

Control Number: 50277



Item Number: 66

Addendum StartPage: 0



**SOAH DOCKET NO. 473-20-2278**

**PUC DOCKET NO. 50277**

**APPLICATION OF EL PASO  
ELECTRIC COMPANY TO AMEND ITS  
CERTIFICATE OF CONVENIENCE  
AND NECESSITY FOR AN  
ADDITIONAL GENERATING UNIT AT  
THE NEWMAN GENERATING  
STATION IN EL PASO COUNTY AND  
THE CITY OF EL PASO**

§  
§  
§  
§  
§  
§  
§  
§

**BEFORE THE STATE OFFICE**

**OF**

**ADMINISTRATIVE HEARINGS**



**DIRECT TESTIMONY OF**

**REGINALD J. TUVILLA**

**INFRASTRUCTURE DIVISION**

**PUBLIC UTILITY COMMISSION OF TEXAS**

**MAY 12, 2020**

**TABLE OF CONTENTS**

**I. INTRODUCTION AND SCOPE OF TESTIMONY .....1**

**II. EPE’S 2017 ALL SOURCE REQUEST FOR PROPOSAL FOR ELECTRIC PEAKING  
POWER SUPPLY AND LOAD MANAGEMENT RESOURCES (“2017 ALL-SOURCE RFP”).....3**

**III. NEED FOR ADDITIONAL PEAKING CAPACITY .....8**

**IV. REGULATORY APPROVALS..... 13**

**V. SUMMARY AND CONCLUSION ..... 14**

## **LIST OF ATTACHMENTS**

<b>ATTACHMENT RJT-1</b>	QUALIFICATIONS OF REGINALD TUVILLA
<b>ATTACHMENT RJT-2</b>	LIST OF DOCKETS CONTAINING TESTIMONY OF REGINALD TUVILLA
<b>ATTACHMENT RJT-3</b>	EXERPT FROM WECC THRESHOLD MARGINS WEBSITE

**I. INTRODUCTION AND SCOPE OF TESTIMONY**

**Q. Please state your name, occupation and business address.**

A. My name is Reginald Tuvilla. I am employed by the Public Utility Commission of Texas (PUC or Commission) as a Senior Infrastructure Analyst in the Infrastructure Division. My business address is 1701 N. Congress Avenue, Austin, TX 78711-3326.

**Q. How long have you been employed at the PUC?**

A. I have been employed by the PUC since September 14, 2015.

**Q. Please summarize your academic background and work experience.**

A. Please see Attachment RJT-1.

**Q. Have you previously presented testimony?**

A. Yes. Please see Attachment RJT-2 for a list of dockets in which I previously presented testimony.

**Q. Please summarize the background of this proceeding.**

A. On November 12, 2019, El Paso Electric Company (EPE or the Company) filed an application to amend its certificate of convenience and necessity (CCN) to include one new 228-megawatt (MW) natural-gas-fired generating unit called Newman Unit 6, which is proposed to be constructed at EPE's existing Newman generating station in the city of

1 El Paso.<sup>1</sup> EPE estimates that the total cost to construct the proposed Newman Unit 6 will  
2 be \$157.6 million<sup>2</sup> and the additional cost to interconnect at the Newman substation will  
3 be \$6.2 million. EPE claims that the proposed Newman Unit 6 is needed to serve growth  
4 in customer demand, replace older and less efficient generating facilities that EPE plans  
5 to retire in the next several years, and help EPE meet its planning reserve margin. EPE  
6 selected the option of the proposed Newman Unit 6 through a competitive bidding  
7 process with the assistance of an independent evaluator. During the competitive bidding  
8 process, EPE received 81 proposals from 36 companies. EPE plans to have Newman  
9 Unit 6 in service for the 2023 summer peak season.

10  
11 **Q. Please state the scope of your testimony and the issues you will address in this**  
12 **proceeding.**

13 A. The purpose of my testimony is to summarize my analysis and to comment on the  
14 following issues in the preliminary order:

15 6. From what other regulatory authorities must EPE or an EPE- affiliated entity  
16 seek approval to build, own, and operate the proposed Newman Unit 6?

17 7. Has EPE filed applications for any of those necessary approvals? If so, when  
18 were the applications filed?

19 8. Which regulatory authorities have approved applications relating to the  
20 proposed Newman Unit 6, and which ones have disapproved them? When is  
21 action anticipated on any applications that have not yet been approved or  
22 disapproved?

---

<sup>1</sup> Application of El Paso Electric Company to Amend its Certificate of Convenience and Necessity for an Additional Generating Unit at the Newman Generating Station in El Paso County and the City of El Paso (November 22, 2019) (Application).

<sup>2</sup> Direct Testimony of James Schichtl at 12.

1           **9.** If any regulatory authority, including the Federal Energy Regulatory  
2 Commission, does not approve the proposed facilities, will the facilities be  
3 completed?

4           **10.** Has EPE made any commitments to any other regulatory authority regarding  
5 the facilities proposed in the application for this proceeding? If so, what are those  
6 commitments, and would it be appropriate to condition any approvals in this  
7 docket on similar commitments?

8           **15.** Did EPE correctly apply the reserve-margin threshold of the Western  
9 Electricity Coordinating Council (WECC) in determining EPE's capacity needs?

10          **18.** Will granting the CCN amendment improve service or lower the cost of  
11 service to consumers in the area?

12  
13   **Q.    What information did you rely on to perform this analysis?**

14   A.    I have relied upon my review and analysis of the Application and its attachments.  
15          Additionally, I relied upon information gathered through requests for information (RFIs).

16  
17          **II.    EPE's 2017 All Source Request for Proposal for Electric Peaking Power**  
18               **Supply and Load Management Resources ("2017 All-Source RFP")**

19   **Q.    Did the Company issue a request for proposals for generation?**

20   A.    Yes. The Company issued its RFI on June 30, 2017, for Electric Power Supply and Load  
21 Management Resources.<sup>3</sup> The goal of EPE's 2017 All-Source RFP was to select  
22 additional long-term, cost-effective, and reliable resources that will commence operations  
23 by the 2022-2023 summer peaks.<sup>4</sup> The 2017 All-Source RFP is consistent with EPE's  
24 May 12, 2017 Load and Resources 2018-2027 summary (2017 L&R) which identifies

---

<sup>3</sup> Direct Testimony of Omar Gallegos, Exhibit OG-5 at 1.

<sup>4</sup> *Id.* at 5.

1 “New Builds (local)” of 50 MW by 2022 and 320 MW by 2023 for a total of 370 MW of  
2 additional resources.<sup>5</sup>

3  
4 **Q. Prior to EPE’s acceptance of bids in the 2017 All-Source RFP, did EPE conduct a**  
5 **technical conference to allow potential respondents an opportunity to ask the**  
6 **Company questions regarding the RFP?**

7 A. Yes. The Company held a “Pre-Bid Meeting” on July 19, 2017. At that time, the  
8 Company discussed the RFP, the details required with bid submissions, the RFP  
9 evaluations process, and the timeline associated with the RFP processes.<sup>6</sup>

10  
11 **Q. Were affiliates of EPE permitted to submit a bid in response to the All-Source RFP?**

12 A. Yes. EPE states on page 1 of the 2017 All-Source RFP document that EPE would also  
13 submit a self-build resource bid in response to the 2017 All-Source RFP.<sup>7</sup>

14  
15 **Q. Did EPE select an Independent Evaluator to review EPE’s 2017 All-Source Request**  
16 **for Proposal for Electric Peaking Power Supply and Load Management Resources?**

17 A. Yes. EPE retained Mr. Wayne Oliver, of Merrimack Energy Group, Inc. (Merrimack), as  
18 an Independent Evaluator to oversee EPE’s 2017 All-Source RFP process.<sup>8</sup>

19  
20 **Q. Did Mr. Oliver provide a report of its findings to the Commission?**

---

<sup>5</sup> Direct Testimony of Omar Gallegos, Exhibit OG-3.

<sup>6</sup> Direct Testimony of Wayne J. Oliver, Exhibit WJO-4 at 22.

<sup>7</sup> Direct Testimony of Wayne J. Oliver at 4.

<sup>8</sup> Direct Testimony of Omar Gallegos at 16.



1 A. Yes. The Direct Testimony of Mr. Wayne Oliver is included in EPE's Application.

2  
3 **Q. Please summarize the bids that EPE received in response to its 2017 All-Source**  
4 **RFP?**

5 A. The Company indicates that 36 companies submitted bids representing 81 proposals.  
6 These proposals ranged in size from 10 MW to 450 MW, and included technologies such  
7 as: solar, geothermal, battery storage, wind, demand response, combustion turbine,  
8 combined cycle gas turbine, and reciprocating gas engines.<sup>9</sup> The Company evaluated  
9 each proposal on whether it initially met specific eligibility and threshold requirements,  
10 and then on operating characteristics, transmission impacts, and cost-effectiveness  
11 relative to the remaining configurations to produce a bidder shortlist.<sup>10</sup>

12  
13 **Q. Did all the proposals meet the All-Source RFP eligibility and threshold criteria?**

14 A. No. Two proposals were eliminated when applying the eligibility and threshold  
15 requirements for not meeting threshold requirements. EPE eliminated one battery storage  
16 proposal due to technology risk. Additionally, one proposal was eliminated due to  
17 bidder's financial and credit review. All the other bids moved on to the next phase and  
18 remained in contention.

19  
20 **Q. Did the Company eliminate any of the remaining proposals based on economics?**

---

<sup>9</sup> Direct Testimony of Omar Gallegos at 19.

<sup>10</sup> *Id.* at 27.

1 A. Yes. The Levelized Cost of Energy (LCOE) rankings, in conjunction with the threshold  
2 review, were utilized to develop a shortlist.<sup>11</sup>

3

4 **Q. Did Mr. Wayne Oliver agree with EPE's Analysis?**

5 A. Yes.<sup>12</sup>

6

7 **Q. After the Company had produced a shortlist of bids, did EPE notify the bidders of**  
8 **the 2017 All-Source RFP?**

9 A. Yes. On April 13, 2018, the 42 remaining shortlisted bids were asked to provide a Best  
10 and Final Offer (BAFO) by May 14, 2018.<sup>13</sup>

11

12 **Q. Please describe the components for the Levelized Cost of Energy (LCOE)?**

13 A. Mr. Wayne Oliver explains that EPE used three spreadsheet models to calculate the  
14 LCOE as part of conducting the initial evaluation of the proposals received: (1) a  
15 spreadsheet model for PPA and tolling offers including solar, wind, and other renewable  
16 only bids as well as conventional generation PPAs and load management resources; (2) a  
17 revenue requirements model for cases where EPE would own the project and include the  
18 project in rate base; and (3) an extension of the PPA spreadsheet model for evaluating the  
19 combination of renewable resources and energy storage options by calculating the

---

<sup>11</sup> *Id.* at 28.

<sup>12</sup> Direct Testimony of Wayne J. Oliver at 10.

<sup>13</sup> Direct Testimony of Omar Gallegos at 28.

1 levelized cost of renewable energy plus separate bundled storage costs given the round-  
2 trip efficiencies proposed for charging and discharging the battery or storage facility.<sup>14</sup>  
3

4 **Q. Does Mr. Oliver find EPE's method for calculating LCOE reasonable?**

5 **A. Yes.**<sup>15</sup>  
6

7 **Q. Based on the relative rankings, what was the ranking of the Newman Unit 6 based**  
8 **on the LCOE?**

9 [REDACTED]  
10 [REDACTED]  
11 [REDACTED]  
12 [REDACTED]  
13 [REDACTED]  
14 [REDACTED]  
15 [REDACTED]  
16 [REDACTED]  
17 [REDACTED]

18 **Q. How do you evaluate the EPE's 2017 All-Source Request for Proposal for Electric**  
19 **Peaking Power Supply and Load Management Resources as it relates to this case?**

---

<sup>14</sup> Direct Testimony of Wayne J. Oliver, Exhibit WJO-4 at 24.

<sup>15</sup> *Id.* at 9.

<sup>16</sup> EPE's Response to City of El Paso's Request for Information 1-13 Attachment 1 – HSPM – LCOE Ranking BAFO Short List Summary (Feb. 27, 2020).

1 A. In this case, the Commission is called upon to decide whether there is a need for Newman  
2 Unit 6, and whether it is appropriate considering reasonable alternatives. Regarding this  
3 specific issue, I believe that the Company has shown that Newman Unit 6 is the most  
4 cost-effective among the reasonable alternatives that EPE considered in its 2017 All-  
5 Source RFP.

6  
7 **III. NEED FOR ADDITIONAL PEAKING CAPACITY**

8 **Q. What factors are having a substantial impact on the need for peaking resources?**

9 A. Mr. Gallegos describes EPE's need for additional resources to meet load growth and  
10 reserve margin requirements, and to offset the retirement of three older natural gas-fired  
11 generating units.<sup>17</sup> The generating units that EPE plans to retire at the end of 2022 are  
12 Rio Grande Unit 7 and Newman Units 1 and 2. Rio Grand Unit 7, Newman Unit 1, and  
13 Newman Unit 2 will have retirement ages of 64, 62, and 59 at EPE's planned retirement  
14 date.<sup>18</sup>

15  
16 **Q. Please describe the impact that the planned retirements of Rio Grande Unit 7 and  
17 Newman Units 1 and 2 has on EPE's need for peaking resources?**

18 A. As shown in EPE's 2017 L&R, which was used in the 2017 All-Source RFP, the planned  
19 retirements of Rio Grande Unit 7, Newman Unit 1, and Newman Unit 2 (a total of 196

---

<sup>17</sup> Direct Testimony of Omar Gallegos at 4.

<sup>18</sup> *Id.* at 14.

1 MW) in 2022 contribute to the 370 MW requirement solicited in the 2017 All-Source  
2 RFP.<sup>19</sup>

3  
4 **Q. What did the Company use to support the planned retirements of Rio Grande Unit**  
5 **7 and Newman Units 1 and 2?**

6 A. Mr. Gallegos states in his testimony that these are older, less efficient generating units  
7 and will be approximately 60 years old at the time of retirement, which exceeds the  
8 industry average life and their initial expected useful life.<sup>20</sup> In response to a RFI, EPE  
9 provided studies from third-party consultant, Burns & McDonnell, which determined that  
10 unit retirement extension was not cost-effective.<sup>21</sup>

11  
12 **Q. Is the Company's planned retirements of Rio Grande Unit 7 and Newman Units 1**  
13 **and 2 reasonable for planning purposes?**

14 A. Yes. I believe that the retirements of Rio Grande Unit 7 and Newman Units 1 and 2 are  
15 reasonable for planning purposes and demonstrate a need for EPE's 2017 All-Source  
16 RFP. Staff engineering witness David Bautista discusses the need for retirement of these  
17 units in his direct testimony.<sup>22</sup> EPE has provided capital expenditures and maintenance  
18 forecast for life extension of these units.<sup>23</sup> I believe that EPE has demonstrated a

---

<sup>19</sup> Direct Testimony of Omar Gallegos at 14.

<sup>20</sup> *Id.* at 12.

<sup>21</sup> EPE's Response to Texas Industrial Energy Consumers (TIEC) Request for Information 1-3, Attachments 5 and 6 (Apr. 14, 2020).

<sup>22</sup> Direct Testimony of David Bautista at 8.

<sup>23</sup> EPE's Response to Texas Industrial Energy Consumers (TIEC) Request for Information 1-3, Attachments 5 at 67 and 6 at 90 (Apr. 14, 2020).

1 reliability need for peaking resources and that unit retirement extension of Rio Grande  
2 Unit 7 and Newman Units 1 and 2 are not cost-effective.

3  
4 **Q. Please describe the reserve-margin threshold of the Western Electricity**  
5 **Coordinating Council (WECC)?**

6 A. As stated on the WECC Generation Resource Adequacy Forecast website “A threshold  
7 margin, sometimes called a reference margin or planning margin, is the margin needed to  
8 maintain reliability in a system.”<sup>24</sup> In the observation portion of the WECC Generation  
9 Resource Adequacy Forecast website it states “The overall annual weighted threshold  
10 margin for the Western Interconnection is about 16%. The threshold in the spring is  
11 closer to 20%; threshold for the summer months drops down to 14%.”<sup>25</sup>

12  
13 **Q. How did EPE account for the reserve-margin threshold of the WECC in**  
14 **determining EPE’s capacity needs?**

15 A. Mr. Gallegos states “As a Balance Authority Area, EPE is obligated to maintain a reliable  
16 loads and resources balance. While WECC does not have a specific formal reserve  
17 margin for each balancing year, it is significantly important that WECC does track  
18 reserve margins of balancing regions within ECC and assesses resources adequacy for  
19 WECC as a whole. WECC also establishes Reference Margin Levels (i.e., minimum  
20 reserve margin thresholds) for the various regions within WECC and reports a reserve

---

<sup>24</sup> WECC Threshold Margins at  
<https://www.wecc.org/ePubs/GenerationResourceAdequacyForecast/Pages/Threshold-Margins.aspx> viewed on  
April 24, 2020

<sup>25</sup> *Id.*

margin of 15.1 percent for WECC as a whole.”<sup>26</sup> EPE justifies the use of their 15 percent reserve margin with a 2015 study performed by a third-part consultant Energy and Environmental Economics (E3).<sup>27</sup> E3’s 2015 study determined that a 15.2 percent reserve requirement is optimal.<sup>28</sup>

**Q. Did EPE correct apply the reserve-margin threshold of the WECC in determining EPE’s capacity needs?**

**A.** Yes.

**Q. What assumptions did the Company use to supports its load forecast in its 2017 All-Source RFP?**

**A.** The 2017 All-Source RFP relied on EPE’s 2017 Load Forecast.<sup>29</sup>

**Q. How does the Company develop their annual load forecast?**

**A.** Mr. Novela states that EPE utilizes historical billed sales and the number of monthly customers provided by EPE’s billing system. EPE develops econometric energy forecasting models to estimate future electricity sales for each of the EPE revenue classes within the Texas and New Mexico jurisdictions.<sup>30</sup>

---

<sup>26</sup> Direct Testimony of Omar Gallegos at 10.

<sup>27</sup> *Id.* at 11.

<sup>28</sup> EPE’s Response to TIEC’s Request for Information 1-2, Attachments 1 at 4 (Apr. 14, 2020).

<sup>29</sup> Direct Testimony of George Novela at 4.

<sup>30</sup> *Id.*

1   **Q.   Did the Company provide a more recent load forecast to support the decision to self-**  
2       **build Newman Unit 6?**

3   A.   Yes. Company witness Mr. George Novela (Mr. Novela) presents EPE's 2019 Load  
4       Forecast which was issued on April 9, 2019.<sup>31</sup> Mr. Novela states that there are no  
5       significant changes in assumptions or methodology between the 2019 Load Forecast and  
6       recent load forecasts, including the 2017 and 2018 Load Forecasts.<sup>32</sup>

7  
8   **Q.   Please describe the impact that the Company's load forecast has on EPE's capacity**  
9       **additions.**

10  A.   Coupled along with the planned retirements of Rio Grande Unit 7, Newman Unit 1 and  
11       Newman Unit 2, both EPE's 2017 and 2019 Load Forecasts show a system demand  
12       which warrants need for additional capacity in the 2023 summer peak season.<sup>33</sup>

13  
14  **Q.   Is the Company's load forecast reasonable for planning purposes?**

15  A.   Yes. I believe that the Company's load forecast is reasonable for planning purposes and  
16       demonstrate a need for EPE's 2017 All-Source RFP. EPE's 2017 L&R shows an  
17       increase in total system demand of 101 MW (approximately 5.37%) from 2017 to 2023  
18       and 203 MW (approximately 10.8%) from 2017 to 2027.<sup>34</sup> I believe the growth in  
19       estimated system demand from the 2017 L&R is reasonable and does not overstate the  
20       need for additional peaking resources.

---

<sup>31</sup> *Id.*

<sup>32</sup> *Id.* at 10.

<sup>33</sup> *Id.* at 11.

<sup>34</sup> Direct Testimony of Omar Gallegos, Exhibit OG-3.



1  
2 **Q. Will granting the CCN amendment improve service or lower the cost of service to**  
3 **consumers in the area?**

4 A. Staff witness David Bautista discusses the operational capabilities of the proposed  
5 Newman Unit 6 to improve service.<sup>35</sup> EPE's estimated customer rate impact due to the  
6 addition of Newman Unit 6 is an increase of \$1.77 for non-fuel and decrease of \$0.31 for  
7 fuel to a typical residential monthly bill.<sup>36</sup> The justification for the proposed construction  
8 of Newman Unit 6 is based off reliability needs.  
9

10 **IV. REGULATORY APPROVALS**

11 **Q. From what other regulatory authorities must EPE or an EPE-affiliated entity seek**  
12 **approval to build, own, and operate the proposed Newman Unit 6?**

13 A. EPE needs approval from the New Mexico Public Regulation Commission and is  
14 currently seeking approval with the NMPRC. Additionally, EPE requires environmental  
15 permits authorized by the Texas Commission on Environmental Quality (TCEQ).<sup>37</sup>  
16

17 **Q. Has EPE filed applications for any of those necessary approvals? If so, when were**  
18 **the applications filed?**

19 A. EPE filed at the NMPRC on November 18, 2019. It is NMRPC Case No. 19-00349-UT –  
20 *In the Matter of El Paso Electric Company's Application for a Certificate of Public*  
21 *Convenience and Necessity to Construct, Own, and Operate Generating Unit 6 at the*

---

<sup>35</sup> Direct Testimony of David Bautista at 8.

<sup>36</sup> EPE's Response to City of El Paso's Request for Information 2-14 Attachment 1 (Apr. 29, 2020).

<sup>37</sup> Direct Testimony of Jessica Christianson at 9.

1        *Newman Generating Station.* EPE submitted an application for modification of the  
2        Prevention of Significant Deterioration (PSD) permit with TCEQ on November 16,  
3        2019.<sup>38</sup>

4  
5        **Q. Does the case at the NMPRC coincide with this EPE's application with the**  
6        **Commission?**

7        A. Yes.

8  
9        **Q. Has EPE made any commitments to any other regulatory authority regarding the**  
10       **facilities proposed in the application for this proceeding?**

11       A. No.

12  
13       **Q. If any regulatory authority, does not approve the proposed facilities, will the**  
14       **facilities be completed?**

15       A. EPE requires the approvals of the Commission, TCEQ, and NMPRC to complete the  
16       proposed Newman Unit 6 project.<sup>39</sup>

17  
18       **V. SUMMARY AND CONCLUSION**

19       **Q. Please summarize your responsive testimony.**

---

<sup>38</sup> *Id* at 10.

<sup>39</sup> Direct Testimony of James Schichtl at 5; Direct Testimony of Jessica Christianson at 10.

1 A. EPE's selection of the self-build Newman Unit 6 is the consequence of a reasonable RFP  
2 process. My analysis indicates that EPE's selection of this option is based on a  
3 reasonable planning retirement dates for older generating units and load forecasts.

4

5 **Q. Do you have any other comments.**

6 A. Yes. My responsive testimony is limited to the subject matters referenced. The  
7 Commission and stakeholders should not infer my agreement with, or support of any  
8 subject matter not covered.

9

10 **Q. Does the conclude your responsive testimony.**

11 A. Yes.

**Statement of Qualifications**

**Reginald J. Tuvilla**

In May 2012, I graduated from Texas A&M University with a Bachelor of Science in Mathematics.

Upon completing my undergraduate degree, I worked for Entergy Services, Inc. as an Analyst in The Woodlands, Texas. My primary duties included long-term planning functions based on the requests of management and decision makers. I was responsible for analyzing and validating the results of forecasting tools.

In 2015, I joined the Public Utility Commission as an Infrastructure Analyst. My role at the Commission includes analyzing policy and technical issues regarding energy efficiency cost recovery factor applications, depreciation issues, fuel reconciliation applications, Emergency Management, service area boundary issues, and system planning.

**Testimony Presented by Reginald J. Tuvilla**

Docket No. 49831

SOAH 473-19-6677

APPLICATION OF SOUTHWESTERN PUBLIC SERVICE COMPANY FOR  
AUTHORITY TO CHANGE RATES

Docket No. 49494

SOAH 473-19-4421

APPLICATION OF AEP TEXAS INC. FOR AUTHORITY TO CHANGE RATES

Docket No. 49421

SOAH 473-19-3864

APPLICATION OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC FOR  
AUTHORITY TO CHANGE RATES

Docket No. 48973

SOAH 473-19-1644

APPLICATION OF SOUTHWESTERN PUBLIC SERVICE COMPANY FOR  
AUTHORITY TO RECONICL FUEL AND PURCHASED POWER COSTS

Docket No. 48847

SOAH 473-19-1066

APPLICATION OF SOUTHWESTERN PUBLIC SERVICE COMPANY FOR  
AUTHORITY TO REVISE ITS FUEL FACTOR FORMUALS; CHANGE ITS FUEL  
FACTORS; AND FOR RELATED RELIEF

Docket No. 48401

SOAH 473-18-3981

APPLICATION OF TEXAS-NEW MEXICO POWER COMPANY FOR AUTHORITY TO  
CHANGE RATES

Docket No. 48400

JOINT APPLICATION OF RAYBURN COUNTY ELECTRIC COOPERATIVE, INC.  
AND LONE STAR TRANSMISSION, LLC TO TRANSFER LOAD TO ERCOT, FOR  
SALE OF TRANSMISSION FACILITIES, AND TRANSFER OF CERTIFICATE RIGHTS  
IN HENDERSON AND VAN ZANDT COUNTIES

Docket No. 48371

SOAH 473-18-3733

ENTERGY TEXAS, INC.'S STATEMENT OF INTENT AND APPLICATION FOR  
AUTHORITY TO CHANGE RATES

Docket No. 47461

SOAH 473-17-5481

APPLICATION OF SOUTHWESTERN ELECTRIC POWER COMPANY FOR  
CERTIFICATE OF CONVENIENCE AND NECESSITY AUTHORIZATION AND  
RELATED RELIEF FOR THE WIND CATCHER ENERGY CONNECTION PROJECT

Docket No. 46831

SOAH 473-17-2686

APPLICATION OF EL PASO ELECTRIC COMPANY TO CHANGE RATES

Docket No. 46449

SOAH 473-17-1764

APPLICATION OF SOUTHWESTERN ELECTRIC POWER COMPANY FOR  
AUTHORITY TO CHANGE RATES

Docket No. 45414

SOAH 473-16-4051

REVIEW OF THE RATES OF SHARYLAND UTILITIES, L.P., ESTABLISHMENT OF  
RATES FOR SHARYLAND DISTRIBUTION & TRANSMISSION SERVICES, L.L.C.,  
AND REQUEST FOR GRANT OF A CERTIFICATE OF CONVENIENCE AND  
NECESSITY AND TRANSFER OF CERTIFICATE RIGHTS

Docket No. 44941

SOAH 473-15-5257

APPLICATION OF EL PASO ELECTIC COMPANY TO CHANGE RATES

## R o a d   M a p

The threshold margin of each hour for each subregion sometimes called a reference margin or planning margin system. The first chart shows what the overall average The second and third charts show the monthly average

## O b s e r v a t i o n

The overall annual weighted threshold margin for the spring months is closer to 20%; threshold for

## P a g e   T i p

Clicking a region on the map will change the charts to show the charts back to the overall Western Interconnection results

Printing has been disabled by your Power BI tenant admin.

Microsoft Power BI

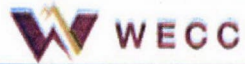


< Previous Pages / Generation Resource Adequacy Forecast  
Next Page / Generation Resource Adequacy Forecast

000023







## Threshold Margins

## Generation Resource Adequacy Forecast

[Introduction](#)
[Deterministic Resource Adequacy](#)
[Demand](#)
[Nameplate](#)
[Availability](#)
[Margin](#)
[Threshold Margins](#)
[Variability](#)
[Probabilistic Resource Adequacy](#)
[Explore Resource Adequacy](#)

### Road Map

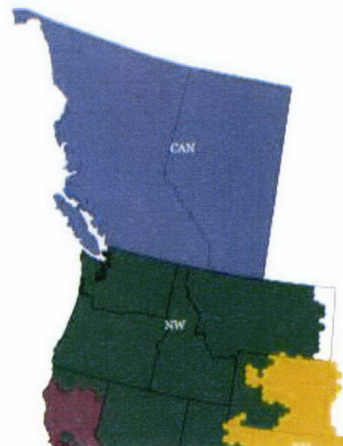
The threshold margin of each hour for each subregion is calculated for comparison. A threshold margin, sometimes called a reference margin or planning margin, is the margin needed to maintain reliability in a system. The first chart shows what the overall average threshold margin should be for each subregion by year. The second and third charts show the monthly average threshold margin and the hourly margin, respectively.

### Observation

The overall annual weighted threshold margin for the Western Interconnection is about 16%. The threshold in the spring months is closer to 20%; threshold for the summer months drops down to 14%.

### Page Tip

Clicking a region on the map will change the charts to show that area's information. Clicking the same area again will switch the charts back to the overall Western Interconnection results.



#### Year

- ☐ 2020  
☐ 2021  
☐ 2022  
☐ 2023  
☐ 2024  
☐ 2025  
☐ 2026  
☐ 2027  
☐ 2028  
☐ 2029

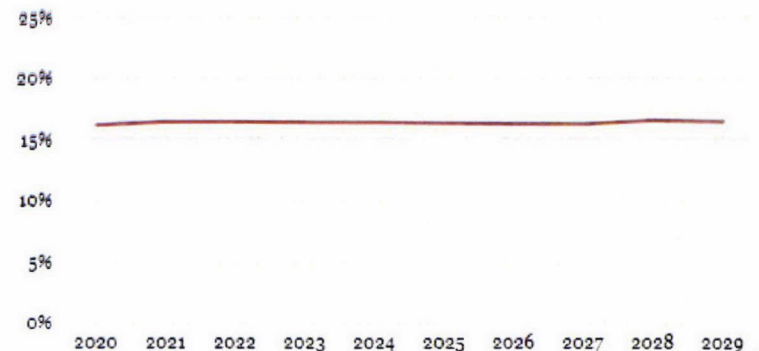
#### Month

- ☐ January  
☐ February  
☐ March  
☐ April

#### Hour

- ☐ 0  
☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5  
☐ 6  
☐ 7  
☐ 8  
☐ 9  
☐ 10  
☐ 11  
☐ 12  
☐ 13  
☐ 14  
☐ 15

### Annual Threshold Weighted Average Margin



### Monthly Threshold Weighted Average Margin

