOR 2024**

2025. The gross cost for La Joya II generation and MWh-RECs is projected to be \$8.6 million in 2024 and 2025.

**Approved Solar:**

Table 2 summarizes the PNM-owned solar facilities previously approved by the NMPRC and included in the Plan. PNM anticipates that the generation from PNM's solar facilities will total 1,784,444 MWh in 2024 and 2,966,984 MWh in 2025. While the cost of the 2015 solar facilities is collected through base rates rather than Rider 36, the Commission authorized PNM to use the RECs for RPS compliance. Though the costs of the 2015 solar facilities themselves are recovered in base rates, not through Rider 36, the cost of registering and retiring the associated RECs in WREGIS is included the 2024 Rider 36 rate. Similarly, PNM intends to recover the cost of registering and retiring the RECs associated with the Jicarilla 1 and Arroyo solar facilities through Rider 36, and to recover the remaining costs through the Fuel and Purchased Power Cost Adjustment Clause ("FPPCAC").

**PUBLIC SERVICE COMPANY OF NEW MEXICO  
RENEWABLE ENERGY ACT PLAN FOR 2024**

**Table 2: PNM 2024 RPS Plan**

	Generation (MWh)		Total Cost	
	2024	2025	2024	2025
<b>Utility Solar</b>				
Algodones/Aztec @3:1	84	83	\$1	\$1
2011 PNM Solar PV 22.5 MW	46,228	45,995	\$4,722,382	\$4,656,178
2013 PNM Solar PV 20 MW1	42,631	42,418	\$3,661,514	\$3,579,620
2014 PNM Solar PV 23 MW	57,598	57,310	\$4,052,931	\$3,971,433
2015 PNM Solar PV 40 MW	89,072	88,404	\$713	\$707
2019 PNM Solar PV 50 MW	131,965	130,975	\$7,113,767	\$6,933,364
Mesa Del Sol Microgrid RECs	0	200	\$0	\$2
Community Solar I RECs	0	203,373	\$0	\$1,627
Jicarilla Solar I PPA 50 MW	136,267	132,655	\$1,090	\$1,061
Arroyo Solar PPA 300 MW	834,219	809,192	\$6,674	\$6,474
San Juan Solar 1 PPA 200 MW	401,366	564,047	\$3,211	\$4,512
Atrisco Solar PPA 300 MW	45,014	892,331	\$360	\$7,139
<b>Total Utility Solar</b>	<b>1,784,444</b>	<b>2,966,984</b>	<b>\$19,562,642</b>	<b>\$19,162,118</b>

**Existing “Other”:**

- Geothermal: The Dale Burgett Geothermal Facility (also known as the Lightning Dock geothermal facility) generates electricity using geothermal resources and is located in the Animas Valley in Hidalgo County, about 20 miles southwest of Lordsburg, New Mexico. The plant went into service in January 2014. The Commission approved an amended PPA, for the purchase of energy from a repowered Dale Burgett Geothermal Facility over a 25-year term, in Case No. 17-00129-UT. Based on projections by the plant operator, the amount of energy and RECs to be delivered to PNM from this facility is 41,374 RECs in 2024 and 41,374 RECs in 2025. The projected gross cost for RECs from this facility is approximately \$4.3 million in 2024 and \$4.4 million in 2025.

**Existing Distributed Generation:**

PNM purchases RECs generated by customer-sited DG solar energy systems under several Customer Solar Purchase Programs as described in Table 3. These include the Small Photovoltaic

**PUBLIC SERVICE COMPANY OF NEW MEXICO  
RENEWABLE ENERGY ACT PLAN FOR 2024**

(“PV”) REC Purchase Program (“Small PV Program”), Large Photovoltaic REC Purchase Program (“Large PV Program”), Solar REC Incentive Programs (“SIP”), the Customer Solar REC Purchase Program (“CSPP”), and Capacity Reservation Program.

PNM projects that customer-sited solar DG facilities collectively will generate 52,831 RECs in 2024 and 52,567 RECs in 2025, for an annual gross cost of \$4.0 million in 2024 and \$4.0 million in 2025.

The current status of PNM’s solar REC purchase programs is shown in Table 3:

**Table 3: PNM 2024 RPS Plan**

	Generation (MWh)		Total Cost	
	2024	2025	2024	2025
<b>Distributed Generation</b>				
Large PV RECs	10,804	10,750	\$1,620,708	\$1,612,604
SIP RECs \$0.14 - \$0.05	26,304	26,172	\$2,357,490	\$2,345,702
2018-2022 DG Capacity Reservations	9,778	9,730	\$24,524	\$24,402
Case 13-00390-UT Stipulation	5,944	5,914	\$14,908	\$14,833
<b>Total Distributed Generation</b>	<b>52,831</b>	<b>52,567</b>	<b>\$4,017,630</b>	<b>\$3,997,542</b>

**V. RULE 17.9.572.14(C)(6) REQUIREMENTS**

17.9.572.14(C)(6) NMAC requires:

the capital, operating and fuel costs on a per-megawatt-hour basis during the preceding calendar year of each nonrenewable generation resource rate-based by the utility, or dedicated to the utility through a power purchase agreement of one year or longer, and the nonrenewable generation resources' carbon dioxide emissions on a per-megawatt-hour basis during that same year;

Please see Appendix A for the information on PNM’s nonrenewable generation resources.

**VI. RENEWABLE RIDER RATE FOR 2024**

In Case No. 12-00007-UT the Commission authorized PNM to implement Rider 36 to recover the costs of renewable resources approved by the Commission for RPS compliance,

**PUBLIC SERVICE COMPANY OF NEW MEXICO  
RENEWABLE ENERGY ACT PLAN FOR 2024**

including the costs of WREGIS registration. In Case No. 15-00261-UT the Commission authorized PNM to continue using Rider 36. The Rider 36 rate is adjusted annually, effective each January 1<sup>st</sup> to account for new Commission-approved procurements, changes in estimated revenue requirements for previously approved procurements, and projections of kWh sales. Rider 36 is “reconciled” or “trued-up” in a filing, made by February 28<sup>th</sup> annually, to account for actual revenue requirements and sales during the prior year and updated projections for the then-current year. Costs that are recovered in base rates or through PNM’s Fuel and Purchased Power Cost Adjustment Clause are not included in the Rider 36 revenue requirement, nor are revenue requirements for any facilities that are not yet in service.

PNM projects that the revenue requirement to be recovered during 2024 through Rider 36, including WREGIS fees, will be \$59,021,533. To recover these costs, PNM is requesting approval of a Rider 36 rate to be effective January 1, 2024, of \$0.0073448 per kWh.

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**2024 Renewable Portfolio Plan Appendix A**  
**Non-Renewable Facilities**  
**Required Reporting Under Section 62-16-4(G)(2)**

			2022				
			Generation (MWh)	Emissions CO2 lbs/MWh (Note 1)	Fuel \$/MWh (Note 2)	Operating \$/MWh (Note 2)	Capital \$/MWh (Note 3)
San Juan Generating Station	Owned	Coal	2,073,062	2,625	\$27.48	\$12.60	\$3.78
Four Corners Power Plant	Owned	Coal	1,303,229	2,140	\$40.80	\$11.78	\$8.54
Palo Verde Nuclear Generating Station	Owned	Nuclear	3,257,339	-	\$7.55	\$19.77	\$13.30
Afton	Owned	Gas	820,093	979	\$62.83	\$17.95	\$30.89
Luna	Owned	Gas	752,518	843	\$55.46	\$5.03	\$6.33
Lordsburg	Owned	Gas	72,920	1,236	\$98.92	\$20.30	\$22.40
La Luz	Owned	Gas	6,189	1,502	\$266.49	\$75.36	\$432.98
Reeves	Owned	Gas	199,576	1,584	\$116.11	\$37.18	\$24.01
Rio Bravo	Owned	Gas	263,079	1,402	\$100.82	\$6.62	\$37.26
Valencia	PPA	Gas	80,347	1,245	\$377.62	N/A	N/A

Note 1: PNM's Response for EEI Electric Company CO2 Emissions and Resource Mix Reporting

Note 2: Generation (MWh), Fuel and Operating costs are based on PNM's FERC Form 1, page 402-403. Valencia fuel costs are from PNM's general ledger and include demand charges.

Note 3: Capital costs include depreciation expense and capital additions during 2021 based on PNM's general ledger

Note 4: PNM has provided the "capital, operating and fuel costs on a per-megawatt-hour basis" as required by NMSA 1978, Section 62-16-4(G)(2). However, this data is of limited utility and is generally not valid in comparing resources to each other except in specific circumstances. The per-megawatt-hour costs in this table is not indicative of the value of the associated resources to PNM's system and customers. Comparing resources on a per-megawatt-hour basis is only valid when comparing like-for-like resources, and best suited for non-capacity resources that incur costs solely as a function of providing energy, such as PPAs that only include a \$/MWh charge. Consider, for example, an energy storage resource such as a battery. A battery does not produce any energy itself, it only stores energy produced by another resource. The cost of that energy is a function of the other resources that actually produce the energy used to charge the battery. Consequently, the \$/MWh cost of the battery would be infinite since it produces no energy on its own. But the battery does provide capacity value. Non-renewable resources like a combined cycle or gas peaking plant also provide capacity value. The value of capacity is typically related to the fixed costs of a resource, or in the context of a PPA/ESA, the demand or capacity charge. In order to maintain reliability, PNM must have enough installed, accredited capacity to meet the highest instantaneous customer demand plus a reserve margin. Once PNM makes an investment in these facilities, the costs continue to be incurred, irrespective of the number of kilowatt hours generated and sold or the number of customers taking service. This translates to fixed cost investments/obligations that do not vary with energy production but allow PNM to meet its customer demands (net of renewable generation) in the hours throughout a year when net demands are at peak. It is not valid to lump these types of investments into a \$/MWh representation and then compare them to other \$/MWh costs that do not provide the same reliability and firm capacity. Furthermore, because fixed costs do not vary with energy production, differences in energy production from year to year will cause the \$/MWh costs to vary, even if the total fixed cost dollars themselves do not change. The required increase in renewable energy production to serve PNM's customers and comply with the increasing RPS will cause energy production from existing traditional carbon emitting resources to decrease over time. However, the fixed costs associated with those existing resources will not decrease proportionally with the reduction in energy production because many fixed costs are sunk costs that cannot be avoided with a reduction in energy production. Furthermore, those existing traditional resources provide additional capacity and reliability benefits that cannot be measured or deduced by analyzing a single \$/MWh cost. This is why PNM does not use a simplistic levelized cost of energy (\$/MWh) approach when evaluating system resources. Instead, PNM utilizes complex system modeling tools that examine fixed and variable costs of resources on a net present value basis when determining the lowest reasonable cost to reliably meet customer requirements.