

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 2022 AND PROPOSED 2022 RIDER)
RATE UNDER RATE RIDER NO. 36,)
)
PUBLIC SERVICE COMPANY OF NEW)
MEXICO,)
)
)
Applicant.)
_____)**

Case No. 21-00____-UT

**DIRECT TESTIMONY
OF
NICHOLAS L. PHILLIPS**

June 1, 2021

NMPRC CASE NO. 21-00____-UT
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WITNESS FOR
PUBLIC SERVICE COMPANY OF NEW MEXICO

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SELF AFFIRMATION

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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

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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 2022 Renewable Energy Act Procurement
9 Plan (“2022 Plan” or “Plan”).

10

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

12 **A.** My testimony addresses several 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 2022 Plan;

16 3. I describe how PNM is positioned to meet future increases in the RPS
17 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 (“REA”) and 17.9.572 NMAC
20 (“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

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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 2022 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 \$0.0083408/kWh,
10 effective January 1, 2022, for recovery of RPS procurement costs
11 anticipated to be incurred during 2022, 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 2022**
18 **PLAN?**

19 **A.**No. However, PNM is proposing to retire a small number of RECs in 2022 from
20 resources that have not previously been part of an approved REA plan. These
21 include 3,494 2018 vintage RECs from the 1.5 MW solar resource that sources the
22 PNM Sky Blue voluntary renewable energy program and approximately 200 RECs
23 produced in 2022 from a new microgrid project at Mesa Del Sol in Albuquerque.

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1 **Q. PLEASE SUMMARIZE THE MICROGRID PROJECT.**

2 **A.** The microgrid project is being constructed by Emera Technologies, LLC and will
3 include rooftop photovoltaic as well as battery storage resources sited on a loop of
4 21 homes in the Mesa Del Sol subdivision in Albuquerque. PNM expects the solar
5 capacity of the project to be about 100 kW and expects that the project will be
6 completed in the spring of 2022. When the project is completed, Emera
7 Technologies, LLC will transfer the microgrid to PNM for a nominal fee, which
8 PNM will not seek to recover from ratepayers.

9

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

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

- 13 • Mr. Shane Gutierrez, Senior Project Manager, Financial Modeling, provides
14 the RPS projections for the 2022 and 2023 plan years;
- 15 • Mr. Thomas S. Baker, Manager, Cost of Service, presents the revenue
16 requirements that support PNM's proposed new rate for Rider 36; and
- 17 • Dr. Heidi Pitts, Lead Pricing Analyst, presents PNM's proposed new rate
18 for Rider 36, to be effective as of January 1, 2022.

19

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II. ELEMENTS OF PNM'S 2022 PLAN

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- Q. PLEASE DESCRIBE PNM'S REQUIREMENTS UNDER THE REA.**
- A.** The REA, as amended in 2019, establishes the following RPS requirements for public utilities in New Mexico:
- No later than January 1, 2020, renewable energy shall comprise no less than twenty percent of each public utility's total retail sales to New Mexico customers;
 - No later than January 1, 2025, renewable energy shall comprise no less than forty percent of each public utility's total retail sales to New Mexico customers;
 - No later than January 1, 2030, renewable energy shall comprise no less than fifty percent of each public utility's total retail sales to New Mexico customers;
 - No later than January 1, 2040, renewable energy shall comprise no less than eighty percent of all retail sales of electricity in New Mexico, provided that compliance with this standard until December 31, 2047, shall not require the public utility to displace any zero carbon resources in the utility's generation portfolio on the effective date of the 2019 amendments; and
 - No later than January 1, 2045, zero carbon resources shall supply one hundred percent of all retail sales of electricity in New Mexico.

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

13

14 **Q. PLEASE DESCRIBE PNM’S 2022 PLAN.**

15 **A.** The 2022 Plan, which describes how the Company intends to meet the RPS
16 requirement in 2022, is attached as PNM Exhibit NLP-2 to my testimony.

17

18 PNM’s 2022 Plan projects to exceed the 2022 RPS requirement. Of course, the
19 actual surplus or deficit of RECs will depend on actual generation levels at PNM’s
20 various renewable facilities, actual retail sales, and participation in PNM’s
21 voluntary renewable energy programs. As shown by PNM witness Gutierrez, PNM
22 is projecting that it will have more than sufficient RECs generated from existing
23 resources to meet the RPS in 2022 and 2023.

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1 The Plan also proposes a change in the Rider 36 rate effective January 1, 2022. This
2 change reflects the recovery of the costs of REA procurements during 2022, as well
3 as the costs associated with the registration and retirement of RECs through the
4 Western Renewable Energy Generation Information System (“WREGIS”). The
5 costs that make up the Rider 36 rate are discussed in Mr. Baker’s Direct Testimony,
6 and the derivation of the new Rider 36 rate is explained by Dr. Pitts.

7

8 **Q. PLEASE DESCRIBE STRATEGIES USED TO MINIMIZE COSTS OF**
9 **RENEWABLE ENERGY INTEGRATION, AS REQUIRED BY**
10 **17.9.572.14(B)(9) NMAC.**

11 **A.** PNM is not proposing any new procurements in this case. Generally though,
12 integration of renewable resources requires carrying sufficient flexible resources –
13 including battery energy storage systems and flexible gas generation – and
14 committing increased amounts of operating reserves in order to manage the
15 variability and uncertainty of variable energy resources.¹ Along with the addition
16 of flexible capacity and storage resources, procuring resources in geographically
17 diverse areas can reduce variability of the portfolio; however, access to
18 geographically diverse resources requires transmission which is not always
19 available. Design of individual renewable facilities with higher inverter loading
20 ratios can also decrease variability of output during peak production periods;
21 though the economics must be compared against the undelivered energy from

¹ 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.

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1 overloading the inverters. PNM also began participating in the California ISO's
2 Energy Imbalance Market in April 2021, which PNM expects will help reduce
3 operating costs, including the cost of renewable energy integration. Finally,
4 incentivizing customer behavior through accurate prices (rate designs) to maximize
5 efficient use of the system will aid in reducing the costs of the energy transition.
6 PNM's system is in a period of transition due to the rapid increase in the amount of
7 variable generation on the system. As we address this transition, PNM will
8 continue to explore all of these alternatives to minimizing renewable energy
9 integration costs as well as working with consultants and national laboratories to
10 ensure that cost increases are minimized.

11
12 **Q. IS THE 2022 PLAN CONSISTENT WITH PNM'S INTEGRATED**
13 **RESOURCE PLAN ("IRP"), AS REQUIRED BY 17.9.572.14(B)(10) AND**
14 **(14)?**

15 **A.** Yes. PNM filed its 2020 IRP on January 29, 2021. The 2020 IRP includes all of
16 the REA resources in the 2022 Plan and considers how PNM will cost effectively
17 and reliably be able to meet its RPS goals from 2021 through 2040.

18
19 **Q. HAVE THERE BEEN ANY CHANGES IN PNM'S PLANNED**
20 **RENEWABLE PROCUREMENTS THAT MAKE MATERIAL**
21 **DIFFERENCES IN PNM'S RPS COMPLIANCE IN 2022?**

22 **A.** No. While I will explain developments related to two of PNM's planned renewable
23 resources, they do not have any material effect on PNM's RPS compliance in 2022.

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1 First, as mentioned in PNM witness Gutierrez’s testimony, the commercial
2 operation date of the La Joya II wind facility has been delayed. Whereas PNM
3 expected it to reach commercial operation at the end of 2020, that has been extended
4 until June 2021. Second, the 100 MW Rockmont solar PPA, which was approved
5 as a San Juan Generating Station replacement resource by the Commission in Case
6 No. 19-00195-UT, was expected by PNM to reach commercial operation in June
7 2022. PNM included that PPA in its 2021 RPS Plan after the Commission issued
8 its Final Order in Case No. 19-00195-UT. As PNM recently informed the
9 Commission,² however, the Rockmont project developer has determined that it
10 cannot meet a June 2022 commercial operation date. PNM is working with the
11 developer to determine whether the developer or a qualified assignee can complete
12 the project by the summer of 2023. As Mr. Gutierrez’s testimony explains, neither
13 of these developments will make a material difference in PNM’s ability to meet its
14 2022 RPS requirement.

15
16 **III. REASONABLE AND CONSISTENT PROGRESS TOWARD MEETING**
17 **THE REA’S INCREASING RPS AND CARBON-FREE STANDARD**

18
19 **Q. IS PNM POSITIONED TO MAKE REASONABLE AND CONSISTENT**
20 **PROGRESS TOWARDS MEETING THE REA’S INCREASING RPS**

² Public Service Company of New Mexico’s Compliance Filing of Purchase Power Agreement Status, Case No. 20-00182-UT, filed on May 24, 2021.

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1 **STANDARDS AND ZERO CARBON RESOURCE STANDARD IN 2045?**
2 **(RULE 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, PNM is
4 subject to the requirements of Section 62-18-10(D) of the Energy Transition Act:

5
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 PNM makes reasonable and
20 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 PNM's recent 2020 IRP, as well as the resource portfolio proposed in Case No. 21-
23 00083-UT,³ show that PNM will likely exceed both RPS and Section 10(D)
24 requirements in the near term. PNM's trajectory will be continually revisited at
25 least every three years in its triennial IRP filings.
26

³ *In the Matter of the Application of Public Service Company of New Mexico for Decertification and Abandonment of 114 MW of Leased Palo Verde Nuclear Generating Station Capacity and Sale and Transfer of Related Assets and for Approval to Procure New Resources Under 17.9.551 NMAC*, Case No. 21-00083-UT, filed April 2, 2021.

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1 In addition, while not yet approved, PNM has filed a stipulation in Case No. 20-
2 00222-UT⁴ that would create a carbon task force that will further the interests of
3 carbon reductions on PNM's system.

4

5 **Q. HAS PNM PROVIDED THE CAPITAL, OPERATING AND FUEL COSTS**
6 **FOR CERTAIN RESOURCES AS REQUIRED BY RULE 572.14(B)(6)?**

7 **A.** Yes. Rule 572.14(B)(6) requires utilities to include in their annual REA plans:

8 the capital, operating and fuel costs on a per-megawatt-hour basis during the
9 preceding calendar year of each nonrenewable generation resource rate-base[d]
10 by the utility, or dedicated to the utility through a power purchase agreement of
11 one year or longer, and the nonrenewable generation resources' carbon dioxide
12 emissions on a per-megawatt-hour basis during that same year[.]

13

14 The required information can be found in Section V of PNM's 2022 RPS plan
15 (Exhibit NLP-2).

16

17 **Q. HOW WOULD YOU RECOMMEND THE COMMISSION AND OTHER**
18 **STAKEHOLDERS TREAT THE INFORMATION PROVIDED IN**
19 **SECTION V OF THE 2022 PLAN?**

20 As explained in more detail in the Plan, the information has limited applicability
21 and value when comparing resources and it should generally not be used to compare

⁴ *In the Matter of the Joint Application of Avangrid, Inc., Avangrid Networks, Inc., NM Green Holdings, Inc., Public Service Company of New Mexico and PNM Resources, Inc. for Approval of the Merger of NM Green Holdings, Inc. with PNM Resources, Inc.; Approval of a General Diversification Plan; and All Other Authorizations and Approvals Required to Consummate and Implement This Transaction, Case No. 20-00222, filed on November 23, 2020.*

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1 one resource to another resource except for specific circumstances as discussed in
2 the Plan.

IV. REQUIREMENTS FROM CASE NO. 20-00124-UT

4

5 **Q. PLEASE DESCRIBE THE REQUIREMENTS FROM THE FINAL ORDER**
6 **IN CASE NO. 20-00124-UT SPECIFIC TO THE 2022 PLAN.**

7 **A.** The Recommended Decision in Case No. 20-00124-UT, which was approved by
8 the Commission, states two requirements for PNM’s 2021 RPS filing. First,
9 Decretal Paragraph O states:

10

11 PNM shall continue to record a regulatory liability associated with the Affordable
12 Solar Project discussed in Section XI(A) of this Recommended Decision. In its
13 next renewable energy act plan filing, PNM shall state the updated 2020 revenue
14 requirement of the Affordable Solar Project. If there is a cost overrun from the
15 \$8,674,518 revenue requirement estimated in Case No. 17-00129-UT, PNM shall
16 present evidence demonstrating the reasonableness of the cost overrun. PNM shall
17 state the amount that it over or under-collected from ratepayers for the Affordable
18 Solar Project under its Renewable Energy Rider in 2020 assuming that the updated
19 2020 revenue requirement of the Affordable Solar Project had been collected from
20 ratepayers under the Renewable Energy Rider in 2020.

21

22 Mr. Baker addresses the revenue requirements for the 2019 solar facility in his
23 direct testimony.

24

25 Second, Decretal Paragraph P states: “PNM shall continue to comply with the
26 Lightning Dock reporting requirements ordered in Case No. 18-00158-UT.” I
27 discuss these requirements in Section V of my testimony.

28

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1 **V. LIGHTNING DOCK REPORTING REQUIREMENTS PURSUANT TO**
2 **THE FINAL ORDERS IN CASE NOS. 18-00158-UT AND 20-00124-UT**

3
4 **Q. PLEASE DESCRIBE PNM'S REPORTING REQUIREMENTS RELATED**
5 **TO LIGHTNING DOCK.**

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

10 These reporting requirements are to:

- 11 • State the annual energy output by the facility for the prior calendar year
12 and the first three months of the following year;
- 13 • Identify any change or supplement, including assignments, to the Lightning
14 Dock PPA or the Consent Agreement, and explain whether PNM believes
15 the change or supplement is material;
- 16 • Report any seller Events of Default in the prior calendar year and up until
17 the filing date of the testimony;
- 18 • Report any future bankruptcy proceeding related to the Lightning Dock
19 procurement during the prior calendar year and up until the filing date of
20 the testimony; and
- 21 • Report about changes, if any, to PNM's credit analysis of Lightning Dock
22 and Cyrq Energy and, if no credit analysis was performed that year, include
23 a simple explanation of why no new credit analysis was required.

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1 The Recommended Decisions, as accepted by the Commission, in Case Nos. 19-
2 00159-UT and 20-00124-UT continued these requirements.

3

4 Mr. Gutierrez addresses the first reporting requirement in his direct testimony; I
5 address the remaining requirements below.

6

7 **Q. HAS THERE BEEN ANY CHANGE OR SUPPLEMENT, INCLUDING**
8 **ASSIGNMENTS, OF THE PPA OR THE CONSENT AGREEMENT SINCE**
9 **JUNE 4, 2018, THE DATE PNM ENTERED INTO THE CONSENT**
10 **AGREEMENT?**

11 **A.** No. Like last year's reporting, in which my Direct Testimony reported that there
12 had been no changes to the PPA or the consent agreement, there have been no
13 changes or supplements, including assignments, in the past year.

14

15 **Q. WERE THERE ANY LIGHTNING DOCK EVENTS OF DEFAULT IN THE**
16 **PRIOR CALENDAR YEAR AND TO DATE IN 2020?**

17 **A.** No.

18

19 **Q. HAVE THERE BEEN ANY BANKRUPTCY PROCEEDINGS RELATED**
20 **TO THE LIGHTNING DOCK PROCUREMENT IN THE PRIOR**
21 **CALENDAR YEAR AND TO DATE IN 2020?**

22 **A.** No. As with last year's reporting, there were no bankruptcy proceedings in 2020
23 or in 2021 to date.

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1 **Q. HAVE THERE BEEN ANY CHANGES TO PNM’S CREDIT ANALYSIS OF**
2 **LIGHTNING DOCK OR CYRQ ENERGY?**

3 **A.** No. PNM has not performed a new credit analysis of Lightning Dock or Cyrq
4 Energy as there have been no issues that indicate potential changes in the previous
5 credit analysis.

6

7 **Q. IN YOUR DIRECT TESTIMONY IN CASE NO. 20-00124-UT, PNM’S REA**
8 **PLAN FILING FOR 2020, YOU REPORTED THAT CYRQ ANTICIPATED**
9 **DECREASED OUTPUT FOR THE FACILITY IN 2020 DUE TO THE**
10 **COVID-19 PANDEMIC. PLEASE UPDATE THE COMMISSION ON THE**
11 **ACTUAL OUTPUT FOR THE FACILITY IN 2020.**

12 **A.** In my direct testimony in Case No. 20-00124-UT, I testified that Cyrq anticipated
13 that the geothermal facility would experience a derate of approximately 2 to 3 MW
14 capacity for the remainder of calendar year 2020 due to maintenance delays related
15 to the COVID-19 pandemic. That derate was expected to result in a 25% decrease
16 in overall generation and RECs (approximately 19,000 RECs) from the facility
17 considering the deferment of the outage to the fourth quarter of 2020. Actual annual
18 output for the facility was 53,212 MWh, about 24,000 MWh less than the projected
19 amount of 77,000 MWh.

20

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VI. VARIANCE FROM RULE 530

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

A. PNM is requesting that the Commission grant a variance from the data filing requirements of Rule 530 to the extent that it is required. Rule 530 requires the filing of extensive data schedules that are unnecessary for review and approval of the Rider 36 rate PNM seeks approval of here. The Commission has granted similar variances from Rule 530 in the past. E.g., *Order Granting Variances*, Case No. 12-00007-UT (February 3, 2012).

VII. CONCLUSION

Q. PLEASE SUMMARIZE THE REASONS WHY PNM’S 2022 PLAN IS IN THE PUBLIC INTEREST AND SHOULD BE APPROVED.

A. The 2022 Plan is in the public interest because it satisfies the policy goals established in the REA, including the RPS requirement for 2022, and complies with all applicable requirements of Rule 572. All the existing renewable resources and those under construction that are used to meet PNM’s RPS are located in New Mexico and deliver energy to PNM. For these reasons, PNM’s 2022 Plan is in the public interest and should be approved.

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

2 **A.** Yes.

GCG#528275

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

PNM's Demand Response Application
Application for Facebook PPA and ESA 3
Palo Verde Abandonment and Replacement

GCG#528279

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF PUBLIC SERVICE)
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RATE UNDER RATE RIDER NO. 36,)
)
PUBLIC SERVICE COMPANY OF NEW)
MEXICO,)
)
)
Applicant.)
_____)

Case No. 21-00__-UT

**PUBLIC SERVICE COMPANY OF NEW MEXICO'S
RENEWABLE ENERGY ACT PLAN
FOR 2022**

June 1, 2021

I. INTRODUCTION

Public Service Company of New Mexico (“PNM” or “Company”) files this Renewable Energy Act Plan for 2022 (“2022 Plan” or “Plan”) pursuant to the Renewable Energy Act (“REA”), NMSA 1978, §§ 62-16-1 to -10 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, Thomas Baker, and Heidi Pitts.

II. SUMMARY OF 2022 PLAN

The 2022 Plan shows that PNM expects to fully comply with its Renewable Portfolio Standard (“RPS”) requirements in 2022 and 2023 using resources previously approved by the Commission. PNM will recover the costs of implementing the 2022 Plan, including costs for registering and retiring renewable energy certificates (“REC”) 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, 2022.

III. RPS AND RCT CALCULATIONS

PNM’s projected RPS requirements and the corresponding portfolio procurement costs and net compliance costs for 2022 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 1,604,203 MWh in 2022 and 1,636,742 MWh in 2023.
- RPS Compliance: PNM projects that it will meet the RPS requirements in 2022 and 2023.

PNM 2022 RPS Plan- Table 1

2022 Plan RPS and RCT Summary		
<i>Line</i>	2022 Plan RPS and RCT Summary	2022
1	Annual Retail Sales (MWh)	9,235,671
2	(-) Voluntary Tariff Sales (MWh)	1,214,655
3	Net Annual Retail Sales (MWh)	8,021,016
4	RPS (%)	20%
5	RPS (MWh)	1,604,203
RPS Compliance & Diversity		2022
6	Portfolio RECs	2,677,251
7	Portfolio REC Surplus to Bank	1,073,048
8	Prior-Year Banked RECs	(2,866)
9	On-Year REC Bank	1,070,182
10	RECs used for RPS Compliance	1,607,069
11	Portfolio Percent of Annual Sales (%)	20%
12	Portfolio Percent of RPS Goal (%)	100%
13	Wind Diversity (%)	51%
14	Solar Diversity (%)	43%
15	Other Diversity (%)	2%
16	DG Diversity (%)	4%
Portfolio Cost		2022
17	Portfolio Cost (\$)	\$66,901,332

The RCT for 2022 is \$61.81 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.

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 608,379 MWh-RECs in 2022 and 608,960 RECs in 2023. The gross cost for NMWEC generation and RECs is projected to be \$16.6 million in 2022 and 2023.

- 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 in 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 221,000 MWh in both 2022 and 2023 and the gross cost is projected to be \$7.1 million in 2022 and \$7.2 million in 2023.

- 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 beginning in 2021. Annual production is expected to be 537,163

MWh in 2022 and 2023. The gross cost for La Joya II generation and MWh-RECs is projected to be \$9.4 million in both 2021 and 2022.

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 1,142,659 MWh in 2022 and 2,799,865 MWh in 2023. 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. While 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 2022 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").

PNM 2022 RPS Plan- Table 2

	Generation (MWh)		Total Cost	
	2022	2023	2022	2023
Utility Solar				
Algodones/Aztec @3:1 ^a	86	85	\$ 1	\$ 1
2011 PNM Solar PV 22.5 MW ^b	47,247	46,605	\$4,852,626	\$ 4,785,008
2013 PNM Solar PV 20 MW ^c	45,479	45,252	\$3,857,755	\$ 3,773,791
2014 PNM Solar PV 23 MW	59,780	59,481	\$4,251,463	\$ 4,167,393
2015 PNM Solar PV 40 MW	95,183	94,469	\$ 761	\$ 756
2019 PNM Solar PV 50 MW	132,131	131,140	\$7,856,773	\$ 7,562,155
Jicarilla Solar I PPA 50 MW	96,809	135,323	\$ 774	\$ 1,083
Arroyo Solar PPA 300 MW	394,598	822,381	\$ 3,157	\$ 6,579
San Juan Solar 1 PPA 200 MW	271,146	566,888	\$ 2,169	\$ 4,535
Rockmont Solar PPA 100 MW	0	138,608	\$ -	\$ 1,109
Jicarilla SEC I PPA 150 MW ^d	0	232,954	\$ -	\$ 1,864
Atrisco Solar PPA 300 MW ^d	0	526,480	\$ -	\$ 4,212
Mesa Del Sol Microgrid RECs	200	199	\$ -	\$ 2
Total Utility Solar	1,142,659	2,799,865	20,825,481	20,308,486

- a. RECs from these facilities are weighted at 3-to-1 for RPS compliance purposes.
- b. Includes a 0.5 MW solar generation/storage facility.
- c. Excludes a 1.5 MW solar facility dedicated to supplying PNM’s Sky Blue Program.
- d. Approvals pending.

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 65,526 RECs in both 2022 and 2023. The projected gross cost for RECs from this facility is approximately \$6.4 million in 2022 and \$6.6 million in 2023.

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 (“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 99,031 RECs in 2022 and 107,710 RECs in 2023, for an annual gross cost of \$6.2 million in 2022 and 2023.

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

PNM 2022 RPS Plan- Table 3

	Generation (MWh)		Total Cost	
	2022	2023	2022	2023
Distributed Generation				
Small PV RECs	0	0	\$0	\$0
Large PV RECs	14,646	14,573	\$2,197,082	\$2,186,096
SIP RECs \$0.14 - \$0.05	34,586	34,413	\$2,949,788	\$2,935,039
2012-2015 DG Capacity Reservations	9,498	9,451	\$182,661	\$181,748
2018-2022 DG Capacity Reservations	8,650	11,332	\$21,695	\$28,421
CSPP RECs	23,166	23,050	\$797,762	\$793,773
Case 13-00390-UT Stipulation	8,485	14,192	\$21,279	\$35,594
Total Distributed Generation	99,031	107,010	\$6,170,267	\$6,160,671

V. RULE 17.9.572.14 (6) REQUIREMENTS

NMAC 17.9.572.14 (6) 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 2022

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, 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 1st 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 28th 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 2022 through Rider 36, including WREGIS fees, will be \$66,901,332 To recover these costs, PNM is requesting approval of a Rider 36 rate to be effective January 1, 2022 of \$0.0083408 per kWh.

GCG#528277

2022 Renewable Portfolio Plan Appendix A
 Non-Renewable Facilities
 Required Reporting Under Section 62-16-4 (G) (2)

	2020				
	Generation (MWh)	Emissions CO2 lbs/MWh (Note 1)	Fuel \$/MWh (Note 2)	Operating \$/MWh (Note 2)	Capital \$/MWh (Note 3)
San Juan Generating Station	3,092,725	2,635	\$34.12	\$10.83	\$4.12
Four Corners Power Plant	952,995	2,244	\$36.44	\$15.72	\$26.03
Palo Verde Nuclear Generating Station	3,219,563	-	\$7.19	\$18.77	\$6.98
Afton	903,364	952	\$15.79	\$6.34	\$10.11
Luna	404,335	830	\$14.97	\$7.02	\$6.23
Lordsburg	12,046	1,294	\$171.21	\$90.31	\$114.10
La Luz	10,484	1,236	\$105.40	\$52.08	\$122.65
Reeves	110,415	1,567	\$36.56	\$66.55	\$58.28
Rio Bravo	125,197	1,434	\$26.45	\$9.30	\$11.50
Valencia	71,785	1,373	\$319.18	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 2019 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, GCG#528278

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 2022 AND PROPOSED 2022 RIDER)
RATE UNDER RATE RIDER NO. 36)
)
PUBLIC SERVICE COMPANY OF NEW)
MEXICO)
)
Petitioner.)
_____)**

Case No. 21-____-UT

SELF AFFIRMATION

NICHOLAS L. PHILLIPS, Director, Integrated Resource Planning, at Public Service Company of New Mexico, upon penalty of perjury under the laws of the State of New Mexico, affirm and state: I have read the foregoing **Direct Testimony of Nicholas L. Phillops** and it is true and correct based on my personal knowledge and belief.

DATED this 1st day of June, 2021.

/s/ Nicholas L. Phillips _____
NICHOLAS L. PHILLIPS