

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

**IN THE MATTER OF PUBLIC SERVICE)
COMPANY OF NEW MEXICO'S)
CONSOLIDATED APPLICATION FOR)
APPROVALS FOR THE ABANDONMENT,)
FINANCING ORDER, AND RESOURCE)
REPLACEMENT FOR SAN JUAN)
GENERATING STATION PURSUANT TO)
THE ENERGY TRANSITION ACT)**

Case No. 19-00195-UT

**REBUTTAL TESTIMONY
OF
MICHAEL EISENFELD ON BEHALF OF
SAN JUAN CITIZENS ALLIANCE
AND
DINÉ CITIZENS AGAINST RUINING OUR ENVIRONMENT**

January 13, 2020

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1 **I. INTRODUCTION**

2

3 **Q: PLEASE STATE YOUR NAME AND ADDRESS.**

4

5 **A:** My name is Michael Eisenfeld. I am the Energy and Climate Program Manager of the
6 San Juan Citizens Alliance. My business address is 665 West Main, Farmington, New Mexico
7 87401.

8

9 **Q: PLEASE DESCRIBE YOUR BACKGROUND AND CONNECTION TO SAN**
10 **JUAN CITIZENS ALLIANCE.**

11

12 **A:** I have worked for than 20 years on energy and environmental issues impacting the Four
13 Corners region. My areas of expertise include energy, coal, oil, gas, air quality, and public lands.
14 I also specialize in the National Environmental Policy Act, Federal Land Policy & Management
15 Act, and Endangered Species Act compliance. I have a B.A. from Bates College and a M.A. in
16 Environmental Policy and Management from the University of Denver. Please reference my
17 resume, which is included as Attachment 1.

18

19 I have worked for SJCA for 14 years. San Juan Citizens Alliance (“SJCA”) is a
20 community-based nonprofit membership organization with over 1,000 members in the Four
21 Corners region. SJCA has been involved in energy issues affecting the local community for
22 decades and ultimately advocates for the long-term health and economic success of the residents
23 of the region by way of a just transition towards cleaner, more sustainable energy sources and

1 away from fossil fuels. SJCA has worked on evaluating the impacts of coal-fired power plants in
2 the Four Corners area for nearly two decades, including the existing mine-mouth power plants
3 (San Juan Generating Station and San Juan Mine; and Four Corners Power Plant and Navajo
4 Mine), as well as the proposed but never constructed coal plant (Desert Rock). SJGS has
5 significant experience challenging the premises of “clean coal,” including evaluating and
6 defeating a plan to implement carbon capture and sequestration at Desert Rock, as well as
7 documenting the epic failures at Kemper Power Plant in Mississippi and FutureGen in Illinois, as
8 they relate to coal generation here in New Mexico.

9

10 **Q: WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

11

12 **A:** The purpose of my testimony is threefold. First, I will rebut the direct testimony of Staff
13 Witnesses Solomon and Eschberger, who assert that a replacement portfolio containing natural
14 gas-fired generation minimizes economic harm to the region. I will also explain how an all-
15 renewables scenario, such as presented by Ms. Sommer in her Direct Testimony for this case, on
16 behalf of the Coalition for Clean and Affordable Energy (“CCAЕ”), benefits the region. Second,
17 I will explain the components of the Energy Transition Act (“ETA”) that are of special
18 importance to the community which SJCA represents, and in particular the process of vetting and
19 constructing replacement power after San Juan Generating Station (“SJGS” or “San Juan”)
20 abandonment. I will also explain how Ms. Sommer’s proposed all-renewables scenario meets the
21 provisions of the ETA, while also providing paths forward to address concerns voiced by certain
22 local entities of Northwest New Mexico. Finally, I will rebut the direct testimony of City and
23 County witnesses Roger Schiffman and Westmoreland, and of witness Steven Pierro, by

1 highlighting the reasons Carbon Capture, Utilization and Storage (“CCUS”) for SJGS is risky
2 and likely financially infeasible, especially when compared to an all-renewables and storage
3 portfolio. I will argue that the Commission should not entertain suggestions made in testimony
4 by these witnesses that the Commission should delay approval of a replacement portfolio in
5 favor of the exploration of San Juan Generating Station with CCUS as a potential future source
6 of energy for PNM.

7

8 **II. A REPLACEMENT SCENARIO CONTAINING SIGNIFICANT AMOUNTS**
9 **OF GAS GENERATION, AS PROPOSED BY PNM AND STAFF, IS NOT IN**
10 **THE BEST INTERESTS OF THE RESIDENTS OF THE FOUR CORNERS**
11 **REGION, OR PNM AND ITS CUSTOMERS.**

12

13

14 **Q: HAS FOSSIL FUEL-BASED ELECTRIC GENERATION CAUSED ECONOMIC**
15 **HARM AND OTHER DETRIMENTAL EFFECTS ON THE REGION?**

16

17 **A:** Yes. SJCA is a longtime advocate for the health and economic wellbeing of the
18 communities it serves in Northwest New Mexico. SJCA also works to ensure that regulatory
19 responsibilities are met, and that opportunities for an orderly energy transition to renewables is
20 pursued. SJCA notes the significant toxic legacy of the coal-fired power plants in the Four
21 Corners region. SJGS is the second largest coal-fired power plant in New Mexico, which at its
22 peak, annually generated approximately 13 million tons of carbon dioxide pollution, from 1973-
23 2017. A study published by Los Alamos National Laboratory and Department of Energy in May

1 2014 referred to the San Juan Generating Station (as well as the Four Corners Power Plant) as
2 the largest point source of pollution in the United States.¹

3
4 In addition to greenhouse gas and air pollutant emissions, there exists a harmful legacy of
5 solid waste from SGJS operations. Coal combustion residuals (“CCR”) from SJGS are disposed
6 of in the mining pits at San Juan Mine. CCR are the remnants of the burned coal, and the
7 dumping of CCR in the underground San Juan Mine pits potentially exposes water resources to
8 toxic releases, including: arsenic, barium, lead, mercury, and other metals. Information from U.S.
9 Environmental Protection Agency’s (“EPA”) Toxic Release Inventory (“TRI”) in 2018 noted
10 that dumping at San Juan Mine has resulted in over 28 million pounds of CCR between 2008-
11 2016, at an average of 3.18 million pounds per year.² Constituents include arsenic, barium,
12 beryllium, chromium, lead, mercury, selenium, thallium, and vanadium. These TRI totals do not
13 include other pollution from SJGS, or the additional cumulative impacts of the Four Corners
14 Power Plant and Navajo Mine, which is on the other side of the San Juan River. Although air
15 pollutant emissions at SJGS are commonly the focus, significant impacts to land and water from
16 these other waste streams must be considered as part of the need for site reclamation and
17 decommissioning, as well as liability assignment at the SJGS and San Juan Mine.

18

¹ Lindenmaier, R., et al., *Proceedings of the National Academy of Sciences*, 2014; DOI: 10.1073/pnas.1321883111 “Multiscale observations of CO₂, CO and pollutants at Four Corners for emission verification and attribution,” Earth and Environmental Sciences and Space and Remote Sensing, Los Alamos National Laboratory, NM.

² U.S. EPA tool, available at: <https://ghgdata.epa.gov/ghgp/main.do>.

1 Farmington has been identified as the fastest shrinking city in the United States for
2 population where from 2010-2015, Farmington lost 8.76% of the population.³ Despite the riches
3 of natural resources, Farmington represents a community in dire need of economic
4 diversification and focused planning to determine an economic path forward within a three-year
5 window of opportunity associated with PNM abandonment of SJGS. The City of Farmington
6 has long been impacted by the boom and bust cycles of fossil fuels. We are currently in a bust in
7 northwest New Mexico, with projections for further coal-fired power plant and coal-mine
8 closures and low prices associated with oil and gas. Farmington’s plight has been well-
9 documented as a city needing an equitable transition.⁴

10

11 **Q. WOULD A SHIFT FROM COAL-BASED ELECTRIC GENERATION TO**
12 **NATURAL GAS GENERATION ALLEVIATE THESE HARMS?**

13

14 **A.** No. While natural gas burning may be less polluting than coal, it still has significant
15 environmental costs when compared to clean, renewable energy and storage alternatives.
16 Extensive natural gas drilling, processing and transport in the Four Corners region has
17 contributed to the Methane hotspot, results in emissions of precursors to ozone, and is directly
18 associated with hazardous air pollutants (“HAPs”). Now more than ever, a sustainable economic

³ See Matthew Reichback, *New Mexico home to fastest-shrinking city in the nation*, New Mexico Political Report (April 9, 2016), available at: <http://nmpoliticalreport.com/2016/04/09/new-mexico-home-to-fastest-shrinking-city-in-the-nation/>.

⁴ See Jonathan Thompson, *New Mexico’s economic and energy extraction quagmire: ‘We’re on a death train, economically’*, High Country News (Aug. 1, 2019), available at: <https://www.hcn.org/articles/energy-and-industry-new-mexico-has-an-economic-and-energy-extraction-quagmire>.

1 path forward for the Four Corners region will require a shift away from fossil fuels and towards
2 clean, renewable energy and storage. Residents of San Juan County and Navajo Nation have
3 served PNM and its ratepayers for decades through their employment at SJGS and San Juan
4 Mine, and now find their future in limbo as PNM has decided to abandon SJGS and explore
5 various replacement power portfolio mixes. SJCA believes that this replacement power should
6 be exclusively in the form of renewable resources and energy storage.

7

8 Renewable generation protects PNM, its ratepayers, and the regional economy from the
9 externalities of a dirty, volatile fuel source such as natural gas. They eliminate the detrimental
10 effects that the burning of fossil fuels has on public health, and increases the quality of life in a
11 community by improving air quality, reducing haze, and minimizing fresh water usage.

12 Renewable generation also avoids much of the uncertainty involved in federal and state
13 permitting of the environmental externalities of coal-generated power, including air quality and
14 water quality permitting.

15

16 Renewables in the region also have a recent track record of efficient build times, and
17 often experience fewer permitting delays associated with construction.

18

19 **Q. IS 280 MW OF GAS GENERATION THE ONLY FEASIBLE OPTION FOR**
20 **SITING REPLACEMENT POWER WITHIN THE CENTRAL CONSOLIDATED**
21 **SCHOOL DISTRICT?**

22

1 A. No it is not. The ETA stipulates that up to 450 MW of replacement power be sited in the
2 Central Consolidated School District (“CCSD”). Energy Transition Act, Section 3(F). PNM has
3 argued that its duty to ratepayers precludes it from realizing either 450 MW of replacement
4 assets in CCSD, or an all-renewables replacement portfolio, and instead propose to construct 280
5 MW of natural gas generation in the school district (included in PNM Scenario 2). Further, Staff
6 Witness Solomon recommends that the Commission require PNM to adopt Scenario 2 because it,
7 in part:

- 8 ii. minimizes economic harm and net detriment to the most affected part of the
9 state, namely San Juan County; [and]
- 10 iii. meets the legislative requirement of Paragraph 2 of Section 3 of the ETA to
11 place all 450 MW of replacement resources in CCSD[.]⁵

12
13 However, CCAE’s modeling shows that not only is a full 430 MW of clean generation
14 and storage (300 MW solar, paired with 130 MW battery storage) possible within CCSD, but it is
15 possible while also retaining the cost savings and reliability that PNM’s Scenario 1 promises to
16 ratepayers.⁶ The replacement power portfolio selected by the Commission should be as close to
17 this maximum 450 MW as possible, and consist exclusively of renewable energy and storage.

18
19 **Q: WHAT OTHER REASONS DO YOU SEE THAT MAKE CCAE’S ALL-**
20 **RENEWABLES SCENARIO A BETTER MATCH FOR THE ETA’S REPLACEMENT**
21 **POWER CRITERIA?**

⁵ Direct Testimony of Djiraj Solomon, at 12.

⁶ See Direct Testimony of Anna Sommer, at 4 (Table 1).

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A: Adopting an all-renewables and storage replacement portfolio is vital to the long-term interests of San Juan County residents and communities. Such a portfolio mitigates the economic consequences of SJGS abandonment, in line with the spirit of the ETA, by both incentivizing investment in the region and by providing a generation asset with a greater longevity. A key component of the ETA is to, “assist in diversifying and promoting the affected community’s economy by fostering economic development opportunities unrelated to fossil fuel development.” Energy Transition Act, Section 16(F). SJCA recognizes the importance of diversifying the economy in the Four Corners, developing real economic opportunities away from historic reliance on fossil fuels, while also responding to the needs of the impacted community. An all-renewables and storage portfolio accomplishes this goal.

In terms of replacement power, the solar and battery storage in the all-renewables scenario put forth by CCAE represent assets likely to have longer lifespans than the 18-year expected depreciable life of PNM’s Piñon Gas Plant. Not only this, but it is reasonable to expect that CCAE’s proposal will result in more long-term jobs for the region than would be realized by PNM’s preferred Scenario 1.⁷ This longer lifespan of the replacement assets will ensure longer-term tax revenue replacement for the school district and county.

The 430 MW of replacement assets in CCSD in CCAE’s modelling is almost double the assets placed in the district in PNM’s preferred Scenario 1. This 430 MW number comes far closer to the “up to 450 MW” wording contained in the ETA. More importantly, the 300 MW of

⁷ See Direct Testimony of Tyler Comings, at 20.

1 solar and 130 MW of storage proposed by the CCAE results in more than double the investment
2 dollars in CCSD. As evidenced by Sommer’s Direct Testimony, PNM’s preferred Scenario 1
3 would deliver a \$210 million investment in the school district, whereas CCAE’s proposed all-
4 renewables scenario delivers a \$447 million investment.⁸

5
6 Moreover, Northwest New Mexico should be able to participate in the renewable
7 portfolio standards (“RPS”) in the ETA, where progressive increases in renewable energy are
8 required, including the January 1, 2030 requirement that, “renewable energy shall comprise no
9 less than fifty percent of each public utility’s total retail sales of electricity to New Mexico
10 Customers.” Energy Transition Act, Section 29(A)(4). As PNM considers replacement power in
11 San Juan County, and at the SJGS and San Juan Mine site, solar power could fulfill RPS
12 requirements, replace needed taxation benefits and utilize the former coal impacted site in a
13 beneficial way.

14
15 **Q: WOULD THE ECONOMIC AND TAX BENEFITS OF AN ALL-RENEWABLE**
16 **AND STORAGE PORTFOLIO BE REALIZED UNDER PNM’S PREFERRED**
17 **SCENARIO 1?**

18
19 **A:** No. Scenario 1, as proposed by PNM, sites 280 MW of gas generation in the Central
20 Consolidated School District, which is much less than the 430 MW of combined generation and
21 storage offered by the CCAE’s scenario. As mentioned previously, this results in less than half of

⁸ Direct Testimony of Anna Sommer, at 4 (Table 1).

1 the possible investment in the school district, specifically, \$210 million, versus the potential
2 \$447 million afforded by an all-renewables scenario, with proportionately lower tax revenues.⁹

3
4 Additionally, PNM has proposed depreciating its 280 MW Piñon Gas Plant over 18
5 years, likely a far shorter lifespan than what one might expect from its equivalent in solar
6 generation assets and battery storage. PNM has committed to going carbon-neutral by 2040,¹⁰
7 and it is reasonable to imagine any natural gas plant in its portfolio being in conflict with its
8 carbon-neutral goal when 2040 arrives. Renewable generation represents a long-lived,
9 sustainable alternative to natural gas both for PNM and for the Northwestern New Mexico
10 economy.

11

12 **Q: DOES CCAE’S PREFERRED SCENARIO BENEFIT PNM AND ITS**
13 **CUSTOMERS, AS WELL AS THE FOUR CORNERS REGION?**

14

15 **A:** Yes, it does. Firstly, CCAE’s all-renewables scenario represents an arguably negligible
16 increase in Net Present Value (NPV) of 0.95%.¹¹ In fact, in her Direct Testimony in this case,
17 Staff witness Ms. Eschberger, states that while reviewing the difference in NPV between PNM’s
18 Scenario 1 and Scenario 2: “This is a difference of 0.9%; staff does not find this difference to be
19 statistically significant.”¹² This stance is echoed in the Direct Testimony of Staff witness, Dhiraj

⁹ *Id.*

¹⁰ See PNM, *Moving New Mexico Forward Together*, available at:
<https://www.pnmforwardtogether.com/pathto100>.

¹¹ Direct Testimony of Anna Sommer, at 5.

¹² Direct Testimony of Beverly S. Eschberger, at 6.

1 “Raj” Solomon, where he states: “As detailed in the testimony of Staff Witness Eschberger,
2 Scenario 1 and 2 are very close in their cost and bill impact to ratepayers with the difference
3 being of little or no significance.”¹³ SJCA encourages the Commission to apply the same
4 standard to the 0.95% difference in NPV presented by CCAE’s all-renewables proposal.
5 Additionally, the maximizing of generation and storage resources in CCSD, as proposed by the
6 CCAE, would result in PNM minimizing the risk that its investment in gas generation could
7 become stranded in the future in order to meet its stated carbon free goal as well as the state’s
8 RPS. It would also enable PNM to continue utilizing a greater number of its current assets at the
9 plant site, including transmission lines.

10

11 **Q: WHAT IS YOUR RECOMMENDATION TO THE COMMISSION REGARDING**
12 **WHAT ASSETS SHOULD COMPRISE A REPLACEMENT GENERATION**
13 **PORTFOLIO IN THIS CASE?**

14

15 **A:** It is my recommendation that the Commission approve the all-renewables and storage
16 replacement portfolio proposed by CCAE, in Anna Sommer’s Direct Testimony in this case.
17 This scenario is most aligned with the economic interests and sustainable future of the Four
18 Corners Region, and will provide the most support for the communities of Northwest New
19 Mexico. Finally, this scenario represents a robust investment in the Central Consolidated School
20 District without compromising ratepayer savings.

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¹³ Direct Testimony of Djiraj Solomon, at 10.

1 **III. AN ALL-RENEWABLES AND STORAGE REPLACEMENT PORTFOLIO IS**
2 **MOST EFFECTIVE AT MITIGATING HARM TO COMMUNITIES, AS**
3 **ENCOURAGED BY THE ENERGY TRANSITION ACT**

4
5 **Q: WHY IS THE ETA IMPORTANT TO COMMUNITIES IN NORTHWEST NEW**
6 **MEXICO?**

7
8 **A:** The Energy Transition Act is a component of a broader transition currently happening
9 across the region, and across the nation. SJCA understands the term “transition” to be the crux of
10 the legislation, and believes it to be utilized in this case to underscore a shift away from fossil
11 fuel generated energy, and towards a more robust clean energy economy in the state and in
12 Northwest New Mexico. The City of Farmington is currently trying to market the city as a
13 recreation destination utilizing the “Jolt Your Journey “ campaign.¹⁴ Continuing to build large-
14 scale fossil fuel projects constrains the greater economic benefits in the region that could be
15 attained by cleaner, sustainable, diversified economic approaches for job creation, community
16 resilience and growth. Any interpretation of “transition” that is conducive to significant reliance
17 on natural gas generation will result in adverse effects on our region, and a missed opportunity
18 for the region to join this transition as it is shaped by this proceeding.

19
20 Throughout the process of ETA development and the corresponding abandonment of
21 SJGS, San Juan Citizens Alliance has stood firmly with the interests of the communities it

¹⁴ See City of Farmington, *Jolt Your Journey*, available at: <https://farmingtonnm.org>.

1 represents and has strived to retain the economic support provided them by the Energy Transition
2 components of the ETA.¹⁵ Historically, the economic engine and largest base of employment for
3 the communities of Northwest New Mexico has been comprised of extractive industries centered
4 around fossil fuel development. Much of this employment comes at the expense of public health,
5 as evidenced in Adella Begaye’s Direct Testimony in case 19-00018-UT.¹⁶ The ETA paves a
6 sustainable path forward for the State of New Mexico, and includes provisions to mitigate
7 economic impacts to communities from the necessary energy transition and the ongoing collapse
8 of coal markets. In particular, the ETA establishes funding mechanisms to address a legacy of
9 exploitation experienced by tribes and native peoples and to provide services and facilities
10 promote their welfare, while also promoting economic diversification of the region, and funding
11 for impacted workers and for the decommissioning and reclamation of SJGS and the mine site.
12 Energy Transition Act, Section 16 (A) through (J). This funding is a key component toward the
13 effective implementation of a broad energy transition strategy, as well as an assurance that the
14 communities which have shouldered PNM’s energy generation for decades are not left behind—

¹⁵ See, e.g., Mike Eisenfeld, *Opinion: Back the Energy Transition Act*, Farmington Daily Times (Feb. 22, 2019), available at: <https://www.daily-times.com/story/opinion/readers/2019/02/22/san-juan-alliance-opinion-back-energy-transition-act-legislature/2952246002/>; Zach Pavlik, *Opinion: Rep. Rod Montoya refuses assistance, offers aggression in return*, Farmington Daily Times (June 10, 2019), available at: <https://www.daily-times.com/story/opinion/columnists/2019/06/10/opinion-rep-montoya-refuses-assistance-offers-aggression-return/1412445001/>; Zach Pavlik, *Opinion: A local voice on the Energy Transition Act*, Farmington Daily Times (Nov. 7, 2019), available at: <https://www.daily-times.com/story/opinion/columnists/2019/11/07/opinion-local-voice-zach-pavlik-energy-transition-act-outside-interests/2523260001/><https://www.daily-times.com/story/opinion/columnists/2019/11/07/opinion-local-voice-zach-pavlik-energy-transition-act-outside-interests/2523260001/>.

¹⁶ Direct Testimony of Adella Begaye, Case No. 19-00018-UT (SJCADC Ex. 1)

1 a concern shared by City of Farmington witness and economic developer, Warren Unsicker, in
2 his Direct Testimony in this case.¹⁷

3

4 **Q: ARE THERE ANY OTHER FACTORS CONCERNING ECONOMIC**
5 **DEVELOPMENT IN THE FOUR CORNERS REGION THAT ARE IMPORTANT FOR**
6 **THE COMMISSION TO CONSIDER WHILE IMPLEMENTING THE ETA?**

7

8 **A:** Yes. It is important to understand that employment at SJGS and the accompanying mine
9 is already diminished and has been decreasing in recent years. In her 2018 report, Economic
10 Opportunities in the Four Corners Area, Dr. O’Donnell stated: “The coal industry is in rapid
11 decline and therefore cannot be a centerpiece of a forward-thinking plan to create prosperity, as it
12 was in the past. The economic development strategies chosen in the coming months will impact
13 the region’s prosperity for decades to come.”¹⁸

14

15 It is now more important than ever to incorporate a holistic approach to economic
16 development in the region that proactively develops previously untapped opportunities, and has
17 as its central component a plan for long-term sustainability and the development of diverse assets
18 that will remain relevant for decades to come. Coal is not one of these assets. Instead, Dr.
19 O’Donnell identifies: tourism and recreation, solar + scalable storage, healthcare, local food

¹⁷ Direct Testimony of Warren Unsicker, at 2, 8.

¹⁸ Dr. Kelly O’Donnell, *Economic Opportunities in the Four Corners Area*, (July 2018), at 4, available at: https://www.sanjuancitizens.org/wp-content/uploads/2018/07/2018-Economic-Opportunities-in-the-Four-Corners-Area_FINAL-180716.pdf.

1 systems, and plant decommissioning and mine reclamation, as the five specific sectors meriting
2 greater attention moving forward for San Juan County and its communities.¹⁹

3

4 As previously mentioned, the ETA initiates a clean energy transition for the entire state.
5 Critically, implementation of the ETA’s economic aid and replacement resource provisions for
6 the Four Corners must correlate with broader trends in sustainability and other rigorously vetted
7 alternatives that work to generate a long-term benefit to the communities of Northwestern New
8 Mexico.

9

10 **Q: WHAT OTHER COMPONENTS OF THE ETA DO YOU SEE AS RELEVANT**
11 **TO PNM’S REPLACEMENT POWER OBLIGATIONS?**

12

13 **A:** ETA Section 3(A) states: “projects shall be ranked based on their cost, economic
14 development opportunity and ability to provide jobs with comparable pay and benefits to those
15 lost due to the abandonment of a qualifying generating facility.” Energy Transition Act, Section
16 3(A). We know through the economic analysis of Dr. Kelly O’Donnell that there exists real
17 potential for job creation and replacement through the construction and operation of 450 MW of
18 renewable replacement power and storage at the SJGS location.²⁰

19

¹⁹ See *id.* at 14, 15, and 17.

²⁰ D. Kelly O’Donnell, *Tax and Jobs Analysis of San Juan Generating Station Closure* (Jan. 2019), available at: <https://www.nmvoices.org/wp-content/uploads/2019/01/San-Juan-Tax-Study-report.pdf>.

1 ETA Section 3(B) states: “In determining whether to approve replacement resources, the
2 commission shall prefer resources with the least environmental impacts, those with higher ratios
3 of capital costs to fuel costs and those able to reduce the cost of reclamation and use for lands
4 previously mined within the county of the qualifying generating facility.” CCAE’s proposed all-
5 renewable scenario satisfies each of these provisions. Renewables have no fuel costs and, as a
6 direct effect of not being tethered to an emissions-producing fuel source, are extremely low-
7 impact on the environment and the health of nearby communities. Additionally, the reuse of
8 SJGS lands and assets for solar and battery storage will result in much lower reclamation costs of
9 the coal plant and coal mine sites, another stipulation of the ETA.

10

11 **Q: ARE THERE ANY OTHER PROVISIONS OF THE ETA YOU SEE AS BEING**
12 **IMPORTANT TO PNM’S CHOICE OF REPLACEMENT GENERATION?**

13

14 **A:** Yes. ETA Section 3(F) states, “As used in this section, ‘replacement resources’ means up
15 to four hundred fifty megawatts of nameplate capacity identified by the qualifying utility as
16 replacement for a qualifying generating facility, and may include energy storage capacity;
17 provided that such resources are located in the school district in New Mexico where the
18 abandoned facility is located, are necessary to maintain reliable service and are in the public
19 interest as determined by the commission.” Energy Transition Act, Section 3(F). Read within
20 context, this requires PNM to locate up to 450 MW of replacement power in the Central
21 Consolidated School District. It is SJCA’s position that, in order to honor the spirit and intent of
22 the ETA, the final approved number of megawatts of replacement power or storage sited in
23 CCSD should come as close as possible to this 450 MW figure.

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Additionally, ETA Section 3(B) reflects the legislature's preference for "resources with the least environmental impacts," which is of utmost importance to a meaningful and successful transition. The spirit of the ETA is to catalyze a transition to a cleaner and more sustainable future energy economy. Such a transition is incompatible with additional fossil fuel generation and the associated adverse impacts on our environment and communities. The construction of new sources of greenhouse gas emissions should no longer be an option in a state already experiencing the negative impacts of climate change.

Q: DOES CCAE'S PROPOSED ALL-RENEWABLES SCENARIO SATISFY THE REPLACEMENT RESOURCES AND ENVIRONMENTAL STANDARDS SET BY THE ETA?

A: Yes. As mentioned above, the proposed all-renewables scenario by CCAE locates a full 430 MW of replacement generation and storage in CCSD, representing a substantial investment in the school district and regional economy. The proposed scenario does this while minimizing any potential costs to PNM and its ratepayers. Additionally, of importance to the communities of Northwest New Mexico, CCAE's all-renewables scenario mitigates damage to the environment and the health of local residents.

Q: DO YOU BELIEVE CCAE'S PROPOSED ALL-RENEWABLES SCENARIO ADDRESSES SOME OF THE CONCERNS OF OTHER ENTITIES IN THE REGION WITH REGARDS TO THE ECONOMIC EFFECTS OF SJGS ABANDONMENT?

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A: Yes, I do. In his Direct Testimony, Mr. Warren Unsicker mentions both concerns about the economic impacts of SJGS closure, as well as his support of transition funding and the full 450 MW of replacement power sited in CCSD.²¹ CCAE’s all-renewables scenario represents 430 MW of replacement portfolio assets located in CCSD, coming 150 MW closer than the 280 MW Piñon Gas Plant currently proposed by PNM toward reaching the 450 MW desired by Mr. Unsicker. Additionally, an all-renewables scenario results in a \$447 million investment in CCSD and, by nature of its size, will come far closer to a replacement of property tax revenues than the Piñon Gas Plant proposal. Per the economic analysis of Dr. Kelly O’Donnell, the economic opportunities provided by a transition to renewables (solar) for the region would extend much farther than simply the construction period of replacement power, but would also likely enhance other economic sectors in the region, such as that of tourism and outdoor recreation.²²

Q: WHAT IS YOUR RECOMMENDATION TO THE COMMISSION WITH REGARDS TO THE STANDARDS SET BY THE ETA AND ITS APPLICATION IN THIS CASE?

A: It is my recommendation that the Commission apply the Energy Transition Act to the fullest extent possible in this Case, including the siting of the maximum possible number of megawatts of replacement assets in the Central Consolidated School District. The Energy

²¹ Direct Testimony of Warren Unsicker, at 8, 9.

²² See Dr. Kelly O’Donnell, *Economic Opportunities in the Four Corners Area*, (July 2018), available at: https://www.sanjuancitizens.org/wp-content/uploads/2018/07/2018-Economic-Opportunities-in-the-Four-Corners-Area_FINAL-180716.pdf.

1 Transition Act holds, at its core, a roadmap for transitioning to a cleaner, more sustainable clean
2 energy economy. Given the ETA’s preference for replacement resources with the least
3 environmental impacts and least fuel costs, I believe this should preclude any substantial
4 commitment to additional fossil fuel assets. I further recommend the Commission uphold, to the
5 greatest extent possible, the ETA’s economic support provisions for the Four Corners Region
6 and the communities of Northwest New Mexico.

7

8 **IV. RELIANCE ON CARBON CAPTURE, UTILIZATION AND STORAGE**
9 **TECHNOLOGY AT SAN JUAN IS RISKY AND LIKELY INFEASIBLE, AND**
10 **SHOULD NOT DELAY A DECISION TO APPROVE CLEAN ENERGY**
11 **REPLACEMENT POWER IN THIS CASE.**

12

13 **Q: IS CCUS A FEASIBLE OPTION FOR PNM TO UTILIZE IN ORDER TO**
14 **CONTINUE OPERATING SJGS? PLEASE EXPLAIN WHY OR WHY NOT.**

15

16 **A:** No, it is not. PNM has already explored this option and deemed it uneconomic. In 2010,
17 PNM commissioned Sargent & Lundy, the same firm currently employed by Enchant Energy for
18 their *Front End Engineering and Design Study* (“FEED”), to produce an alternatives study that
19 included examining the installation of Carbon Capture, Utilization and Sequestration (“CCUS”)
20 technology on SJGS. Sargent & Lundy found the project technologically feasible, but the price
21 was deemed by PNM to be prohibitively expensive. The total combined cost to retrofit Units 1 &

1 4 at the time was projected to be \$1.8 billion.²³ Most recently, Enchant Energy has employed
2 Sargent & Lundy to complete a FEED study to evaluate a project of their own. A prefeasibility
3 phase of this study projected the minimum cost of such a project to be \$1.3 billion.²⁴ These
4 studies provide evidence for the reality that CCUS is still an expensive technology that is not yet
5 a practical business venture for PNM to invest in.

6
7 Testimony such as that of Mr. Solomon in this case that recommends that the
8 Commission should order PNM to re-analyze CCUS as a reasonable option for SJGS overlooks
9 the fact that PNM has already done so and fails to adequately anticipate the likely cost of such a
10 venture based on the reasonable indications of previously executed studies (billions of dollars).²⁵
11 The only salvageable economic basis for any CCUS project is predicated on receiving tax credits
12 and selling carbon dioxide for enhanced oil recovery, which is outside the core business of a
13 regulated public utility like PNM and likely to subject PNM's customers to an unacceptable level
14 of financial risk.

15

²³ Sargent & Lundy, *Alternatives Study, San Juan Generating Station*, PNM (Feb 25, 2010), available at: https://www.pnm.com/documents/396023/3306887/SJGS+Alternatives+Study_Feb10.pdf/65bf3b86-7e59-4ff6-8a40-02b85811f294.

²⁴ Sargent & Lundy, *Enchant Energy, San Juan Generating Station – Units 1 & 4: CO2 Capture Pre-Feasibility Study* (July 8, 2019), available at: https://www.enchantenergy.com/wp-content/uploads/2019/07/Enchant-Energy_SJGS-CO2-Pre-feasibility-Study_FINAL-Rev-0-7-8.pdf.

²⁵ See generally, Direct Testimony of Djiraj Solomon.

1 **Q: IS CCUS A FEASIBLE OPTION FOR ANY OTHER ENTITY TO UTILIZE IN**
2 **ORDER TO CONTINUE OPERATING SJGS? PLEASE EXPLAIN WHY OR WHY**
3 **NOT.**

4
5 **A:** No, it is not for a few reasons. Firstly, the 45Q Tax Credits currently being cited by
6 Enchant Energy are as of yet still unattached to tax code regulations which creates risk about the
7 qualifications for receiving them. Research has shown that large areas of the San Juan Basin (in
8 the Fruitland Formation) may not be compatible with long-term carbon storage and
9 sequestration. For example, a study by scientists at NM Tech concluded that:

10

11 "Overall, the analysis presented in this study suggests the presence of extensive
12 fracture systems within the sealing strata. Interpreted fracture systems could
13 increase the probability of long-term CO2 leakage."²⁶

14

15 Further, these credits represent a multi-billion-dollar subsidization of fossil fuels and it is
16 reasonable to expect them to suffer immense pressures and volatility in response to climate
17 change in upcoming years. In addition, the eligibility of any carbon dioxide emissions
18 additions/reductions for tax benefits are highly uncertain and suspect given the intent by Enchant
19 to use carbon dioxide to enhance oil recovery in the Permian Basin of southeast New Mexico,
20 which will lead to additional greenhouse gas emissions from oil production and end use
21 combustion.

²⁶ Thomas H. Wilson, *et al.*, *Fracture evaluation of the Southwest Regional Partnership's San Juan Basin Fruitland coal carbon sequestration pilot site, New Mexico*, Southwest Carbon Partnership, New Mexico Tech (March 2010), at 28.

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In addition, in testimony provided by Charles Griffey,²⁷ he says that SJGS with CCUS would only operate until 2034. Similar to scenarios for replacement power for SJGS that includes natural gas, an 11-year life span for project reliant on 45Q tax credits does not provide San Juan County and/or CCSD necessary long-term tax or economic transition benefits.

Second, CCUS installation on SJGS is not feasible within the necessary timeline. The current FEED study commissioned by Enchant Energy will not provide meaningful analysis of key feasibility aspects until April 2021. Enchant’s Project Management Plan explains that, “Enchant’s intention is to move forward into final detailed design, procurement, and installation upon completion of the FEED study should the results of this study show the project to be feasible and economically viable.²⁸ As stated, Enchant won’t know whether their CCUS project is feasible until April of 2021 at the earliest, and would not commission the project for operation until the first half of 2023 (Response to October 25, 2019 Bench Request Order To City of Farmington). The project that Enchant frequently touts, Petra Nova in Texas, required 6 years from concept to construction (2009-2016). Enchant’s highly speculative project is further clouded by uncertainty surrounding the cost of produced power in any CCUS scenario and Enchant’s ability to competitively price electricity for power purchase agreements (“PPAs”) or compete in the merchant market.²⁹ For example, while San Juan County and City of Farmington

²⁷ Direct Testimony of Charles S. Griffey, at 11.

²⁸ Enchant Energy, LLC, *Project Management Plan: Large-Scale Commercial Carbon Capture Retrofit of the San Juan Generating Station*, submitted to: U.S. Department of Energy, National Energy Technology Laboratory (May 9, 2019), at 4.

²⁹ Rebuttal Testimony of David A. Schlissel, Case No. 19-00018-UT.

1 Witness Schiffman states: “While we are just beginning the FEED study, based on initial
2 assessment, I believe there is strong potential that the Farmington-Enchant Project can structure a
3 PPA that has price and non-price terms that are favorable to PNM and other utility systems and
4 their ratepayers,” he provides absolutely no data, analysis, or additional information to support
5 this assertion.³⁰ Further, there is also tremendous uncertainty about attainable capacity factors,
6 parasitic loads of CCUS, and the amount of Carbon dioxide that could ultimately be captured.
7 This, combined with permitting issues, ownership logistics and construction externalities, would
8 likely push any project back years before SJGS could operate lawfully under the ETA.

9
10 Finally, the issue of deferred maintenance will prove an obstacle for any entity hoping to
11 continue operation of SJGS post-abandonment by PNM. It is my understanding that as a utility
12 prepares for abandonment of a plant they are required to minimize their investment in the asset in
13 order not to unduly pass costs to ratepayers. It is reasonable to expect this is already happening at
14 SJGS and will greatly increase capital cost requirements inherited by any future owner of the
15 plant.³¹

16
17 Enchant’s proposed CCUS project for SJGS is in essence a far-fetched quest for a
18 subsidized, tax credit-based carbon dioxide manufacturing facility, blind to the costs of coal
19 generated electricity, environmental liabilities, and historic legacies of the site.

20

³⁰ Direct Testimony of Roger Schiffman, at 5.

³¹ See, e.g., Hannah Grover, *Looking Forward: PNM employees are preparing for the closure of San Juan Generating Station*, Farmington Daily Times (Sept. 28, 2019), available at: <https://www.daily-times.com/story/news/local/2019/09/28/pnm-san-juan-generating-station-coal-power-plant-closure/3789521002/>.

1 **Q: ARE THERE ANY ADDITIONAL REASONS THAT CCUS MIGHT NOT BE A**
2 **FEASIBLE OPTION FOR A PARTY OTHER THAN PNM TO UTILIZE TO**
3 **CONTINUE OPERATION OF SJGS?**

4
5 **A:** Yes. If you refer to the December 12, 2019 Rebuttal Testimony of Thomas G. Fallgren to
6 City of Farmington’s Response to October 25, 2019 Bench Request in Case 19-00018-UT, Mr.
7 Fallgren calls into doubt the transferability of several key assets likely required for successful
8 operation of the plant without debilitating delays. Per Mr. Fallgren’s rebuttal, it appears the
9 transfer of PNM’s ownership of these assets to a third party is less than guaranteed, and assets
10 such as PNM’s NM Air Quality Permits and transmission rights are not part of any transfer.³²

11
12 There is also a high level of uncertainty with the City of Farmington’s pursuit of CCUS
13 that highlights the prudence of contingency planning for the Four Corners area to benefit from
14 energy transition. According to testimony by Unsicker concerning ETA Section 16 funds, “It is
15 Farmington’s goal that operation of the SJGS as a CCUS facility will materialize into a reality
16 and is working closely with Enchant to facilitate the project. The project, however, is still in the
17 planning phases. Despite Farmington’s best hopes and efforts, planning needs to occur and
18 funding needs to be available if it turns out that the SJGS cannot be converted into a CCUS
19 facility for technical, legal, regulatory or financial reasons. Since the FEED feasibility study for
20 CCUS at SJGS is not expected to be completed until April of 2021 2021 or begin operations
21 under a best-case scenario until mid-2023, and since this project is subject to many sources of
22 tremendous risk and uncertainty, there is no present justification for the Commission to follow

³² See Rebuttal Testimony of Thomas G. Fallgren, Case No. 19-00018-UT.

1 the recommendations of Charles Griffey or Steven Pierro, to consider a San Juan PPA as part of
2 an alternative replacement resource, or delay approving a replacement portfolio in favor of short-
3 term PPAs.³³

4

5 **Q: WHAT IS YOUR RECOMMENDATION TO THE PRC WITH REGARDS TO**
6 **CCUS AS A POTENTIAL ASSET IN THIS CASE?**

7

8 **A:** It is my recommendation that the Public Regulation Commission should not require PNM
9 to explore CCUS as a reasonable path forward for SJGS and avoid allowing it to play an
10 obstructive role in Commission decisions concerning the future assets sited in San Juan County.
11 CCUS is an expensive, unproven technology, relies on the already-collapsed market for coal and
12 subsidies, and will set any entity involved in it critically behind during a time of active transition
13 towards a cleaner, sustainable future for our state and region.

14

15 **V. SUMMARY**

16

17 **Q: PLEASE SUMMARIZE YOUR TESTIMONY.**

18

19 **A:** SJCA is a proponent of an all-renewables and storage portfolio in the Four Corners
20 Region and sees renewables as being key to long-term economic success in the communities of
21 Northwestern New Mexico. The replacement scenario proposed by CCAE is aligned with the
22 economic needs of the region and protects the health and environmental interests of its residents,

³³ See Direct Testimony of Roger Schiffman, at 7, 8; Direct Testimony of Steven Pierro, at 5.

1 all while shielding PNM's ratepayers from adverse impacts to savings. Additionally, I believe an
2 all-renewables and storage scenario such as that proposed by CCAE upholds the spirit and
3 provisions of the ETA regarding investment in Central Consolidated School District, economic
4 relief for regional communities and replacement assets closest to 450 MW. I recommend the
5 Commission approve the clean energy portfolio proposed by CCAE.

6

7 Finally, CCUS is an unproven and expensive technology and should not be explored as a
8 potential path forward for operation of SJGS. Northwest New Mexico is in need of a sustainable
9 energy economy that will support its workforce for many years to come and give it an active role
10 in the current statewide energy transition. It is my recommendation that recommendations to
11 pursue CCUS be denied by the Commission.

12

13 **Q: DOES THIS CONCLUDE YOUR TESTIMONY?**

14

15 **A:** Yes, it does.

16

17

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BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

**IN THE MATTER OF PUBLIC SERVICE)
COMPANY OF NEW MEXICO'S)
CONSOLIDATED APPLICATION FOR)
APPROVALS FOR THE ABANDONMENT,)
FINANCING ORDER, AND RESOURCE)
REPLACEMENT FOR SAN JUAN)
GENERATING STATION PURSUANT TO)
THE ENERGY TRANSITION ACT)**

Case No. 19-00195-UT

AFFIDAVIT

STATE OF NEW MEXICO)
)
COUNTY OF SAN JUAN)

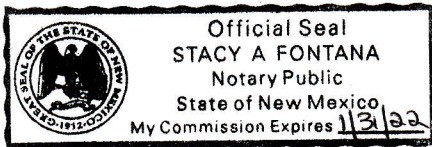
**I, MICHAEL EISENFELD, Energy and Climate Program Manager of the San Juan
Citizens Alliance, declare that the foregoing statements are true and correct to the best of my
knowledge, information, and belief, and are based on my personal experience.**

SIGNED this, 13 day of January, 2020.

Michael Eisenfeld

MICHAEL EISENFELD

SUBSCRIBED AND SWORN to before me, this 13th day of January, 2020.



Stacy Fontana

**NOTARY PUBLIC IN AND FOR
THE STATE OF NEW MEXICO**

My Commission Expires:

Jan 31, 2022

ATTACHMENT 1, Case No. 19-00195-UT

MICHAEL A. EISENFELD

**8200 SAN LUCAS COURT
FARMINGTON, NEW MEXICO 87402
(505) 564-3006**

EDUCATION

UNIVERSITY OF DENVER, DENVER, COLORADO 1994

M.A. ENVIRONMENTAL POLICY AND MANAGEMENT

BATES COLLEGE, LEWISTON, MAINE 1985

B.A. HISTORY

EXPERIENCE SUMMARY

Mike Eisenfeld has worked for the San Juan Citizens Alliance for 14 years as an Energy Coordinator/Energy and Climate Program Manager on the Colorado Plateau. He specializes in National Environmental Policy Act (NEPA), Endangered Species Act (ESA), Clean Water Act (CWA) and Federal Land Policy & Management Act (FLPMA) compliance. Mr. Eisenfeld's program work includes coal, oil and gas, air quality, water, renewable energy, and public lands. Prior to working for San Juan Citizens Alliance, Mr. Eisenfeld had 11 years of experience as a Project Manager/Environmental Consultant in the southwestern United States managing and supervising multi-disciplinary teams working on project related analyses and compliance.

PROFESSIONAL EXPERIENCE

2007-Present ENERGY COORDINATOR/ENERGY AND CLIMATE PROGRAM MANAGER, SAN JUAN CITIZENS ALLIANCE, FARMINGTON, NEW MEXICO

Mr. Eisenfeld works on coal-fired power plants, coalmines, oil and gas, air quality, water, renewable energy and public lands. Responsibilities include regulatory/technical oversight, coordination with legal challenges, community organizing, project comment development, and regional strategizing to transition the Four Corners region to sustainable energy projects. Specific projects worked on include Coal (the proposed Desert Rock Energy project, the Four Corners Power Plant/Navajo Mine, the San Juan Generating Station/San Juan Mine, El Segundo Mine, Coal Combustion Waste, transmission lines), Oil and Gas (Resource Management Planning, leases, exploration and development, processing, Mancos Shale and air quality), Air Quality (natural gas contributions to air pollution, methane, coal emissions, ozone, Regional Haze), Water (energy project and water use nexus), Renewable Energy (siting of solar and wind projects), and Public Lands (Protection of multiple use principles, protection of Chaco Culture National Historical Park). Mr. Eisenfeld is a proficient technical writer for regulatory comments to challenge permits and projects. Mr. Eisenfeld has successfully navigated working in an extractive energy intensive region of the U.S. complicated by historic, political, economic and cultural factors.

2004-2007 SENIOR PROJECT MANAGER, TETRA TECH, INC. - FARMINGTON, NEW MEXICO

Mr. Eisenfeld served as a Project Manager/Environmental Consultant/Technical Writer for the Farmington office of a national environmental consulting firm. He was responsible for office management, personnel oversight, business development, integration with other Tetra Tech offices and project management. Mr. Eisenfeld's professional experience includes the preparation of Environmental Assessments (EAs), Environmental Impact Statements (EISs), Resource Management Plans (RMPs), Biological Assessments (BAs), CWA permitting for Sections 401, 402 and 404, Clean Air Act (CAA) compliance and the preparation of Phase I and Phase II Environmental Site Assessments.

1996-2003 PROJECT/OFFICE MANAGER, ECOSPHERE ENVIRONMENTAL SERVICES - FARMINGTON, NEW MEXICO

Mr. Eisenfeld managed diverse projects on federal, state, tribal and private land in the Four Corners region. Mr. Eisenfeld has regulatory project experience with the Bureau of Land Management (BLM), United States Forest Service (USFS), Bureau of Reclamation (USBR), United States Army Corps of Engineers (USCOE), Environmental Protection Agency (EPA) and Bureau of Indian Affairs (BIA). Mr. Eisenfeld was responsible for regulatory compliance with statutes and accurate consultations with state, federal and tribal agencies. Mr. Eisenfeld's skills include coordination and scheduling of biological field surveys, site analysis, preparation and review of technical environmental documents, client/agency consultation and coordination, marketing and business development, proposal writing and submittal, budget tracking, and personnel management and supervision. Mr. Eisenfeld facilitated interdisciplinary analysis of multiple use impacts, requiring critical analysis and problem-solving capabilities. Principal technical writer for Third Party preparation of NEPA documents for projects on federal and tribal lands. Retained by clients to analyze federal agency documents (RMPs and Forest Plans) for planning purposes pertaining to FLPMA.

Mr. Eisenfeld's permitted field experience includes surveys and habitat evaluations for Southwestern willow flycatcher, Mexican spotted owl, raptors, and numerous cactus species, as well as environmental baseline surveys.

1995 PROJECT LEADER, STUDENT CONSERVATION ASSOCIATION, INC. - SPRINGDALE, UTAH

Project Leader for natural resource work project in Zion National Park in Kolob Canyon for six teenage volunteers building trails and fences. Taught environmental education curriculum and minimum impact outdoor skills; directed professional interaction between National Park personnel and volunteers to accomplish work goals. Exhibited leadership in teaching and supervision.

1991-1992 RESEARCH ASSISTANT (INTERN), LAND & WATER FUND OF THE ROCKIES - BOULDER, COLORADO

Responsible for assessments of utility proposals for energy generation. Assisted utilities in energy management programs through quantified economic and environmental studies, and technical scientific analysis. Evaluated energy strategies and policies in the Rocky Mountain region. Published research in Land & Water Fund's energy study How the West Can Win.

**1991 WILDERNESS FIELD INSTRUCTOR, FREER WILDERNESS THERAPY
EXPEDITIONS - PORTLAND, OREGON**

Worked in conjunction with therapists on intensive 21-day backcountry trips providing treatment to at-risk adolescents. Responsible for all course logistics; provided outdoor skill training for participants; supported individual and group therapy sessions which facilitated the development of life management skills.

**1986-1990 ENVIRONMENTAL EDUCATOR, WILDERNESS VENTURES - JACKSON,
WYOMING**

Program Director/Environmental Educator for environmental education programs teaching outdoor skills to high school students in Alaska, the Northern Rockies, and the Pacific Northwest. Responsible for program curriculum; budget management; annually instructed and supervised 6 staff members and 30 students in natural resources, natural science, and related issues.

1984-1993 OWNER, ART BUSINESS - BOULDER, COLORADO

Designed, created and marketed line of painted clothing.

PROFESSIONAL AFFILIATIONS

Former member of the New Mexico BLM Resource Advisory Council (RAC). Appointed to three-year term (2002-2004) by Secretary of the Interior, United States Department of the Interior.

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

**IN THE MATTER OF PUBLIC SERVICE)
COMPANY OF NEW MEXICO'S)
CONSOLIDATED APPLICATION FOR)
APPROVALS FOR THE ABANDONMENT)
FOR SAN JUAN GENERATING STATION)
PRUSUANT TO THE ENERGY)
TRANSITION ACT)**

Case No. 19-00195-UT

CERTIFICATE OF SERVICE

I CERTIFY that on this date I sent to the parties and individuals listed here, via email only, a true and correct copy of the **Rebuttal Testimony of Michael Eisenfeld**.

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DATED this January 13, 2020.



Kyle J. Tisdel