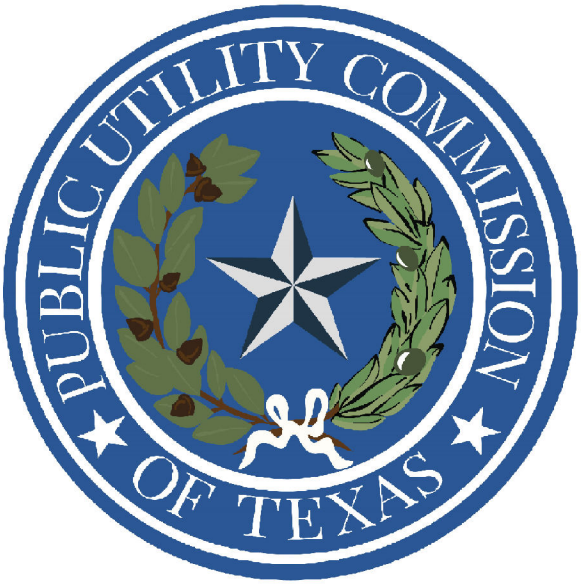

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September 7, 2022

Stephen Journeay
Commission Counsel
Public Utility Commission of Texas
1701 N. Congress Avenue
Austin, Texas 78701

Re: SOAH Docket No. 473-22-1073; PUC Docket No. 52485; *Application of Southwestern Public Service Company to Amend its Certificate of Convenience and Necessity to Convert Harrington Generating Station from Coal to Natural Gas*

Dear Mr. Journeay:

Consistent with Commissioner McAdams' memorandum issued on August 23, 2022, Southwestern Public Service Company ("SPS") is filing the attached Responsive Testimony of Ben R. Elsey. As noted in SPS's Reply to Exceptions, SPS respectfully submits that the current evidentiary record continues to fully support conversion of all units at the Harrington Generating Station. However, to the extent that the Commissioners believe that Mr. Elsey's Responsive Testimony should supplement the existing evidentiary record, SPS hereby offers that testimony and requests that it be admitted into evidence.

Sincerely,

Mark Santos
Attorney for Southwestern Public Service Company

MAS:ssm
Attachment

cc: All Parties of Record

DOCKET NO. 52485
SOAH DOCKET NO. 473-22-1073

APPLICATION OF SOUTHWESTERN PUBLIC SERVICE COMPANY TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY TO CONVERT HARRINGTON GENERATING STATION FROM COAL TO NATURAL GAS	**§ § § § § § §**	**BEFORE THE PUBLIC UTILITY COMMISSION OF TEXAS**

RESPONSIVE TESTIMONY
of
BEN R. ELSEY

on behalf of

SOUTHWESTERN PUBLIC SERVICE COMPANY

Table of Contents

GLOSSARY OF ACRONYMS AND DEFINED TERMS

Acronym/Defined Term	Meaning
Harrington	Harrington Generating Station
MW	Megawatt
NPV	Net Present Value
PRM	Planning Reserve Margin
PVRR	Present Value Revenue Requirement
SPS	Southwestern Public Service Company, a New Mexico corporation

RESPONSIVE TESTIMONY
OF
BEN R. ELSEY

I. WITNESS IDENTIFICATION

Q. Please state your name and business address.

A. My name is Ben R. Elsey. My business address is 1800 Larimer Street, Denver, Colorado 80202.

Q. By whom are you employed and in what position?

A. I am employed by Xcel Energy Inc. as Manager, Resource Planning & Bidding.

Q. On whose behalf are you testifying in this docket?

A. I am testifying on behalf of Southwestern Public Service Company, a New Mexico corporation ("SPS").

Q. Are you the same Ben R. Elsey who filed direct and rebuttal testimony on behalf of SPS in this docket?

A. Yes.

II. SUMMARY OF TESTIMONY

Q. Why are you providing Responsive Testimony at this time?

A. On August 23, 2022, Commissioner Will McAdams of the Public Utility Commission of Texas issued a memo requiring SPS to provide updated testimony and analysis addressing specific issues related to the impact of Southwest Power Pool's decision to increase the planning reserve margin ("PRM") requirement from 12% to 15% and how that affects SPS's request to convert the Harrington Generating Station ("Harrington") to natural gas.[1]

Q. How is your Responsive Testimony structured?

A. My testimony addresses the four items Commissioner McAdams identified in his memo:[2]

- The economic and additional benefits of converting the Harrington generating units;
- The effect a 15% planning reserve margin has on SPS's resource planning process;
- The replacements' impact to Harrington's contribution to the PRM requirements; and
- The economic analysis of the Harrington generating units.

Q. Please summarize your Responsive Testimony.

A. The recent increase in the PRM to 15% further supports SPS's request to convert all three Harrington units to operate on natural gas. The PRM increase means that, annually, SPS will need up to 157 megawatts ("MW") more of additional,

[1] Commissioner Memorandum (Aug. 23, 2022).

[2] *Id.*

accredited capacity. Converting all three Harrington units to natural gas so they can continue operating, best positions SPS to comply with those capacity needs without having to obtain replacement capacity through other means that may not be available or, if available, could be very expensive. As explained in my Direct and Rebuttal testimonies, the total cost to convert all three units is estimated to be approximately $65 to $75 million, including an incremental cost of $2.6 million to convert the third Harrington unit, which is cost-effective compared to alternatives in the market.[3]

In addition, the increase in the PRM does not fundamentally change SPS's resource planning process because SPS views the PRM as one of several factors that must be considered for maintaining system reliability. Also, replacing coal-fired generation at Harrington with a natural gas fuel source does not change Harrington's contribution of 1,050 MW to the PRM requirements. Finally, a revised economic analysis using the 15% PRM shows that conversion of all three Harrington units continues to be the most cost-effective and least risky option available to SPS, which further validates the evidence SPS has already presented to support its request for full conversion of Harrington.

[3] SPS Ex. 7, Direct Testimony of Ben R. Elsey at 8:6-9; SPS Ex. 8, Rebuttal Testimony of Ben R. Elsey at 9:6-9, 10:12-17.

III. THE ECONOMIC AND ADDITIONAL BENEFITS OF CONVERTING THE HARRINGTON GENERATING UNITS

Q. What topic do you discuss in this section of your Responsive Testimony?

A. In this section, I address the impact the increased PRM has on the economic and other benefits of converting the Harrington generating units to gas. I address the impact to SPS's economic analysis in Section VI of my updated testimony.

Q. In general, what impact does the increase to a 15% PRM have on the reliability benefits of converting the Harrington generation units?

A. The decision by the Southwest Power Pool to increase the PRM was made to ensure there are sufficient generating resources across the entire Southwest Power Pool footprint to maintain system reliability, particularly as utilities transition to more intermittent renewable energy resources.[4] Converting the Harrington units to operate on natural gas instead of coal preserves over 1,000 MW of firm and dispatchable capacity, assisting SPS in meeting the increased PRM and ensuring system reliability even when the wind is not blowing, or the sun is not shining. Converting the Harrington units at this time also provides a hedge against any further increases in resource adequacy requirements, future load growth, and delays in procuring new generating resources.

[4] *See* Southwest Power Pool Board Approval, meeting minutes July 16, 2022 at https://www.spp.org/documents/67635/bod_mc%20minutes%202022%2007%2026.pdf and Regional State Committee Approval, meeting minutes July 26, 2022 at https://www.spp.org/documents/67602/rsc%20minutes%20july%2025,%202022%20v2.pdf (inclusive of Staff presentations).

Q. Please quantify the impact the increase in the PRM requirement has on SPS's capacity needs.

A. SPS requires between 116 MW to 157 MW of additional capacity on an annual basis to meet the 3% increase to the PRM requirement.

Q. Does the increase in PRM requirements fundamentally change SPS's request to convert all three Harrington units to operate on natural gas?

A. No. In fact, the need for up to 157 MW of additional capacity confirms that SPS's request to convert all three Harrington units to operate using natural gas remains the most prudent and cost-effective path forward.

Q. Can SPS meet the 15% PRM requirement in 2025 if all three Harrington units are converted to gas?

A. Yes. As shown below in Table 1, if all three Harrington units are converted to gas at the end of 2024, SPS has sufficient capacity in 2025 to meet its 15% PRM requirement under both the planning and financial forecasts.

Table 1. Capacity Position if all Harrington Units are Converted (15% PRM) [5]

Capacity Position	2025	2026	2027	2028	2029	2030
Planning Forecast	20	(264)	(394)	(696)	(892)	(966)
Financial Forecast	402	165	98	(157)	(312)	(344)

Converting all three Harrington units puts SPS in the best position to meet those increased capacity needs.

Q. Can SPS meet the 15% PRM requirement in 2025 if only two Harington units are converted to gas?

A. Possibly not. As shown below in Table 2, if Harrington Unit 1 is retired at the end of 2024 due to the requirement to cease coal operations by that time and only two units are converted to gas, SPS requires 320 MW of capacity in 2025 under the planning forecast and 175 MW of capacity by 2026 under the financial forecast.

Table 2. Capacity Position if Harrington Unit 1 is Retired (15% PRM)

Capacity Position	2025	2026	2027	2028	2029	2030
Planning Forecast	(320)	(604)	(734)	(1,036)	(1,232)	(1,306)
Financial Forecast	62	(175)	(242)	(497)	(652)	(684)

[5] As stated in Mr. Elsey's Direct Testimony, the planning forecast is predominantly used for resource planning evaluations and the financial forecast is primarily used for financial planning. SPS Ex. 7 at 31:6-8.

Q. With the increase to 15% for the PRM, does converting all three units rather than two units provide SPS with any other qualitative benefits?

A. Yes. This can be seen by comparing the size of the capacity needs shown in Tables 1 and 2 above. Converting all three units, including Harrington Unit 1, preserves an additional 340 MW of firm and dispatchable capacity through 2036. As a result, throughout this time, SPS's capacity need is 340 MW less than it would be if the unit is retired. For example, under the planning forecast in 2026, SPS's capacity need is 264 MW if all three units are converted rather than 604 MW if only two units are converted. This is an important difference because it is much easier and less risky to acquire replacement resources for a 264 MW capacity shortfall in less than 4 years than it is to try and acquire replacement resources for 604 MW. Therefore, the concerns and risks I describe for acquiring replacement capacity throughout my Direct and Rebuttal testimonies are exacerbated with the increased PRM.[6] Converting all three Harrington units remains the lowest cost, most prudent solution, especially with the increased capacity needs.

IV. THE EFFECT A 15 PERCENT PLANNING RESERVE MARGIN HAS ON SPS'S RESOURCE PLANNING PROCESS

Q. What do you address in this section of your Responsive Testimony?

A. In this section of my testimony, I address the effect the increase in PRM requirements has on SPS's resource planning process, which is the second item in Commissioner McAdams' memo.

[6] *See* SPS Ex. 7 at 21:12-22:6; SPS Ex. 8 at 14:18-15:10, 43:5-45:14.

Q. Does the increase in PRM change SPS's resource planning process?

A. No. The resource planning process I describe in Section IV of my Direct Testimony will essentially remain the same other than that SPS will now plan to meet a 15% PRM instead of a 12% PRM.

Q. Does the increase in PRM affect how resource planning decisions should be evaluated?

A. No. While it changes one parameter of the analysis, it does not change the overall analytical framework through which resource planning decisions should be evaluated. The PRM requirement is a *minimum* requirement, rather than a target or ceiling. Furthermore, the PRM is not the only consideration for maintaining system reliability. When the results of economic analyses are relatively close, as they are between converting all three Harrington units and converting just two units, qualitative criteria such as serving potential load growth, maintaining system reliability, and meeting potential further increases in resource adequacy requirements should be given careful consideration. The increase in PRM is one example of why other qualitative and reliability benefits should be considered when making resource planning decisions. This is especially true given the time it takes to acquire replacement capacity resources and have them available to serve customers by the time the capacity is needed.

V. THE REPLACEMENTS' IMPACT ON HARRINGTON'S CONTRIBUTION TO THE PLANNING RESERVE MARGIN REQUIREMENTS

Q. What topic do you address in this section of your Responsive Testimony?

A. In this section of my testimony, I address how replacement resources impact Harrington's contribution to the PRM requirements, which is the third item in Commissioner McAdams' memo.

Q. Will SPS continue to count the Harrington units towards its planning reserve margin requirements in the same manner after the conversion of all three units is completed?

A. Yes. The change in the PRM approved by the Southwest Power Pool does not change how resources and their contributions are analyzed; the 1,050 MW of capacity at Harrington will be counted in the same way regardless of whether the PRM is 12% or 15%.

VI. THE ECONOMIC ANALYSIS OF THE HARRINGTON GENERATING UNITS

Q. What topic do you address in this section of your Responsive Testimony?

A. In this section, I address the impact of the 15% PRM to SPS's economic analysis of the Harrington generating units, which is the fourth item in Commissioner McAdams' memo.

Q. Does the increase in the PRM materially change the results of SPS's economic analysis under the planning load?

A. No. SPS has re-run several of the initial EnCompass scenarios with a 15% PRM on a net present value ("NPV") basis. The results, including the base case of full conversion (Scenario 2 in SPS's original analysis)[7], are summarized below in Table 3 for the planning load. For reference, the corresponding results from the original EnCompass analysis addressed in my Direct Testimony are shown below in Table 3(a).[8] Due to the expeditious nature of Commissioner McAdams' request, SPS re-ran the scenarios that have been the subject of most discussion throughout this case.

[7] The base case includes the base gas forecast and $400/kW for transmission network upgrades.

[8] SPS Ex. 7 at 32 (Table BRE-2) and Exhibit BRE-1.

Table 3: Results of 2021 Harrington Economic Analysis using Planning Load Forecast and a 15% PRM

Scenario	Description	Delta[9] ($M)	NPV ($M) 2022-2024[10]	Delta ($M)[11]	NPV ($M) 2022-2041[12]
Scenario 2	Convert all Harrington Units to natural gas	$0	$2,453	$0	$12,021
Scenario 1	Retire all Harrington Units	$165	$2,618	$135	$12,156
Scenario 6	Convert 2 Units to gas / Retire 1 Unit	$40	$2,493	$4	$12,025

Table 3(a): Results of 2021 Harrington Economic Analysis using Planning Load Forecast and a 12% PRM

Scenario	Description	Delta ($M)	NPV ($M) 2022-2024	Delta ($M)	NPV ($M) 2022-2041
Scenario 2	Convert all Harrington Units to natural gas	$0	$2,450	$0	$11,949
Scenario 1	Retire all Harrington Units	$168	$2,618	$123	$12,072
Scenario 6	Convert 2 Units to gas / Retire 1 Unit	$39	$2,490	($5)	$11,944

[9] Delta ($M) refers to the difference between the base case (Scenario 2) and the reference case (e.g., Scenario 1 or Scenario 6). Put differently, it is the difference in cost between converting all units at Harrington to natural gas (Scenario 2) and retiring one or all three units. In this column, it is the difference in short-term NPV.

[10] The short-term NPV of the scenario.

[11] The difference between the cost of converting all units at Harrington to natural gas and retiring one or all units in long-term NPV.

[12] The long-term NPV of the scenario.

Q. Do the results of the updated analysis shown in Table 3 materially change compared to the original results in Table 3(a)?

A. No, the results are fundamentally the same because the updated analysis using the 15% PRM continues to show that converting all three Harrington units is a cost-effective replacement option. In fact, it shows that full conversion is the most cost-effective scenario using the planning load.

In the original analysis, when compared to converting all Harrington units to natural gas, the cost of converting two units was $39M higher, on a present value revenue requirement ("PVRR") basis, between 2022 – 2024 and $5M lower in cost between 2022 – 2041. In the updated analysis, the cost of converting two units is now $40M higher in cost, on a PVRR basis, between 2022 – 2024 and $4M higher in cost between 2022 – 2041.

In the original analysis, when compared to converting all Harrington units to natural gas, the cost to retire all units was $168M higher, on a PVRR basis, between 2022 – 2024 and $123M higher in cost between 2022 – 2041. In the updated analysis, the cost to retire all units is now $165M higher, on a PVRR basis, between 2022 – 2024 and $135M higher in cost between 2022 – 2041. Again, the results are fundamentally the same.

Q. Did SPS update the Harrington Analysis using a 15% PRM using the financial load?

A. Yes, and the results are materially the same and show that conversion of all three Harrington units continues to be a cost-effective replacement option. The base case results are summarized below in Table 4 for the financial load. For reference, the

corresponding results from the original EnCompass analysis addressed in my Direct Testimony are shown below in Table 4(a).[13]

Table 4: Results of 2021 Harrington Economic Analysis using Financial Load Forecast and a 15% PRM

Scenario	Description	Delta ($M)	NPV ($M) 2022-2024	Delta ($M)	NPV ($M) 2022-2041
Scenario 2	Convert all Harrington Units to natural gas	$0	$2,295	$0	$10,443
Scenario 1	Retire all Harrington Units	$165	$2,460	$63	$10,506
Scenario 6	Convert 2 Units to gas / Retire 1 Unit	$40	$2,334	($13)	$10,429

Table 4(a): Results of 2021 Harrington Economic Analysis using Financial Load Forecast and a 12% PRM

Scenario	Description	Delta ($M)	NPV ($M) 2022-2024	Delta ($M)	NPV ($M) 2022-2041
Scenario 2	Convert all Harrington Units to natural gas	$0	$2,295	$0	$10,388
Scenario 1	Retire all Harrington Units	$165	$2,460	$47	$10,435
Scenario 6	Convert 2 Units to gas / Retire 1 Unit	$40	$2,334	($29)	$10,358

Q. Can you explain why there is little change in the results using a 15% PRM?

A. Yes. Although an increase in the PRM can substantially change economic modeling results for some scenarios, as I described on page 14 of my Rebuttal Testimony, "[t]he EnCompass model selects the most cost-effective portfolio of generating resources." I explained at pages 11 to 12 of my Direct Testimony that

[13] SPS Ex. 7 at 35 (Table BRE-3) and Exhibit BRE-1.

EnCompass is a production costing model that uses an algorithm to determine the least-cost resources for a utility system from a prescribed set of resource technologies under a given set of assumptions including the PRM. The portfolio of replacement generating resources that EnCompass selects *must* meet SPS's PRM requirements, but the modeling is not capped at the PRM. In other words, when SPS originally conducted the economic analysis I addressed in my Direct Testimony, the EnCompass model was required to select resources that provided enough capacity to meet the then-current 12% PRM but, EnCompass could also add additional resources if it were economical to do so. In most cases, EnCompass optimally added sufficient resources to meet the new 15% PRM because those resources were also the most cost-effective—at least in the years in which Harrington would be converted to gas.

Q. Does this conclude your Responsive Testimony?

A. Yes.

AFFIDAVIT

STATE OF COLORADO)
)
COUNTY OF DOUGLAS)

BEN R. ELSEY first being sworn on his oath, states:

I am the witness identified in the preceding responsive testimony. I have read the testimony and the accompanying attachment(s) and am familiar with the contents. Based upon my personal knowledge, the facts stated in the testimony are true. In addition, in my judgment and based upon my professional experience, the opinions and conclusions stated in the testimony are true, valid, and accurate.

BEN R. ELSEY

Subscribed and sworn to before me this 14 day of September, 2022 by BEN R. ELSEY

HALLE TODD
NOTARY PUBLIC - STATE OF COLORADO
NOTARY ID 20204042263
MY COMMISSION EXPIRES DEC 3, 2024

Notary Public, State of Colorado

My Commission Expires: 12/3/2024

CERTIFICATE OF SERVICE

I certify that, unless otherwise ordered by the presiding officer, notice of the filing of this document was provided to all parties of record via electronic mail on September 7, 2022, in accordance with the Order Suspending Rules, issued in Project No. 50664.

/s/*Mark A. Santos*
Mark A. Santos