

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

AMENDED APPLICATION FOR APPROVAL OF EL PASO ELECTRIC COMPANY'S AMENDED 2019 RENEWABLE ENERGY PLAN AND 2020 RENEWABLE ENERGY PLAN PURSUANT TO THE RENEWABLE ENERGY ACT AND 17.9.572 NMAC, AND THIRD REVISED RATE NO. 38-RPS COST RIDER

Case No. 19-00099-UT

AND

IN THE MATTER OF EL PASO ELECTRIC COMPANY'S APPLICATION FOR APPROVAL OF LONG-TERM PURCHASED POWER AGREEMENTS WITH HECATE ENERGY SANTA TERESA, LLC, BUENA VISTA ENERGY, LLC, AND CANUTILLO ENERGY CENTER LLC

Case No. 19-00348-UT

PUBLIC NON-CONFIDENTIAL

DIRECT TESTIMONY OF

DEVI GLICK

ON BEHALF OF NEW MEXICO OFFICE OF THE ATTORNEY GENERAL

JANUARY 23, 2023

TABLE OF CONTENTS

LIST OF EXHIBITS	3
LIST OF FIGURES	3
List of Tables	3
1. Introduction and purpose of testimony	4
2. Findings and recommendations	7
3. EPE is requesting to amend its PPAs for Hecate and Buena Vista and to pass the associated costs on to its ratepayers	9
i. EPE is requesting to amend its PPAs for Hecate and Buena Vista to delay both projects and increase the price for the Buena Vista projects.	9
ii. EPE’s ratepayers will bear the impact of higher PPA costs, therefore the Commission should be vigilant in reviewing amended PPAs to protect ratepayers from unnecessary costs and changes	14
4. EPE’s analysis and my own independent analysis confirms that the amended PPAs are still in the best interest of EPE ratepayers compared to alternatives	25
iii. EPE conducted limited analysis on the cost of the PPA amendments for Buena Vista and Hecate	26
iv. Synapse analysis shows that EPE ratepayers will benefit from the PPA amendments relative to alternative resource options	27

LIST OF FIGURES

Figure 1. Evaluation period and components for the original PPA (negotiated COD), amended PPA, and all five alternatives.....	33
Figure 2: Confidential net present value of amended Buena Vista and Hecate PPAs and alternatives.	35
Figure 3. EPE 2020 energy fuel mix.....	41

LIST OF TABLES

Table 1. Buena Vista and Hecate project summary	10
Table 2. Original PPA and proposed PPA amendment	11
Table 3. PPAs with a price increase.....	17
Table 4. Original and amended security fund amounts	18
Table 5. Confidential Cost of replacement power from existing EPE natural gas generators (from the amended PPAs' COD until the new solar PPAs' COD in 2027), relative to maximum damages available in the amended PPAs.....	20
Table 6. Confidential Net present value of the original and amended PPAs.....	30
Table 7. Confidential net present value of amended Buena Vista and Hecate PPAs and alternatives	34

1 **1. INTRODUCTION AND PURPOSE OF TESTIMONY**

2 **Q Please state your name and occupation.**

3 **A** My name is Devi Glick. I am a Senior Principal at Synapse Energy Economics,
4 Inc. (“Synapse”). My business address is 485 Massachusetts Avenue, Suite 3,
5 Cambridge, Massachusetts 02139.

6 **Q Please describe Synapse Energy Economics.**

7 **A** Synapse is a research and consulting firm specializing in energy and
8 environmental issues, including electric generation, transmission and distribution
9 system reliability, ratemaking and rate design, electric industry restructuring and
10 market power, electricity market prices, stranded costs, efficiency, renewable
11 energy, environmental quality, and nuclear power.

12 Synapse’s clients include state consumer advocates, public utilities commission
13 staff, attorneys general, environmental organizations, federal government
14 agencies, and utilities.

15 **Q Please summarize your work experience and educational background.**

16 **A** At Synapse, I conduct economic analysis and write testimony and publications
17 that focus on a variety of issues related to electric utilities. These issues include
18 power plant economics, electric system dispatch, integrated resource planning,
19 environmental compliance technologies and strategies, and valuation of
20 distributed energy resources. I have submitted expert testimony before state utility
21 regulators in more than a dozen states.

1 In the course of my work, I develop in-house models and perform analysis using
2 industry-standard electricity power system models. I am proficient in the use of
3 spreadsheet analysis tools, as well as optimization and electric dispatch models. I
4 have directly run EnCompass and PLEXOS and have reviewed inputs and outputs
5 for several other models.

6 Before joining Synapse, I worked at Rocky Mountain Institute, focusing on a
7 wide range of energy and electricity issues. I have a master's degree in public
8 policy and a master's degree in environmental science from the University of
9 Michigan, as well as a bachelor's degree in environmental studies from
10 Middlebury College. I have more than 10 years of professional experience as a
11 consultant, researcher, and analyst. A copy of my current resume is attached as
12 Exhibit DG-1.

13 **Q On whose behalf are you testifying in this case?**

14 **A** I am testifying on behalf of the Office of the New Mexico Attorney General.

15 **Q Have you testified previously before the New Mexico Public Regulation
16 Commission (“PRC” or “Commission”)?**

17 **A** Yes. I submitted testimony in Case No. 22-00093-UT, 21-00200-UT and 19-
18 00170-UT.

19 **Q What is the purpose of your testimony in this proceeding?**

20 **A** In this proceeding, I review the amended application of El Paso Electric Company
21 (“EPE” or “The Company”) for the power purchase agreements (PPA) with
22 Hecate Energy Santa Teresa, LLC (Hecate) and Buena Vista Energy LLC (Buena
23 Vista). I evaluate the analysis presented by the Company and conduct my own

1 analysis to find whether the amended PPAs are still in the best interest of EPE's
2 ratepayers relative to the cost of alternatives (inclusive of damages). I assess
3 whether the requested amendments are reasonable, and if EPE took reasonable
4 actions to monitor and manage the projects and protect ratepayers. Finally, I
5 outline my recommendations to the Commission on actions it can take to protect
6 ratepayers in the current market with inflation and supply chain challenges.

7 **Q How is your testimony structured?**

8 **A** In Section 2, I summarize my findings and recommendations for the Commission.
9 In Section 3, I describe EPE's proposal to amend the PPAs for the Buena Vista
10 and Hecate projects and outline how the amendments are different than the
11 original PPAs. I also discuss how the Commission should increase oversight and
12 scrutiny over PPAs and future amendments to reduce risks and undue costs
13 imposed on ratepayers.

14 In Section 4, I summarize my analysis comparing the cost and risks of the
15 amended PPAs with the cost and risks of alternative supply options. I discuss
16 whether the amended PPAs are still in the best interest of EPE ratepayers.

17 **Q What documents do you rely upon for your analysis, findings, and**
18 **observations?**

19 **A** My analysis relies primarily upon the workpapers, exhibits, and discovery
20 responses of EPE's witnesses. I also rely on other publicly available documents.

1 **2. FINDINGS AND RECOMMENDATIONS**

2 **Q Please summarize your findings.**

3 **A** My primary findings are:

- 4 1. Even at the amended price and project timeline, the Buena Vista and
5 Hecate projects are still in the best interest of EPE ratepayers. If the
6 amendments are not approved, ratepayers will face higher costs and higher
7 risks from market exposure, gas price volatility, and uncertainty in future
8 project development costs and timelines.
- 9 2. EPE's request for a price increase and project delays is not unique or
10 unreasonable in the current market – with supply chain challenges and
11 increased inflation, I have seen an uptick in PPA amendments across the
12 country that seek to increase project prices and shift back project
13 timelines.
- 14 3. Based on the Company's analysis, as well as my own independent
15 analysis, I find that the replacing the PPA energy with alternative supply
16 options—specifically a combination of replacement energy from the
17 market, the Company's existing gas resources, or new solar PPAs—will
18 cost between [REDACTED] million more than the amended PPA.
- 19 4. The Buena Vista and Hecate PPAs amendments also protect ratepayers by
20 reducing their exposure to future fuel and market price volatility.
- 21 5. There are many things EPE can and should do, both now and in signing
22 future PPAs to limit risks to ratepayers and increase oversight of
23 developer actions under PPAs.

24 **Q Please summarize your recommendations.**

25 **A** Based on my findings, I offer the following recommendations:

- 26 1. The Commission should approve EPE's request for the PPA amendments
27 for Buena Vista and Hecate.

- 1 2. In this, and all future cases where EPE seeks a PPA for a price increase or
2 project delay, the Commission should require increased transparency of
3 the analysis behind the requested price increase. This includes an
4 estimation of the costs that will be incurred by ratepayers due to the
5 change in price or timeline and documentation showing how project
6 materials and labor costs have increased between the present and when the
7 PPA was signed, documentation showing how much of the cost increase
8 the developer is taking on, as well as demonstration that the cost increase
9 does not provide the developer with higher profit than under the original
10 PPA.
- 11 3. In this and all future PPAs and PPA amendments, EPE should be required
12 to provide clear and transparent information on the amount of the
13 damages, how they are calculated, and the time period of replacement
14 energy covered. This will allow the Commission to better weigh the cost
15 of the power and the risks imposed on ratepayers.
- 16 4. In this and all future PPA amendments, EPE should file documentation
17 showing how, in light of the delays, the developer can be reasonably
18 expected to deliver the project on the amended timeline—this should
19 include documentation of construction milestones and progress to date,
20 and a projected milestone schedule for completing additional phases of the
21 project. EPE should regularly amend and update this whenever new
22 information becomes available.
- 23 5. Now, and for any project with a delayed Commercial Operation Date
24 (“COD”), after the projects come online, EPE should evaluate the actual
25 impact of the projects’ delays on customers (i.e., the cost of buying from
26 the market or relying on alternatives, and total damages awarded to EPE, if
27 any) and provide this information to the Commission in a report. This
28 should be required regardless of whether the delay was agreed to under the
29 original PPA or an amendment PPA.
- 30 6. The Commission should require EPE to exercise increased oversight of
31 project development and construction, and provide regular public
32 reporting on project progress, and how progress matches with projected

1 milestones. In the case of delays, EPE should document reasons for the
2 delay, and actions taken to mitigate impacts on ratepayers.

3 7. In the amended PPA, and in all future PPAs, the Commission should
4 require EPE to explicitly outline the conditions under which re-negotiation
5 of a PPA COD is permitted without breaching the contract and incurring
6 damages. In the event of a delay, EPE should be required to file notice of
7 the delay with the Commission, and EPE should be required to estimate in
8 advance and report the costs that it projects it will incur in the time
9 between the original COD and the delayed COD. These reported costs
10 should include those incurred to procure replacement resources and
11 compensation/damages the developer is providing for the delays.

12 **3. EPE IS REQUESTING TO AMEND ITS PPAs FOR HECATE AND BUENA VISTA AND TO**
13 **PASS THE ASSOCIATED COSTS ON TO ITS RATEPAYERS**

14 ***1. EPE is requesting to amend its PPAs for Hecate and Buena Vista to delay both***
15 ***projects and increase the price for the Buena Vista projects.***

16 **Q What is EPE requesting in this docket?**

17 **A** EPE is requesting an amendment to the PPAs for Buena Vista 1 and Buena Vista
18 2 (together, the Buena Vista Project) and Hecate 1 and Hecate 2 (together the
19 Hecate Project). Specifically, for the Buena Vista Project, EPE seeks approval to
20 increase the solar PPA price by \$3.50/MWh and delay the commercial operation
21 date (COD) until June 2023. For the Hecate Project, EPE seeks approval to delay
22 the COD until June 2024.

1 **Q Please provide an overview of the Buena Vista and Hecate projects.**

2 **A** The details of the projects are summarized in Table 1 below. Buena Vista 1
3 includes 100 MW of solar PV and 50 MW of battery storage, and Buena Vista 2
4 includes of 20 MW of solar PV. The project is being developed by NextEra.

5 Hecate 1 includes 100 MW of solar PV and Hecate 2 includes 50 MW of solar
6 PV. Hecate Energy is the project developer.

7 Buena Vista 1 and Hecate 1 are intended to serve New Mexico and Texas load.
8 Buena Vista 2 and Hecate 2 are intended to help EPE meets its Renewable
9 Portfolio Standard (RPS) requirements in New Mexico and is intended to only
10 serve New Mexico load.¹

11 **Table 1. Buena Vista and Hecate project summary**

Project Name	PPA Date	Nameplate Capacity (MW)	First Year output (MWh)	Project Developer
BV1 Solar	10/2019	100	349,692	NextEra
BV1 Storage	10/2019	50	-	NextEra
BV2 Solar	3/2020	20	62,688	NextEra
Hecate 1 Solar	10/2019	100	286,638	Hecate Energy
Hecate 2 Solar	3/2020	50	143,319	Hecate Energy

12 *Source: Amended Application of EPE*

¹ Direct Testimony of Hawkins, Pg. 5.

1 **Q How do the requested amendments differ from the original terms of the**
 2 **PPAs?**

3 **A** As shown in Table 2 below, the proposed amendment pushes back the online date
 4 for the Buena Vista Project by 7 months, shifting it from November 2022 to June
 5 2023. For Hecate 1, the amendment pushes back by 18 months the project’s
 6 online from December 2022 to June 2024; for Hecate 2 the online date is pushed
 7 back 13 months from May 2023 to June 2024.

8 Under the amendments, the price of the solar in Buena Vista 1 and 2 increases by
 9 \$3.50/MWh. The price of the battery storage in Buena Vista 1 and the solar in
 10 Hecate 1 and 2 do not change.

11 **Table 2. Original PPA and proposed PPA amendment**

Project Name	Original PPA				Amended PPA		
	PPA Date	Original COD*	Negotiated COD*	PPA Cost (\$/MWh)	Amendment Date	COD	Cost (\$/MWh)
BV1 Solar	10/19	05/22	11/22	\$20.99	07/22	06/23	\$24.49
BV1 Storage	10/19	05/22	11/22	\$5.36/kW-month	07/22	06/23	\$5.36/kW-month
BV2	03/20	05/22	11/22	\$19.88	07/22	06/23	\$23.38
Hecate	10/19	05/22	12/22	\$14.99	10/22	06/24	\$14.99
Hecate 2	03/20	05/22	05/23	\$18.93	10/22	06/24	\$18.93

12 *Source: Amended Application of EPE*
 13 ** The Original COD is the COD from the 2019 and 2020 PPAs. The Negotiated COD is a date*
 14 *that EPE negotiated under the original PPA once it became clear the projects would be delayed*
 15 *coming online. The Negotiated COD is the “status quo” date the projects are obligated to be*
 16 *online in the absence of the proposed amendments.*

1 **Q Why do you compare the amended COD to a negotiated COD instead of the**
2 **original COD?**

3 **A** For each project, EPE agreed to an extension from the original COD of May 2022
4 under the original PPA. I will refer to the extended dates agreed to under the
5 original PPA as the “negotiated COD.”

6 For Buena Vista, this original extension was prompted by a supply chain issue for
7 a communication cable necessary for the project.² For the Hecate projects, EPE
8 shifted the timeline because the developer found it was too tight for facility
9 construction and interconnection.³

10 A key point here is that EPE and the developers negotiated the new COD under
11 the original PPA because the delays were not classified as permitted delays. In
12 other words, EPE and the developers agreed to extend the COD to avoid the
13 developers defaulting and then incurring damages for the delay. It is unclear why
14 EPE allowed the developers to negotiate the extensions without any damages or
15 penalties. This is concerning going forward because ratepayers have no
16 assurances in the amended PPA that EPE will not once again negotiate an
17 additional extension with the developers without collecting damages to cover the
18 incremental costs that the delays impose on ratepayers.

² Amended application, Pg. 6; Direct Testimony of Hawkins, Pg. 8.

³ Amended application, Pg. 6; Direct Testimony of Hawkins, Pg. 20.

1 **Q Why is EPE now requesting a PPA amendment?**

2 **A** Both the Buena Vista and Hecate projects are now expected to experience a delay
3 beyond the negotiated CODs. This incremental delay is based on supply chain
4 issues that have impacted the availability of solar panels, as well as the
5 Department of Commerce investigation into “panel dumping”.⁴ In the case of
6 Buena Vista, NextEra also requested a price increase to secure solar panels during
7 this period of uncertainty⁵. In the case of Hecate, the Company focused on
8 maintaining the Commission-approved PPA price and requests only an extended
9 COD.⁶ Because of the additional delays and cost increases, EPE is requesting
10 approval for amendments to the original PPAs.

11 **Q Why does EPE seek approval for the amended PPAs rather than returning to**
12 **the market to re-bid new resources?**

13 **A** EPE asserts that, even with the amendments, the projects are still available at a
14 reasonable cost given the current supply chain issues faced by EPE’s contractual
15 counterparts.⁷ The Company also claims the projects are required to comply with
16 New Mexico’s RPS.

17 EPE cited the results it received from two all-source request for proposals (RFP)
18 it issued in 2021 for capacity needs in Texas and New Mexico (for both self-build
19 and PPA resources) to support its claim that the amended PPA prices are still

⁴ Amended application, Pg. 6; Direct Testimony of Hawkins, Pg. 7-8.

⁵ Amended application, Pg. 7.

⁶ Amended application, Pg. 6; Direct Testimony of Hawkins, Pg. 21.

⁷ Amended Application, Pg. 2.

1 lower cost and reasonable relative to alternatives. Specifically, the Company
2 found solar costs in the range of \$29/MWh–\$38/MWh and battery storage costs in
3 the range of \$9/kw-month to \$12/kW-month.⁸ This is compared to the
4 \$14.99/MWh–\$20.99/MWh range for the amended Buena Vista and Hecate solar
5 PV projects, and \$5.36/kw-month for Buena Vista battery storage.

6 Additional reasons EPE provided for proceeding with the projects are: (1) it
7 would take years (three-and-a-half to five years)⁹ to bring replacement resources
8 online if EPE abandoned these projects and went back out to bid new resources;¹⁰
9 (2) the interconnection work for Buena Vista is essentially complete;¹¹ (3) the
10 damages that EPE would receive from NextEra if EPE canceled the project (\$15.2
11 million) are not sufficient to cover the replacement resource costs (\$15.5 million
12 for the summer of 2023).¹²

13 *ii. EPE’s ratepayers will bear the impact of higher PPA costs, therefore the*
14 *Commission should be vigilant in reviewing amended PPAs to protect*
15 *ratepayers from unnecessary costs and changes*

16 **Q How will ratepayers be impacted if the amendments are approved by the**
17 **Commission?**

18 **A** If the amendments are approved, EPE ratepayers will be impacted in three main
19 ways: First, they will pay a higher cost for the power from Buena Vista over the
20 project lifetime. Second, they will pay, and have already paid, for replacement

⁸ Id, Pg. 15.

⁹ EPE Response to NMAG Request 2-5.

¹⁰ Id.

¹¹ Amended application, Pg. 15.

¹² Direct Testimony of Hawkins, Pg. 12.

1 energy during the time between the current negotiated COD and the date the
2 projects come online (expected to be the amended COD). To the extent that
3 replacement power is more costly than the power they would receive under the
4 PPAs, ratepayers will bear those costs. Third, and as a positive, they will avoid
5 the cost, risk and uncertainty associated with replacement power and resources.

6 **Q What risks do PPAs pose to EPE's ratepayers?**

7 **A** First, PPA costs are directly passed through to ratepayers. This means that, unlike
8 projects built and owned by the Company, EPE earns no rate of return on the
9 project. This implies that there is no direct financial incentive for the utility to
10 minimize costs.

11 Second, if developers see that the Company and the Commission are willing to
12 approve a PPA amendment any time its costs rise unexpectedly, the result is
13 imposition of risk on the ratepayers and not on the developer or the Company. If
14 the Commission approves the amendment without requiring a higher level of
15 scrutiny and oversight, such an action could set an unwarranted precedent. This
16 creates the risk of future PPA amendment requests that may or may not be
17 prudent for the utility to consider and the Commission to approve. Developers
18 could threaten to walk away if they don't obtain a PPA amendment in instances
19 where they believe a price increase is merited. In such circumstances, even if the
20 Company could replace the PPA at an equal or lower cost on a project basis
21 (\$/MWh for the PPA) it will likely not be able to bring the project online on the
22 same timeline. This means the Company and its ratepayers will incur near-term,
23 potentially high costs for replacement energy, which will be more volatile and
24 uncertain than the solar PPA costs.

1 Furthermore, opportunistic developers could take advantage of this environment
2 to raise prices more than necessary to cover the risk of reasonably increased costs.
3 Likewise, developers could underbid projects initially to secure a contract, and
4 then seek price increases through an amendment process.

5 To mitigate these risks and deter developers from taking advantage, the
6 Commission should require greater transparency and scrutiny over PPA price
7 increases and delays, as I discuss below.

8 **Q Do you believe that there are situations where PPA amendments are**
9 **reasonable and should be approved by the Commission?**

10 **A** Yes. I believe that it is reasonable, especially in unprecedented market
11 environments like we see today with inflation and supply chain challenges, to
12 allow for amendments. Especially when the project is still being offered at a
13 competitive price relative to alternatives and will be available on a faster timeline
14 than any new PPAs. EPE is not unique in experiencing supply chain challenges
15 and requesting delays and amendments to its PPAs.

16 I have seen a handful of other utilities facing a similar challenge of needing to
17 update the price and timeline of a PPA. Table 3 below shows a list of the PPAs I
18 have tracked that have requested an amendment to increase the project price (note
19 this list is not intended to be exhaustive). This doesn't mean that EPE merits
20 unconditional support for contract amendments, for reasons I will discuss in the
21 next section, but it does support the reasonableness of considering whether the
22 amended PPAs are still in the best interest of ratepayers.

1

Table 3. PPAs with a price increase

Project name	Location	Developer	Project Size (MW)
Commonwealth Wind	MA	Avangrid	1,200
Mayflower Wind	MA	Mayflower Wind	400
Carne Solar	NM	DESRI	130
Carne Storage	NM	DESRI	65
San Juan Solar 1	NM	DESRI	200
San Juan Solar Storage	NM	DESRI	100
Group of 18 Solar Projects	Puerto Rico	Various	845

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Note: Avangrid announced on 12/16/2022 that it was pulling out of Commonwealth Wind and would re-submit its bid with updated pricing requirements when Massachusetts begins its next offshore wind procurement in April 2023. Avangrid still believes the project can come online on time.

6
7

Q What actions did EPE take to provide oversight on the projects prior to the submission of the PPA amendments?

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14

A EPE indicated that it was on site at Buena Vista multiple times, has received quarterly and monthly progress reports from the developer NextEra, and has been doing the required interconnection work required for the successful operation of the project. Construction for the Hecate Project does not appear to have begun yet so it is unclear what action EPE has taken to manage and oversee the Hecate Projects. Overall, EPE’s oversight and involvement in the projects seems minimal and likely insufficient.

15
16

Q What provisions has EPE included in the PPA amendments to increase protection of ratepayers?

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18
19
20

A EPE negotiated an increase in both the daily delay damages and security fund. Daily damages impose on developer a daily fee for missing construction milestones. The security fund covers the cost of replacement energy should Buena Vista and/or Hecate miss the COD. Together, the two categories of damages are

1 intended to incent developers to deliver projects on time and protect ratepayers
2 should developers face delays.

3 For daily delay damages, EPE negotiated an increase in the daily penalty from the
4 original PPA, but the PPA term limits daily damage to a maximum of 240 days of
5 payments¹³. For the security fund, EPE also negotiated an increase, as shown in
6 Table 4 below, but the increase will unfortunately not offer much additional
7 protection for ratepayers. This is because the liquidated and actual damage
8 amount increased roughly proportionally to the increase in power costs seen since
9 the original PPAs were executed in 2019 and 2020. Specifically, for Hecate, the
10 increase in the security fund will likely cover the impacts of inflation on market
11 prices but will not make ratepayers better off than before. For Buena Vista, EPE
12 negotiated a larger increase in the security funds which will cover more than just
13 the impacts of inflation but is still relatively small relative to the cost of
14 replacement power and alternatives.

15 **Table 4. Original and amended security fund amounts**

Project	Original security fund (\$Million)	Amended security fund (\$Million)	% Increase
Buena Vista 1	\$12.5	\$22.5	80%
Buena Vista 2	\$2.0	\$3.0	50%
Hecate 1	\$10	\$11.6	16%
Hecate 2	\$5.0	\$5.8	16%

16 *Source: Buena Vista 1 original security fund (Section 14.1A, Exhibit DCH-1); Buena Vista 1*
17 *amended security fund (Section 14.1A, Exhibit DCH-4); Buena Vista 2 original security fund*
18 *(Section 12.1A, Exhibit DCH-2); Buena Vista 2 amended security fund (Section 12.1A, Exhibit*
19 *DCH-5); Hecate 1 original and amended security fund (direct testimony of Hawkins, pg. 21);*
20 *Hecate 2 original and amended and security fund (direct testimony of Hawkins, pg. 22).*

¹³ There is a limit specified for Buena Vista 1, Buena Vista 2, and Hecate 2, but not for Hecate 1.

1 The amendments for the Buena Vista project also include an automatic reduction
2 in the PPA rate if NextEra fails to meet the new CODs the rate us decreased by
3 \$0.25/MWh per month of delay (although this is capped at a total decrease of
4 \$1/MWh)¹⁴. The amendments for Hecate also included stricter reporting
5 requirements on construction progress, and reduced time to cure a failure to meet
6 construction milestones.¹⁵

7 **Q How do the daily delay damages and the amount of money available in the**
8 **security fund compare to the cost EPE will have to pay for replacement**
9 **power in the event that the projects are delayed beyond the amended COD?**

10 **A** In the original PPA, damages available in the event of a developer default covered
11 one to two years of replacement energy for the Buena Vista and Hecate projects.
12 Replacement energy is assumed to come from either the Company's existing
13 units, market purchases, or a combination of both. In the amended PPAs, EPE and
14 the developers increased damages slightly. Damages now cover an additional five
15 to six months of replacement energy at Buena Vista 1 and Hecate 2 and one
16 month of replacement energy at Buena Vista 2 and Hecate. This, unfortunately,
17 keeps the Company in a similar position to where it was in 2020, before the
18 amended PPAs were negotiated. In other words, the developer can still pay
19 damages and walk away, leaving EPE and its ratepayers on the hook for a
20 replacement energy cost that likely exceeds damage, and still the obligation to
21 meet its RPS requirements.

¹⁴ Section 2G of Buena Vista 1 PPA Amendment (Exhibit DCH-4), Section 2H of Buena Vista 2 PPA Amendment (Exhibit DCH-5).

¹⁵ Amended Application, Pg. 15.

1 If the amended PPAs are not approved and the projects are terminated, EPE will
 2 have to seek out new solar PPAs. In the meantime, the lowest cost replacement
 3 power available to EPE would likely come from ramping up use of its existing
 4 natural gas generators. Table 5 shows the cost of replacement resources for four
 5 years between the amended PPA's COD¹⁶ the time a new solar project would
 6 come online (EPE indicated this is the length of time the Company would need to
 7 get a new solar PPA project online). The cost of this replacement power
 8 represents the true cost to EPE ratepayers, should the developers default and the
 9 amended PPAs be terminated. As Table 5 demonstrates, the current maximum
 10 damages available through the amended PPAs cover roughly 50 percent of
 11 replacement costs of power for both Buena Vista and Hecate.

12 **Table 5. Confidential Cost of replacement power from existing EPE natural gas**
 13 **generators (from the amended PPAs' COD until the new solar PPAs' COD in 2027),**
 14 **relative to maximum damages available in the amended PPAs**

	Cost of replacement power from EPE's existing natural gas resources	Maximum damages in amended PPA	Percent of replacement costs covered by damages
Buena Vista 1		\$22.9	
Buena Vista 2		\$3.3	
Total Buena Vista		\$26.2	
Hecate 1		\$12.2	
Hecate 2		\$6.4	
Total Hecate		\$18.6	

15 *Source: For replacement energy, see description in text for Alternative 1a.*
 16 *Damages values: Buena Vista 1 daily delay damages (Section 4.3, Exhibit DCH-1); Buena Vista 1*
 17 *security fund (Section 14.1A, Exhibit DCH-4); Buena Vista 2 daily delay damages (Section 4.3,*
 18 *Exhibit DCH-2); Buena Vista 2 security fund (Section 12.1A, Exhibit DCH-5); Hecate 1 daily*
 19 *delay damages and security fund (direct testimony of Hawkins, pg. 21); Hecate 2 daily delay*
 20 *damages and security fund (direct testimony of Hawkins, pg. 22).*

¹⁶ Note that all other calculations looked at cost relative to the original PPA's negotiated COD; this analysis looks at replacement costs starting at the time of the amended PPA's COD, as I am looking specifically at the amended PPA's damages in Table 5.

1 *Note that here I calculated replacement power from the start of the amended PPA rather than the*
2 *start of the negotiated COD.*

3 **Q Do you recommend that EPE negotiate an increase in damages to cover**
4 **additional periods of replacement energy?**

5 **A** No, not necessarily. The purposes of damages are to protect each party from the
6 cost of delays, defaults, and contract cancelations. If the amended PPA had
7 greater delay damages and security funds, ratepayers would have greater
8 protection from bearing the cost of volatile and pricy replacement power.
9 However, if the damages are larger, the developers take on a greater risk, and that
10 risk is typically passed onto ratepayers through a higher PPA price.

11 I am not making a recommendation on whether the daily damages and security
12 fund amounts should be increased in the amended PPA's. But EPE should provide
13 more transparency to the Commission on what damages do and do not cover. The
14 Company should demonstrate how the damages are calculated, and how the
15 increased damages in the amended PPAs were derived. In particular, EPE should
16 quantify the cost of replacement power for each PPA, and use that quantification
17 to demonstrate how much energy, and for many months or years, the delay
18 damages and security funds are intended to cover.

19 **Q What additional risks are ratepayers exposed to through the amended PPAs?**

20 **A** The amended terms for the two Buena Vista PPAs now allow for a Permitted
21 Extension from Withhold Release Order (WRO) Delays, or delays resulting from
22 any withhold release order or other import restraint issued by the U.S. Customs
23 and Border Protection that prevents or delays the import of any PV Equipment

1 into the United States¹⁷. This means that if there are further import issues
2 stemming from the Department of Commerce's Tariff Circumvention
3 Investigation, NextEra may be allowed to delay the Buena Vista project once
4 again without paying damages. This could result in further replacement energy
5 costs for the Company and its ratepayers, if not managed properly.

6 **Q What should the Commission and EPE do at this point?**

7 **A** I believe EPE and the Commission are facing four major questions at this point
8 (in priority order): (1) Is it in the best interest of ratepayers to approve the PPA
9 amendments or require EPE to pursue alternatives; (2) if the amendments are
10 approved, what can EPE and the Commission do to increase oversight of the
11 Buena Vista and Hecate projects and to minimize the risk of delays moving
12 forward; (3) what can EPE and the Commission do in the future when it signs
13 PPAs to better protect ratepayers; (4) did EPE act reasonably in managing the
14 project and negotiating the amendment and if not, should it share in the cost with
15 ratepayers.

16 The first point, on whether the amendment should be approved, is the subject of
17 Section 0. The last point is being addressed by other parties and therefore I will
18 not discuss it further (but that should in no way be interpreted as tacit approval of
19 EPE's actions). On points 2 and 3, I will provide recommendations on what the
20 Commission should do in the current docket and in the future PPAs to provide
21 guardrails to protect ratepayers.

¹⁷ Section 4.4 of Buena Vista 1 PPA Amendment (Exhibit DCH-4); Section 4.4.1 of Buena Vista 2 PPA Amendment (Exhibit DCH-5).

1 **Q** **What actions should the Commission take to protect EPE ratepayers,**
2 **assuming the amendments are approved?**

3 **A** In this docket, and anytime EPE seeks a project amendment, or to otherwise delay
4 the COD or increase the project cost, the Commission should require the
5 following:

6 First, analysis from the developer and the Company to demonstrate that the
7 proposed cost increase is reasonable. This should include: (1) estimation of the
8 cost of the delay (including replacement power costs); (2) documentation showing
9 the cost of materials and labor originally estimated and the current cost of
10 materials and labor, to demonstrate that total amount by which project costs have
11 increased; (3) analysis showing the amount of the cost increase that the developer
12 is taking on compared to what the developer is asking the ratepayers to take on;
13 (4) analysis showing that none of the cost increase is being used to provide the
14 developer with a higher level of profit/return than under the originally negotiated
15 PPA.

16 Second, EPE to file documentation showing how, in light of the delays, the
17 developer can be reasonably expected to deliver the project on the amended
18 timeline—this should include documentation of construction milestones and
19 progress to date, and a projected milestone schedule for completing additional
20 phases of project. EPE should regularly amend and update this whenever new
21 information becomes available.

22 Third, for EPE to actively track the costs incurred in the time between the original
23 COD and the amended COD, including the cost incurred to procure replacement
24 resources, and compensation/damages the developer is providing for either past or
25 future delays. EPE should provide this information to the Commission in a

1 quarterly report. This should be required regardless of whether the delay was
2 agreed to under the original PPA or a PPA amendment.

3 **Q What should the Commission do to better protect ratepayers from PPAs in**
4 **the future?**

5 **A The Commission should do the following:**

6 First, the Commission should not allow EPE to sign PPAs, or PPA amendments,
7 that give developers unlimited freedom to renegotiate CODs without damages. I
8 recommend the Commission require PPAs to contain specific terms under which
9 re-negotiated CODs are allowed without incurring damages, penalties or
10 Commission approval. Likewise, the Commission should require EPE to file
11 notice of all Permitted Extensions or requests for Permitted Extensions¹² from the
12 developer, including permitted extensions due to the Withhold Release Order
13 stemming from the US Department of Commerce’s anti-dumping investigation. In
14 filing for an extension, EPE should be required to include analysis that estimates
15 the costs that it will incur in the time between the original COD and the delayed
16 COD, including the cost incurred to procure replacement resources, and
17 compensation/damages the developer is providing for the delays.

18 Second, in both initial PPAs and PPA amendments, EPE should provide clear and
19 transparent information on the amount of the damages, how they are calculated,
20 and the time period of replacement energy covered. This will allow the
21 Commission to better weigh the cost of the power and the risks imposed on

22 Third, and more generally, the Commission should require EPE to be more
23 transparent with its project management and provide more oversight of
24 construction progress in general. At a minimum, I recommend that the

1 Commission require the Company to file construction progress updates quarterly
2 to the Commission and other relevant parties. This should include work done by
3 subcontractors or other companies involved in the project, as well as work done
4 by the Company itself (e.g., for transmission interconnection).

5 **4. EPE'S ANALYSIS AND MY OWN INDEPENDENT ANALYSIS CONFIRMS THAT THE**
6 **AMENDED PPAS ARE STILL IN THE BEST INTEREST OF EPE RATEPAYERS COMPARED**
7 **TO ALTERNATIVES**

8 **Q Do you believe that the amended project costs are reasonable compared to**
9 **alternatives and that the PPAs are still in the best interest of EPE' rate**
10 **payers?**

11 **A** Yes. Based on the results of the Company's analysis and my internal analysis, I
12 find that the amended PPAs are still in the best interest of EPE ratepayers. Even
13 though the PPA price for Buena Vista has increased, the price is still substantially
14 lower than what I have seen elsewhere in the market, and it is lower than the other
15 bids received by EPE. Additionally, NextEra appears to be on track to complete
16 Buena Vista on time. Specifically, it has already procured 80 MW of panels out of
17 the total 120 MW needed for the project, with the remainder set to be delivered in
18 March 2023.¹⁸

¹⁸ EPE response to NMAG Request 1-01.

1 **iii. EPE conducted limited analysis on the cost of the PPA amendments for Buena**
2 **Vista and Hecate**

3 **Q What analysis did EPE conduct to support the reasonableness of the PPA**
4 **amendments for Buena Vista?**

5 **A EPE evaluated the cost impact of NextEra’s original proposed price increase of**
6 **\$4.88/MWh for the Buena Vista solar project. Specifically, using the Aurora**
7 **software, EPE first calculated the cost of two “Base Case” scenarios, assuming**
8 **the original project cost price and COD of June 2023 EPE – in the first scenario**
9 **EPE allowed off system sales and in the second it did not. EPE then calculated**
10 **two fuel and purchased power (FPP) sensitivities, where Buena Vista was not**
11 **online in 2023 and instead procured 110 MW forward market purchase for June–**
12 **September 2023 in the amount equivalent to the capacity of Buena Vista. EPE**
13 **also tested this sensitivity both with and without off system sales.¹⁹ EPE then**
14 **found the difference between the Base and FPP cases with off-system sales,**
15 **which worked out to \$3.82/MWh.**

16 This \$3.82/MWh represents the highest cost increase that would still allow the
17 Buena Vista project to be cheaper than alternatives. This means that the price
18 increase of \$4.88/MWh that NextEra proposed was too high and not in the best
19 interest of customers. The parties ultimately agreed to a \$3.50/MWh price
20 increase.²⁰ The Company provided limited documentation to support these
21 calculations and there was no information provided to as to how, or whether, the
22 price increased matched NextEra’s cost increases.

¹⁹ Direct Testimony of Hawkins, Pgs. 10-11.

²⁰ Id., Pg. 11.

1 **Q What analysis did EPE conduct to support the reasonableness of the Hecate**
2 **amendments?**

3 **A** EPE quantified the replacement cost impact of the Hecate amendments at \$8.9
4 million.²¹ It is not clear how EPE calculated the replacement cost and what time
5 frame the analysis covered.

6 **Q Do you agree with EPE's finding?**

7 **A** Unfortunately, EPE did not provide enough information, nor did it sufficiently
8 explain its analysis, for me to affirmatively support the Company's findings based
9 purely on its analysis. I have no reason to believe its findings are incorrect.
10 However, I am concerned with the lack of transparency around the analysis, and
11 the minimal quantification EPE provided of the costs ratepayers will be exposed
12 to and alternatives EPE would rely on in place of the PPAs. For this reason, I
13 conducted my own analysis to assess the reasonableness of the proposed cost
14 increases.

15 *iv. Synapse analysis shows that EPE ratepayers will benefit from the PPA*
16 *amendments relative to alternative resource options*

17 **Q Please outline the costs and alternatives that EPE should be considering in**
18 **evaluating the reasonableness of the PPA amendments relative to alternative**
19 **resource options.**

20 **A** EPE should be evaluating the cost and risks of two different options: the amended
21 project, and alternatives to the project.

²¹ Id., Pg. 23.

1 For the amended project, EPE should calculate the net present value (NPV) of the
2 amendments as proposed with the updated project cost for Buena Vista and the
3 updated CODs for both Buena Vista and Hecate. This should include the actual
4 and projected cost of purchasing or generating replacement power in the time
5 between the negotiated CODs and the amended CODs.

6 For the alternative resource portfolios, which should be equivalent to the energy
7 and capacity of the projects, EPE should calculate the NPV to include the
8 following:

- 9 1. Damages for canceling the current Buena Vista contracts (\$15.2 million)
10 and the Hecate contracts (\$15.7 million).
- 11 2. Cost of purchasing or generating replacement power in the time between
12 the negotiated COD and COD proposed in the amendment.
- 13 3. Cost of alternative resources that can provide the equivalent energy and
14 capacity over the same time as the projects. These include market energy,
15 existing EPE natural gas generators, and new solar PPAs with battery
16 storage.

17 All analysis should be over the same time period to allow for an apples-to-apples
18 comparison. The company should also evaluate how the PPA price reduction for
19 delays, included in the amendments, and the money available in the security fund,
20 compare to the projected cost of replacement power in the event any of the
21 projects are delayed beyond the amended COD.

22 **Q What is the cost of the Buena Vista and Hecate projects in the original PPA**
23 **with the negotiated COD?**

24 **A** Assuming the negotiated CODs of November 2022 for the Buena Vista Projects
25 and December 2022 and May 2023 for Hecate 1 and Hecate 2, respectively, and

1 the original costs of \$20.99/MWh and \$19.88/MWh for Buena Vista and
2 \$14.99/MWh and \$18.93/MWh for Hecate, the NPV of the Buena Vista and
3 Hecate projects over the 20-year project lives were originally \$82.5 million and
4 \$67.6 million respectively. This, and all analysis discussed below, covers the
5 same time period: the 20 years of the original PPAs with the negotiated CODs.

6 **Q What are the costs of the Buena Vista and Hecate projects assuming the**
7 **proposed amendments are adopted?**

8 **A** The costs of the amended projects have two components: (1) the updated cost of
9 the projects and; (2) the cost of replacement power during the project delay.

10 For the first component, I assumed the amended CODs of June 2023 for the
11 Buena Vista Projects and June 2024 for the Hecate Projects, the updated cost of
12 \$24.49/MWh and \$19.88/MWh for the Buena Vista Projects and the unchanged
13 cost of \$14.99/MWh and \$18.93/MWh for the Hecate Projects. I found the NPVs
14 for the updated Buena Vista and Hecate projects are \$91.5 million and \$59.4
15 million respectively.

16 For the second component, replacement power, I find that the cost to replace the
17 power for the Buena Vista Project for the seven months between November 2022
18 and June 2023 is [REDACTED] For the Hecate Project, the cost of replacement
19 power for the 18 months between December 2022 and June 2024 at Hecate 1 and
20 13 months between May 2023 and June 2024 at Hecate 2 is [REDACTED].
21 Replacement power represents [REDACTED] of total NPV costs for
22 the Buena Vista and Hecate projects, respectively.

23 The combined costs of the updated project and replacement power are [REDACTED]
24 [REDACTED] for the Buena Vista Projects and [REDACTED] for the Hecate Projects
25 (Table 6). Overall, the PPA amendments represent an increase of [REDACTED] for

1 Buena Vista and a [REDACTED] increase for the Hecate project over the original 20-
2 year project terms.

3 **Table 6. Confidential Net present value of the original and amended PPAs**

PPA	Buena Vista NPV (\$Millions)	Hecate NPV (\$Millions)
Original PPA (with negotiated COD)	\$82.5	\$67.6
Amended PPA	[REDACTED]	[REDACTED]
Replacement Energy	[REDACTED]	[REDACTED]
Solar PV Energy from PPA	\$91.5	\$59.4

4 *Source: I calculated the original PPA NPV costs and solar PV energy NPV costs using the*
5 *expected the delivery amounts provided in Exhibit DCH-1 (PPA Exhibit H), DCH-2 (PPA Exhibit*
6 *F), DCH-7 (PPA Exhibit F) and DCH-8 (PPA Exhibit F). I converted these annual values to*
7 *monthly values using the monthly profile for each project provided in NMAG 2-2 Attachment 1. I*
8 *used a discount rate of 7.0254 percent, consistent with other NPV calculations (see text for*
9 *description). For replacement energy, see description in text.*

10 **Q Explain how you calculated the cost of replacement power during the project**
11 **delay.**

12 **A** I calculated the cost of replacement power EPE has already purchased, and will
13 have to purchase, in the time between the negotiated CODs (November 2022 for
14 the Buena Vista Projects, and December 2022 and May 2023 for Hecate 1 and 2,
15 respectively) and the amended CODs (June 2023 and 2024 for Buena Vista and
16 Hecate). I relied on the negotiated COD, not the original COD of May 2022, as
17 the change in CODs had been mutually agreed upon by the Company and the
18 developers. As discussed above, I only looked at the amended PPA's cost impact
19 for the term of the original PPA based on the negotiated COD (up to November
20 2042 for Buena Vista, and December 2042 and May 2043 for Hecate 1 and 2).

21 For replacement resources, I relied on energy from the Company's existing gas
22 plants and market energy purchases. I based this assumption on EPE's statement
23 that it would use its own resources to replace the energy originally expected to

1 come from the Buena Vista and Hecate projects, and if necessary, purchase
2 market power to supplement its existing generation capacity.²²

3 For the Company's own resources, I assumed that replacement power will be
4 supplied primarily from existing EPE natural gas generators at Copper, MPS,
5 Newman and Rio Grande (I assumed that excess nuclear power was not available
6 to EPE from Palo Verde²³). EPE provided Synapse with its current natural gas
7 and market electricity price forecasts, which I used to determine the NPV of these
8 replacement resources for each month.²⁴ I relied on unit heat rates from EPE's
9 2021 Integrated Resource Plan²⁵ and assumed that fuel costs made up roughly 90
10 percent of variable costs for natural gas generators based on my general
11 experience with the variable cost structure of legacy power plants.

12 For market purchases, EPE indicated that when the original PPAs were re-
13 negotiated and it agreed to the negotiated CODs, it secured market purchases for
14 June, July, and August of 2022 to replace roughly 37 percent²⁶ of the energy that
15 was originally meant to come from Buena Vista 1 and 2.²⁷ I assumed EPE would
16 secure roughly the same proportion of market purchases for the summer of 2023
17 as well. Market purchases are firm blocks of power purchased from the market,
18 therefore the emissions profile reflects that of the market.

²² EPE Response to NMAG 2-6 and 2-9.

²³ Even though 15.8 percent of Palo Verde nuclear generating station's output is owned by EPE, the plant operates at an average 94 percent capacity factor based on EPE's 2021 IRP. Attachment C-2: Existing Units Operating Characteristics.

²⁴ I estimated a discount rate of 7.0254 percent using data from EPE's Sensitivity Analysis of the Buena Vista COD Extensions provided in Exhibit DCH-3, pg. 4-5.

²⁵ El Paso Electric 2021 Integrated Resource Plan. 2021. Attachment C-2: Existing Units Operating Characteristics.

²⁶ EPE Response to NMAG 2-6, Attachment 2.

²⁷ EPE Response to NMAG 2-6.

1 **Q What alternatives does EPE have to the amended PPAs for Buena Vista and**
2 **Hecate?**

3 **A** EPE has three main options to replace the energy that would be provided by the
4 Buena Vista and Hecate projects during the 20 years they are scheduled to be
5 online: (1) the company can ramp up generation at its existing gas resources; (2)
6 EPE can buy energy from the market or enter into bilateral contracts; or (3) EPE
7 can build or procure energy from new resources.

8 **Q What specific alternative options did you evaluate?**

9 **A** I evaluated four alternative resource options: (1) entering into new solar PPAs
10 (procured through a new RFP process) and using (a) EPE's natural gas resources
11 before the new solar project's COD, and (b) a combination of EPE's natural gas
12 generation and market purchases before the new solar project's COD; (2) ramping
13 up use of EPE's existing natural gas generators; (3) using a combination of both
14 natural gas generators and increased market purchases; (4) increasing market and
15 bilateral purchases of electricity;

16 **Q For which time period did you evaluate the alternatives and their costs?**

17 **A** As discussed above, I looked at the amended PPA's cost impact for the term of
18 the original PPA, starting at the date of the negotiated CODs for each project.
19 From there, I evaluated the cost of each project over a 20-year term, that is until
20 November 2042 for Buena Vista, December 2042 for Hecate 1 and May 2043 for
21 Hecate 2. I evaluated all alternatives over this same term to ensure an apples-to-
22 apples comparison as shown in Figure 1 below.

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Figure 1. Evaluation period and components for the original PPA (negotiated COD), amended PPA, and all five alternatives.

	Year 1	Year 20	
Original PPA	Original PPA (20 years starting at negotiated COD)		
Amended PPA	EPE natural gas & market purchases	Amended PPA (COD 7–18 months after negotiated COD)	
Alternative 1a		Natural gas	New solar PPA (COD Jan 2027)
Alternative 1b		Natural gas & market	New solar PPA (COD Jan 2027)
Alternative 2		EPE’s existing natural gas resources	
Alternative 3		EPE’s existing natural gas resources & market purchases	
Alternative 4		Market purchases	

3

4 The COD for the amended PPA is 7 months after the negotiated COD for Buena
 5 Vista, and 18 and 13 months after the negotiated COD for Hecate 1 and 2,
 6 respectively. I included the cost of replacement power (assuming a mix of market
 7 purchases and gas generation, as discussed above) to cover these 7–18 months in
 8 my calculation of the cost of the amended PPA as well as each alternative option,
 9 as shown in red in Figure 1 above. I then calculate the cost of the alternative for
 10 the remainder of the original PPA terms. Alternatives 1a and 1b include additional
 11 replacement power in the time between the amended COD and the assumed COD
 12 for the solar PV projects of January 2027.

13 **Q What did you find about the cost of the alternatives relative to the cost of the**
 14 **amended PPAs for Buena Vista and Hecate?**

15 **A**I find that even with the delayed COD for both the Hecate and Buena Vista
 16 projects, and the increased costs for the Buena Vista project, the amended PPAs

1 are still lower cost and lower risk for EPE ratepayers compared to any of the
 2 alternatives considered (Table 7 and Figure 2).

3 **Table 7. Confidential net present value of amended Buena Vista and Hecate PPAs**
 4 **and alternatives**

Net Present Value of Alternatives (Real 2022 \$ Millions)	Total Costs		Increase over Amended PPA's Costs	
	Buena Vista	Hecate	Buena Vista	Hecate
Amended PPA	\$101.2	\$84.9	-	-
Alternative 1a: New solar PV PPAs (with 2023-2026 energy from EPE natural gas resources)	██████	██████	██████	██████
Alternative 1b: New solar PV PPAs (with 2023-2026 energy from mix of EPE natural gas resources and market purchases)	██████	██████	██████	██████
Alternative 2: Existing EPE Natural Gas Resources	██████	██████	██████	██████
Alternative 3: Combination of existing EPE Natural Gas Resources and Market Purchases (market is 37% of summer energy)	██████	██████	██████	██████
Alternative 4: Market Purchases	██████	██████	██████	██████

5 *Source: I calculated the amended PPA NPV costs using the expected the delivery amounts*
 6 *provided in Exhibit DCH-1 (PPA Exhibit H), DCH-2 (PPA Exhibit F), DCH-7 (PPA Exhibit F)*
 7 *and DCH-8 (PPA Exhibit F). I converted the annual values to monthly values using the monthly*
 8 *profile for each project provided in NMAG 2-2 Attachment 1. I used a discount rate of 7.0254*
 9 *percent, consistent with other NPV calculations (see text for description). For calculations for*
 10 *Alternatives 1-4, see descriptions in text.*

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Figure 2: Confidential net present value of amended Buena Vista and Hecate PPAs and alternatives.



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Source: I calculated the amended PPA NPV costs using the expected the delivery amounts provided in Exhibit DCH-1 (PPA Exhibit H), DCH-2 (PPA Exhibit F), DCH-7 (PPA Exhibit F) and DCH-8 (PPA Exhibit F). I converted the annual values to monthly values using the monthly profile for each project provided in NMAG 2-2 Attachment 1. I used a discount rate of 7.0254 percent, consistent with other NPV calculations (see text for description). For calculations for Alternatives 1-4, see descriptions in text.

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Q How much would it cost to replace the Buena Vista and Hecate PPAs with a new solar PPA?

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A If Buena Vista and Hecate were canceled and replaced with new solar PPAs, procured through a competitive procurement process in the next year, the overall cost is still projected to be higher and the timeline longer than moving forward with the amended PPAs. This is in large part due to the cost of the replacement power EPE would have to generate or purchase in the approximately four years it

1 will take to bring a new project online (from issuance of the RFP to the COD²⁸).
2 As such, the earliest a new solar PPA could be online would be 2027, and
3 replacement power would be required for the intervening four years from either
4 EPE's existing gas plants or market purchases.

5 I evaluated the cost of two new solar PPA alternatives (Alternatives 1a and 1b) in
6 which a new solar PV project comes online in 2027, and EPE procures
7 replacement power in the intervening years. For both alternatives, the costs of the
8 solar PPA itself is \$123.9 million, or \$60 million and \$63.9 million for Buena
9 Vista and Hecate.

10 Under Alternative 1a, the replacement power needed prior to 2027 comes from
11 EPE's existing natural gas resources. The total cost of this alternative is [REDACTED]
12 [REDACTED] on an NPV basis [REDACTED] for Buena Vista and [REDACTED] for
13 Hecate). This is [REDACTED] more than the amended PPA's NPV cost.
14 Replacement power would cost [REDACTED] million (\$ [REDACTED] and [REDACTED]
15 for Buena Vista and Hecate respectively), representing [REDACTED] of total NPV
16 costs.

17 Under Alternative 1b, the replacement power comes from a combination of EPE's
18 [REDACTED] gas generators and market purchases. The total cost of this alternative is [REDACTED]
19 [REDACTED] on an NPV basis (\$ [REDACTED] and [REDACTED] for Buena Vista and
20 Hecate, respectively). This is [REDACTED] more than the amended PPA cost.
21 Replacement power costs \$ [REDACTED] and \$ [REDACTED] for Buena Vista and
22 Hecate, which accounts for [REDACTED] and [REDACTED] percent of total NPV costs.

23 For the amended PPA, replacement power and generation compose a small
24 portion of the cost, with the PPA cost making up the majority of the cost. For the

²⁸ Direct Testimony of Hawkins, Pg. 25.

1 new solar PPA alternatives, on the other hand, the cost of replacement power
2 from gas generation or market purchases accounts for over half the cost of the two
3 solar PPA alternatives.

4 **Q What will it cost EPE to replace the projects with generation from its existing**
5 **gas plants or market energy?**

6 **A** Under Alternative 2, if the projects are canceled, it will cost EPE \$ [REDACTED]
7 on an NPV basis (\$ [REDACTED] for Buena Vista and \$ [REDACTED] for Hecate)
8 to replace the projects with generation from its existing gas plants over the same
9 20-year time period. This is nearly \$ [REDACTED] more than ratepayers would pay
10 under the amended PPAs.

11 Under Alternative 3, if the projects are replaced with a mix of market energy and
12 natural gas generation, which matches how EPE has replaced the project energy
13 so far, EPE ratepayers will pay approximately \$ [REDACTED] on an NPV basis
14 (\$ [REDACTED] for Buena Vista and \$ [REDACTED] for Hecate) over the same 20-
15 year time period. This is \$ [REDACTED] more than ratepayers would pay under the
16 amended PPA's.

17 Under Alternative 4, it will cost EPE [REDACTED] on an NPV basis (\$ [REDACTED]
18 [REDACTED] and \$ [REDACTED] for Buena Vista and Hecate, respectively) to replace
19 the projects with bilateral or market purchases during the same 20-year time
20 period. This is nearly [REDACTED] more than what ratepayers would pay under
21 the amended PPAs.

22 These calculations all include the \$ [REDACTED] for Buena Vista and [REDACTED]
23 for Hecate to cover replacement power during the delay between the negotiated
24 and amended CODs.

1 **Q How did you calculate the cost of the new solar PV PPAs (Alternatives 1a**
2 **and 1b)?**

3 **A** I assumed the PPAs would be terminated and damages from the original PPAs
4 would be paid to EPE. These maximum payments of \$15.2 million for Buena
5 Vista and \$15.7 million for Hecate were included in each alternative's total cost
6 calculation.

7 EPE indicated that within its territory, it takes on average four years from the
8 issuance of the RFP to the COD²⁹ for solar projects. As such, the new solar PV
9 systems would not be online until early 2027 and would continue to generate after
10 that date for the remainder of the negotiated PPA timeline. The Company stated
11 that in a recent RFP round in 2021, the average solar PPA price was
12 \$29.96/MWh³⁰ for New Mexico, which I used as the baseline for estimating the
13 2027 PPA price. Recent best estimates suggest that utility-scale solar PV costs
14 will decline by 47 percent by 2035³¹ from the beginning of this decade, or
15 roughly 24 percent by 2027. I therefore estimate that solar PPA costs for New
16 Mexico will cost approximately \$23/MWh in 2027 and assume it will be fixed for
17 the duration of the term.

18 To calculate the costs of replacement power (before the PPA's COD of 2027) for
19 Alternatives 1a and 1b, I used the same approach and data as I did for alternatives

²⁹ Id.

³⁰ Direct Testimony of Hawkins, pg. 18.

³¹ Bolinger, M., Wiser, R., and O'Shaughnessy, E. 2022. Levelized cost-based learning analysis of utility-scale wind and solar in the United States. *iScience* 25, 104378. Note: although the article does not address the Inflation Reduction Act and Department of Commerce's investigation specifically, it does address recent supply chain issues, and notes former economic barriers and issues that have faced the renewable issues in the past.

1 2-4. EPE provided natural gas and market price forecasts up to December 2041. I
2 assumed that prices would remain unchanged from 2041 until 2042 and 2043.

3 I did not include the cost of the battery for Buena Vista 1 in the analysis so that I
4 could fairly compare Buena Vista 1 to the other projects without batteries.

5 However, the battery storage project is key to maximizing the benefits of solar PV
6 systems.

7 **Q Explain how you calculated the cost of Alternatives 2-4.**

8 **A** I included the same maximum liquidated and actual damages in these alternatives
9 as I included in alternatives 1a and 1b.

10 To calculate the cost of using replacing the Buena Vista and Hecate projects with
11 EPE's existing gas resources ("Alternative 2") for the project duration, I relied on
12 natural gas prices provided by EPE. I assumed EPE's natural gas generators
13 would supply all the energy and I once again assumed that excess nuclear power
14 was not available to EPE for replacement power. To calculate the cost of
15 replacing Buena Vista and Hecate energy entirely with market purchases
16 ("Alternative 4") I relied on EPE forecasts of market electricity prices to calculate
17 the costs.

18 For "Alternative 3", I assumed that for the months of June, July, and August,
19 market purchases make up on average 37 percent of replacement power for Buena
20 Vista and Hecate, while the other months were supplied entirely by natural gas
21 generators. This was the approach that the Company took to cover the energy that
22 was originally meant to be delivered from Buena Vista after the original COD of
23 May 2022 (as I described above).

1 **Q** **Are there other benefits to the amended PPAs relative to alternatives not**
2 **captured by your analysis?**

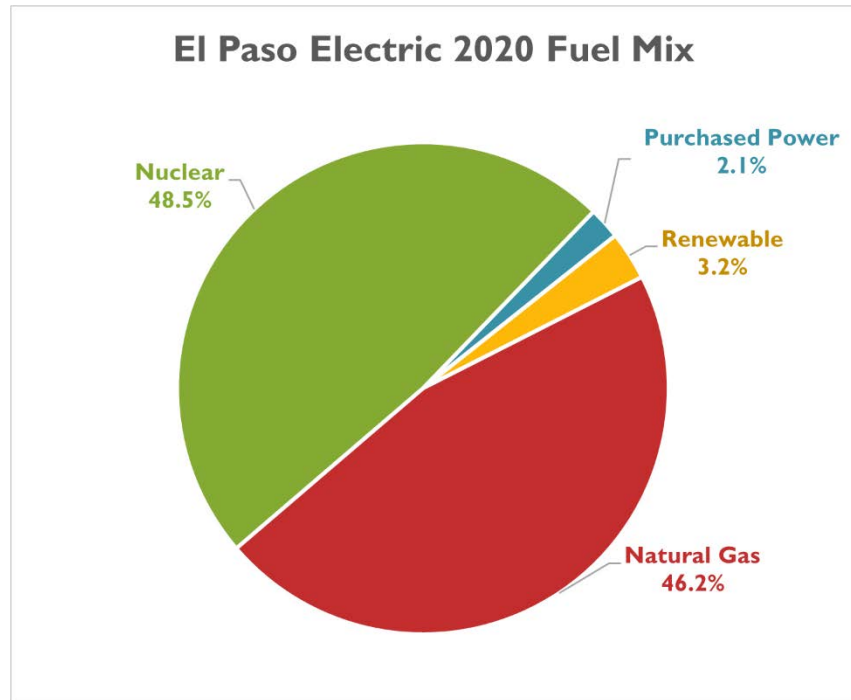
3 **A** Yes. The solar PV and battery storage in the PPA helps diversify the Company's
4 energy mix and reduces its dependence on fossil resources and market power,
5 both of which can be subject to volatility and price fluctuation. Solar power is
6 also clean and zero emission, while market power and power procured from
7 bilateral contracts may be generated by from fossil resources. Solar PV and
8 battery storage can also add resiliency to the grid, should there be natural gas
9 supply constraints. It also protects ratepayer from future carbon taxes or other
10 environmental regulations that may be imposed in the future and could increase
11 the cost to operate the Company's existing fossil resources. As can be seen from
12 Figure 3, the Company's fuel mix is heavily reliant on nuclear and natural gas,
13 and as of 2020, renewable energy made up just 3.2 percent of total generation³².

14 Additionally, given the increase in project delays and supply-chain challenges
15 today, the traditional utility planning model of perfectly matching resource
16 additions with capacity needs no longer best serves ratepayers.

³² El Paso Electric 2021 Integrated Resource Plan. 2021, Pg. 69.

1

Figure 3. EPE 2020 energy fuel mix



2

3

Source: Figure 12 in El Paso Electric 2021 Integrated Resource Plan, pg. 69.

4 **Q**

What are your conclusions about the costs of the amendment relative to the cost of alternatives?

5

6 **A**

Although the cost and start date have changed from the original PPAs, the amended PPAs are still considerably less costly to EPE ratepayers than the alternatives I considered. The least costly alternative, procuring new solar PPAs in 2027, is still 15 percent and 42 percent more expensive (in NPV) than the amended NPV for Buena Vista and Hecate, respectively. If EPE replaces the energy with existing EPE resources or a combination of EPE resources and market purchases, the cost difference goes up even more to replace the Buena Vista and Hecate projects. Although the approval of the amended PPAs does not come without its own risks, the cost impact of any current alternative is much

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1 greater than the amended PPAs. I therefore recommend approval of the PPA
2 amendments, with the caveats discussed in Section 3ii.

3 **Q Does this conclude your testimony?**

4 **A** Yes.

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

AMENDED APPLICATION FOR APPROVAL OF EL PASO ELECTRIC COMPANY'S AMENDED 2019 RENEWABLE ENERGY PLAN AND 2020 RENEWABLE ENERGY PLAN PURSUANT TO THE RENEWABLE ENERGY ACT AND 17.9.572 NMAC, AND THIRD REVISED RATE NO. 38-RPS COST RIDER

Case No. 19-00099-UT

AND

IN THE MATTER OF EL PASO ELECTRIC COMPANY'S APPLICATION FOR APPROVAL OF LONG-TERM PURCHASED POWER AGREEMENTS WITH HECATE ENERGY SANTA TERESA, LLC, BUENA VISTA ENERGY, LLC, AND CANUTILLO ENERGY CENTER LLC

Case No. 19-00348-UT

AFFIRMATION (IN LIEU OF AFFIDAVIT)

OF DEVI GLICK

In compliance with the *Temporary NMPRC Electronic Filing Policy of March 20, 2020*, and under Rule 1-011(B) NMRA of the New Mexico Rules of Procedures for the District Courts, I, Devi Glick, hereby file this testimony on behalf of the New Mexico Attorney General and state as follows:

I hereby affirm in writing under penalty of perjury under the laws of the State of New Mexico that the statements contained in the foregoing *Direct Testimony of Devi Glick on Behalf of the Office of Attorney General* are true and correct to the best of my knowledge, information, and belief.

I further declare under penalty of perjury that the foregoing is true and correct.

Executed on January 23, 2023.

/s/ Devi Glick

Devi Glick (electronically signed)

Expert Witness on Behalf of the New Mexico Attorney General

485 Massachusetts Avenue #3

Cambridge, MA 02139

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

**IN THE MATTER OF THE AMENDED)
APPLICATION FOR APPROVAL OF EL PASO)
ELECTRIC COMPANY’S AMENDED 2019)
RENEWABLE ENERGY PLAN AND 2020) Docket No. 19-00099-UT
RENEWABLE ENERGY PLAN PURSUANT TO)
THE RENEWABLE ENERGY ACT AND 17.9.572)
NMAC, AND THIRD REVISED RATE NO. 38-RPS)
COST RIDER)**

**IN THE MATTER OF EL PASO ELECTRIC)
COMPANY’S APPLICATION FOR APPROVAL OF)
LONG-TERM PURCHASED POWER)
AGREEMENTS WITH HECATE ENERGY SANTA) Docket No. 19-00348-UT
TERESA, LLC, BUENA VISTA ENERGY, LLC,)
AND CANUTILLO ENERGY CENTER, LLC.)**

CERTIFICATE OF SERVICE

I CERTIFY that on this date I sent to the parties listed below, via email only, a true and correct copy of the **OAG’s Non-Confidential Public Direct Testimony of Devi Glick:**

Nancy Burns Maria M. Novela Patricia Griego Judith Parsons Jeffrey J. Wechsler Kari E. Olson J.F. McIntyre Teresa Pacheco Diana Luna Yolanda Sandoval Anastasia S. Stevens Jennifer Vega-Brown Lisa LaRoque José F. Provencio Charles F. Noble Stephanie Dzur Cara R. Lynch Charles de Saillan Ramona Blaber Don Hancock Philip B. Simpson Allen H. Downs Merrie Lee Soules Steve S. Michel	Nancy.burns@epelectric.com; Mariah.medley@epelectric.com; Patricia.griego@epelectric.com; Judith.parsons@epelectric.com; Jwechsler@montand.com; Kolson@montand.com; jmcintyre@montand.com; tpacheco@montand.com; dluna@montand.com; ysandoval@montand.com; Astevens.law@gmail.com; Jvega-brown@las-cruces.org; Llarocque@las-cruces.org; joprovencio@las-cruces.org; Noble.ccae@gmail.com; Stephanie@Dzur-Law.com; Lynch.cara,nm@gmail.com; Desaillan.ccae@gmail.com; Ramona.blaber@sierraclub.org; sricdon@earthlink.net; philipbsimpson@comcast.net; biz@lifeisgood2.com; mlsoules@hotmail.com; stevensmichel@comcast.net;	Nann M. Winter Keith Herrmann Nelson Goodin Fred Kennon Keven Gedko Gideon Elliot Sydnee Wright Andrea Crane Doug Gegax Devi Glick Sarah Shenstone Pat O’Connell Cydney Beadles Bradford Borman John Bogatko Ed Rilkoff Jack Sidler Marc Tupler Elisha Leyba-Tercero Russell Fisk Peggy Martinez-Rael Elizabeth Ramirez Ana Kippenbrock Angelica Anaya Allen	nwinter@stelznerlaw.com; kherrmann@stelznerlaw.com; nelsong@donaanacounty.org; Fredk@donaanacounty.org; kgedko@nmag.gov ; Gelliot@nmag.gov; swright@nmag.gov; ctcolumbia@aol.com; dgegax@nmsu.edu; dglick@synapse-energy.com; sshenstone-harris@synapse-energy.com pat.oconnell@westernresources.org; Cydney.beadles@westernresources.org; Bradford.borman@prc.nm.gov; John.Bogatko@prc.nm.gov; Ed.Rilkoff@prc.nm.gov; Jack.sidler@prc.nm.gov; Marc.Tupler@prc.nm.gov; Elisha.Leyba-Tercero@prc.nm.gov; Russell.fisk@prc.nm.gov; Peggy.Martinez-Rael@prc.nm.gov; Elizabeth.Ramirez@prc.nm.gov; Ana.Kippenbrock@prc.nm.gov; Angelica.Allen@prc.nm.gov;
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DATED this January 23, 2023

/s/ **Keven Gedko**

Keven Gedko

Assistant Attorney General

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