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Received - 2022-04-22 02:36:39 PM
Control Number - 52485
ItemNumber - 159

SOAH DOCKET NO. 473-22-1073
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	**§**	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

SOUTHWESTERN PUBLIC SERVICE COMPANY'S
RESPONSE TO ALLIANCE OF XCEL MUNICIPALITIES'S
FIFTH REQUEST FOR INFORMATION
QUESTION NOS. 5-1 THROUGH 5-32
(*Filename*: SPSRespAXM5th.doc; *Total Pages*: 39)

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SOUTHWESTERN PUBLIC SERVICE COMPANY'S
RESPONSE TO ALLIANCE OF XCEL MUNICIPALITIES'
FIFTH REQUEST FOR INFORMATION
QUESTION NOS. 5-1 THROUGH 5-32

Southwestern Public Service Company ("SPS") files this response to the Alliance of Xcel Municipalities' ("AXM") Fifth Request for Information, Question Nos. 5-1 through 5-32. SPS has provided notice, by email, to all parties that SPS's Responses to AXM's Fifth Request for Information and accompanying exhibits (excluding voluminous and exhibits provided pursuant to the protective order) have been filed with the Commission and are available for download from the Commission's Interchange website.

I. WRITTEN RESPONSES

SPS's written responses to AXM's Fifth Request for Information are attached and incorporated by reference. Each response is stated on or attached to a separate page on which the request has been restated. SPS's responses are made in the spirit of cooperation without waiving SPS's right to contest the admissibility of any of these matters at hearing. In accordance with 16 Tex. Admin. Code § 22.144(c)(2)(A) ("TAC"), each response lists the preparer or person under whose direct supervision the response was prepared and any sponsoring witness. When SPS provides certain information sought by the request while objecting to the provision of other

information, it does so without prejudice to its objection in the interests of narrowing discovery disputes under 16 TAC § 22.144(d)(5). Pursuant to 16 TAC § 22.144(c)(2)(F), SPS stipulates that its responses may be treated by all parties as if they were made under oath.

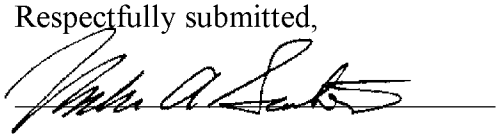
II. INSPECTIONS

If responsive documents are more than 100 pages but less than eight linear feet in length, the response will indicate that the attachment is voluminous ("(V)") and, pursuant to 16 TAC § 22.144(h)(2), the exhibit will be made available for inspection at SPS's voluminous room at 919 Congress Avenue, Suite 900, Austin, Texas 78701; telephone number (512) 721-2700. Voluminous exhibits will also be provided via email through Coffin Renner LLP's file sharing link.

If a response or the responsive documents are provided pursuant to the protective order in this docket, the response will indicate that it or the attachment is either Confidential ("CONF") or Highly Sensitive ("HS") as appropriate under the protective order. Access to Confidential and Highly Sensitive materials will be available through Coffin Renner LLP's file sharing link to all parties that have signed and filed the certification under the protective order entered in this docket. Confidential and Highly Sensitive responsive documents will also be made available for inspection at SPS's voluminous room, unless they form a part of a response that exceeds eight linear feet in length; then they will be available at their usual repository in accordance with the following paragraph. Please call in advance for an appointment to ensure that there is sufficient space to accommodate your inspection.

If responsive documents exceed eight linear feet in length, the response will indicate that the attachment is subject to the FREIGHT CAR DOCTRINE, and, pursuant to 16 TAC § 22.144(h)(3), the attachment will be available for inspection at its usual repository, SPS's offices in Austin, Texas, unless otherwise indicated. SPS requests that parties wishing to inspect this material provide at least 48-hour notice of their intent by contacting Stephanie Tanner at Coffin Renner LLP PC, 1011 West 31st Street, Austin, Texas 78705; telephone number (512) 879-0900; facsimile transmission number (512) 879-0912; email address stephanie.tanner@crtxlaw.com Inspections will be scheduled to accommodate all requests with as little inconvenience to the requesting party and to SPS's operations as possible.

Respectfully submitted,



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ATTORNEYS FOR
SOUTHWESTERN PUBLIC SERVICE COMPANY

RESPONSES

QUESTION NO. AXM 5-1:

Reference page 7, lines 11-16 of SPS witness Grant's rebuttal testimony, please provide the assumed level (MW) and cost ($/kW) of new combustion turbine capacity that results in the referenced $500 million cost of constructing new combustion turbines at the Harrington site.

RESPONSE:

As described on page 28, lines 9 through 11 of the Direct Testimony of Mr. Ben R. Elsey, firm peaking generation, such as a 200 MW combustion turbine, is estimated to cost approximately $100M, or $500/kW, per combustion turbine.

Therefore, the cost to replace approximately 1,000MW of firm and dispatchable capacity provided by Harrington with new combustion turbines is approximately $500 million, excluding the cost of the new gas pipeline, AFUDC, and any transmission network upgrade costs.

Note: Combustion turbine generators provide the lowest cost of capacity when compared to other technologies. Therefore, replacing 1,000MW of accredited capacity with other technologies, such as wind, solar and/or battery energy storage will result in a higher initial capital outlay.

For example, as confirmed in SPS's response to AXM 5-32, when compared to the "Harrington Conversion" scenario, the "Retire and Replace" Scenario includes approximately 1,100 MW more solar generation and approximately 600 MW more gas turbines (summer rating) over the 2025-2030 period. The additional initial capital outlay for the additional 600MW of new gas combustion turbines and 1,100MW of new solar generation is expected to be $1.4B, assuming $500/kW for new combustion turbines and $1,000/kW for new solar generation. The cost of new solar generation is included on page 40, lines 20-21 of the Direct Testimony of Ben R. Elsey. This does not include the cost of a new gas pipeline, AFUDC, and any transmission network upgrade costs.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-2:

Reference page 11, lines 16-20 of SPS witness Grant's rebuttal testimony, please confirm that SPS has not issued an RFP for replacement of the Harrington generating capacity. If deny, provide a copy of this RFP.

RESPONSE:

Confirmed. Instead, SPS issued an RFI for replacement of all SPS coal-burning units, including Harrington.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-3:

Reference page 11, lines 16-20 of SPS witness Grant's rebuttal testimony, please confirm that SPS's RFI does not mention the Harrington plant. If deny, provide a copy of the RFI and a cite the specific pages which reference the Harrington plant.

RESPONSE:

Deny. Refer to Exhibit SPS AXM 1-18 for a copy of the RFI that was provided to AXM on January 26, 2022.

The RFI does not mention Harrington by name, but on page 3 of SPS's RFI, there is a reference that includes the Harrington plant. Specifically, it states "The Tolk Analysis will also consider a scenario in which all SPS's coal-burning units are retired or replaced before 2030". This statement includes both Tolk and Harrington.

Also, on page 3, the RFI states "The maximum net capacity need is approximately 2,200 MW beginning summer 2025". This is the combined capacity of both Tolk and Harrington.

SPS's RFI was designed to evaluate the retirement of both Tolk and Harrington. This was demonstrated in the proposals received, which included bids throughout SPS's service territory and beyond, and included both solar and wind proposals that interconnected at Harrington and Tolk.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-4

Reference page 11, lines 16-20 of SPS witness Grant's rebuttal testimony, please confirm that SPS's RFI indicates that the document is not an RFP but rather is a request for information to be used for a study of the Tolk Plant which was required by terms of a New Mexico rate case settlement agreement. If deny, provide a copy of the RFI and a cite the specific pages which state that the RFI is an RFP.

RESPONSE:

Confirm, in part, deny, in part. Refer to Exhibit SPS AXM 1-18 for a copy of the RFI that was provided to AXM on January 26, 2022.

SPS agrees its RFI was not an RFP and that the RFI included a study of the Tolk Plant. The scope of the RFI was not limited to study of the Tolk Plant and also included evaluating the retirement of all SPS's coal burning units. Please refer to SPS's response to Question No. AXM 5-3.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-5:

Please confirm that SPS's RFI, as referenced on page 11 of Mr. Grant's rebuttal testimony does not indicate that it would allow bidders to propose new generating resources to be located at Harrington site or other existing SPS plant sites. If deny, provide documentation that supports such denial.

RESPONSE:

Deny. Refer to Exhibit SPS AXM 1-18 for a copy of the RFI that was provided to AXM on January 26, 2022.

Although it is not explicitly stated that bidders could provide proposals that interconnect at existing SPS plant sites including Harrington, there was no need for SPS to explicitly include that information. Instead, the language of the RFI was broad enough to allow for new resources to be located at existing SPS plant sites, as follows:

- SPS is interested in understanding the current availabilities, flexibilities, and preferences of market participants interested in providing capacity and associated energy to SPS from all generating resource types, including energy storage, whether existing or yet-to-be constructed. SPS is considering the availability of capacity resources for possible future owned generation, build-own-transfers ("BOTs"), and purchased power agreements ("PPAs"). (RFI at page 3)

- Expressions of interest should be from existing or proposed generating facilities within the SPS zone or delivered to the SPS zone from existing or proposed sites within the Southwest Power Pool. (RFI at page 4)

- Project site location for delivery within (or to) the SPS system. (RFI at page 4)

In fact, SPS received several proposals that assumed interconnection at both Tolk and Harrington. Furthermore, SPS evaluated all combustion turbine generators and standalone battery energy storage resources without including transmission network upgrade costs on the assumption they would utilize existing generator interconnection rights.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-6:

Reference page 14, line 12 through page 15, line 2 of SPS witness Grant's rebuttal testimony and pages 17 of Mr. Norwood's direct testimony, please confirm that Mr. Norwood's direct testimony does not recommend that SPS replace Harrington with an entirely new more efficient gas-fired facility or a combined cycle facility. If deny, provide documentation that supports such denial.

RESPONSE:

Deny.

On page 17, lines 16-19 of his direct testimony, Mr. Norwood states:

> Moreover, under the Retire and Replace alternative, SPS would replace the Harrington coal units with new combustion turbine resources that would be far better suited to provide the quick start and peaking service capability that is required for effective back-up of renewable energy resources and other requirements of the SPS system. Therefore, I recommend that the Commission deny SPS's request for approval of the Harrington gas conversion project.

In addition, on page 3, lines 24 through 29 of his direct testimony, Mr. Norwood states:

> The option of retirement and replacement of the Harrington coal units with new gas-fired combustion turbines located at the Harrington site is generally consistent with SPS's 2021 Integrated Resource Plan and would provide several economic and operational advantages over the proposed gas conversion project, including newer more efficient units with much longer operating lives and better ability to back up renewable energy resources.

On page 9, lines 21 through 28 of his direct testimony, Mr. Norwood states:

> Gas-fired combustion turbines would be better suited than the converted Harrington units to supply the Company's requirements for capacity reserves, voltage regulation, and renewable energy support. In fact, SPS's 2021 IRP indicates that new gas-fired combustion turbines are the preferred resource for meeting the Company's forecasted system capacity requirements beginning in 2030. Replacing the Harrington coal units with new gas-fired combustion turbines at the Harrington site, would require the Company to move up by several years its current plans for new combustion turbines.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-7:

Please confirm that the "Retire and Replace" alternative Mr. Norwood references on pages 15 and 17 of his direct testimony is Scenario 1 as evaluated by witness Elsey. If deny, provide documentation that supports such denial.

RESPONSE:

Confirmed regarding the reference to page 15 and deny as to page 17. SPS's "Retire and Replace" scenario includes new combustion turbines, wind, and solar generation. Please refer to SPS's response to Question No. AXM 5-9.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-8:

Please confirm that the "Retire and Replace" alternative (Scenario 1) evaluated by witness Elsey does not replace retired Harrington capacity entirely with new gas-fired combustion turbines. If deny, provide documentation that supports such denial.

RESPONSE:

Confirmed. Please refer to SPS's response to Question Nos. SPS-AXM 5-9 and SPS-AXM 5-32.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-9:

Please confirm that the base case "Retire and Replace" alternative (Scenario 1) evaluated by witness Elsey assumes that SPS would add approximately 1100 MW (nameplate) of new wind and solar resources before the Harrington coal units are retired and would add a total of approximately 700 MW of new gas-fired combustion turbine peaking units over the years 2026, 2027 and 2028. If deny, provide documentation that supports such denial.

RESPONSE:

Confirmed with the following clarification.

The years listed for new resources in the EnCompass output files represent the beginning of the year the resource goes in-service. In other words, if a resource is listed with a 2025 in-service date, this represents the resource being placed in-service at 12:00am on 1/1/2025, or put differently, immediately upon or simultaneously with the retirement of the Harrington coal units.

Therefore, SPS's base case "Retire and Replace" alternative included 2,058MW (nameplate) of new wind and 925MW (nameplate) of new solar generation before, or immediately upon or simultaneously with the retirement of the Harrington coal units. SPS's base case included new gas-fired combustion turbines beginning at the end of 2025.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-10:

Please confirm that the "Retire and Replace" alternative (Scenario 1) evaluated by witness Elsey assumes that SPS would add new gas-fired combustion turbines in 2027, 2028 and 2029. If deny, provide documentation that supports such denial.

RESPONSE:

Please refer to SPS's response to AXM 5-9.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-11:

Please provide the cumulative NPV of assumed interconnection costs for new generating resources for each of the six scenarios and each sensitivity case evaluated by Mr. Elsey.

RESPONSE:

SPS has not conducted this calculation.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-12:

Please confirm that the NPV difference between Scenarios 1 and 2 are lower in sensitivity cases which assume higher natural gas prices.

RESPONSE:

Deny. The cost between Scenario 1 and 2 is higher in the sensitivity case using the planning load forecast, high gas, and $600/kW transmission network upgrade costs.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-13:

Please confirm that Mr. Norwood's direct testimony does not address or recommend that SPS should "mothball" one or more of the Harrington units. If deny, provide documentation that supports such denial.

RESPONSE:

Deny. Mr. Norwood does not use the term "mothball" in his testimony. He does describe a process that includes terms such as "delaying a final decision," "taking additional time," "issuing an RFP" for new replacement generation, or replacing the units with combustion turbine generation. Each of these events would trigger the unit or units to be placed into "mothball" status based on the timing of such events and the deadline of the TCEQ order to cease burning of coal. Operationally, the proposals Mr. Norwood suggests could not take place in time.

Preparer: William A. Grant
Sponsor: William A. Grant

QUESTION NO. AXM 5-14:

Please provide the age of each existing gas-fired combustion turbines owned by SPS.

RESPONSE:

See Mark Lytal's Rebuttal Testimony – Table Page 9.

Preparer: Mark Lytal
Sponsor: Mark Lytal

QUESTION NO. AXM 5-15:

Please provide the estimate service life of new simple cycle combustion turbines that are included in each of the six scenarios evaluated by Mr. Elsey.

RESPONSE:

SPS evaluated a 40-year service life for new combustion turbines.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-16:

Please provide the forecasted capital cost ($/kW) of new simple cycle combustion turbines that are included in each of the six scenarios evaluated by Mr. Elsey.

RESPONSE:

SPS assumed a capital cost of $495/kW, in 2021 dollars, excluding AFUDC.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-17:

Please provide the forecasted in service year and capacity (MW) of each new simple cycle combustion turbine that are included in each of the six scenarios evaluated by Mr. Elsey.

RESPONSE:

Each new combustion turbine has a summer capacity rating of approximately 200 MW. Please refer to the EnCompass output files provided in Exhibit SPS-SC 1-3(i)(CONF) for the years that new combustion turbine generators are included in each of the six scenarios under each scenario.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-18:

Reference page 21, lines 3-14 of SPS witness Grant's rebuttal testimony, please confirm that SPS could maintain its FERC interconnection rights at the Harrington plant by retiring and replacing the existing units with new generating resources. If deny, provide documentation that supports such denial.

RESPONSE:

Confirmed, provided the new generating resources are in-service within 3 years of the retirement date of the Harrington units and the new generating resources do not have a material (negative) impact to the transmission system. The generation identified to replace the existing generation is required to be identified at the time of the notification to retire and replace the existing facility.

Preparer: Ben R. Elsey
Sponsors: Ben R. Elsey, William A. Grant

QUESTION NO. AXM 5-19:

Reference page 21, lines 12-14 of SPS witness Grant's rebuttal testimony, please provide workpapers including calculations and assumptions supporting the claim that to go through the SPP generation interconnection process again could cost close to $1 billion and identify any other utility or IPP that has incurred that amount to acquire SPP generation interconnection rights.

RESPONSE:

Please refer to Exhibit SPS-Staff 3-8. In addition, refer to the Rebuttal Testimony of Mark Lytal at page 11. Specifically, 1,050 MW (Harrington capacity) multiplied by Southwest Power Pool's recent amount of $934/kW for network upgrade costs equals $981 million.

SPS is unaware of other utilities or Independent Power Producers that have incurred that amount to acquire Southwest Power Pool generation interconnection rights. Instead, as Mr. Elsey describes in his Direct and Rebuttal Testimonies, developers have withdrawn their projects due to cost prohibitive transmission network upgrades. However, in the absence of Harrington, SPS will require replacement resources and may be required to procure resources that are assigned this amount of transmission network upgrades.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-20:

Please describe Mr. Koujak's direct knowledge of the modeling performed in this case regarding Harrington conversion and replacement scenarios as sponsored by SPS witness Elsey and provide any analysis he conducted to independently confirm the reasonableness of modeling inputs and commodity prices.

RESPONSE:

Mr. Koujak's direct knowledge of the modeling performed in this case is captured in Section 4 of the Independent Evaluator Report, which he authored, and is attached to his Direct Testimony at Attachment DDK-1. Within this document, Mr. Koujak indicates the role of the Independent Evaluator in the oversight of the modeling, discusses the use of EnCompass software for the purposes of the modeling, and proceeds to document his review of the assumptions and scenarios modeled within the EnCompass software, which include the modeling inputs and commodity prices. He further describes the results of the analysis in Section 5, where he describes how he reviewed the outputs of the model. The Independent Evaluator Report is the analysis Mr. Koujak conducted to independently confirm the reasonableness of modeling inputs and commodity prices.

Preparer: D. Dean Koujak
Sponsor: D. Dean Koujak

QUESTION NO. AXM 5-21:

Please describe Mr. Koujak's direct knowledge of the generation interconnection cost assumptions included in SPS's modeling of Harrington conversion and replacement scenarios as sponsored by SPS witness Elsey and provide any analysis he conducted to independently confirm the reasonableness of interconnection cost assumptions for each resource.

RESPONSE:

In the case where Harrington is converted to gas, there are no attendant interconnection costs as the converted resource utilizes the existing interconnection facilities and rights. With respect to all other scenarios that were modeled in EnCompass, the information requested is contained in Section 4.1 of the Independent Evaluator Report. Specifically, refer to the section titled "4. Interconnection Cost" on the bottom of Page 8 of the Independent Evaluator report attached to Mr. Koujak's Direct Testimony.

Preparer: D. Dean Koujak
Sponsor: D. Dean Koujak

QUESTION NO. AXM 5-22:

Please explain whether Mr. Koujak believes it is appropriate to rely upon non-binding information proposals provided in response to SPS's RFI for market information to support the Tolk study rather than binding bids received in response to a formal RFP for replacement alternatives to the Harrington conversion project as the basis for evaluating Harrington conversion alternatives.

RESPONSE:

Yes, it is appropriate for SPS to rely upon non-binding responses to the Request for Information ("RFI") it issued in September 2020 to evaluate Harrington conversion alternatives. As stated in Mr. Koujak's Direct Testimony at page 7, the RFI solicited bids for potential generating resources for "a scenario in which all SPS's coal-burning units are retired or replaced before 2030." In addition, as Mr. Koujak explained in his direct testimony at page 10, the purpose of an RFI is to provide the issuing utility with information relating to market interest, capability, options, and pricing. Issuance of an RFI is consistent with seeking information for study purposes, which is what SPS did. Mr. Koujak also addresses why an RFI rather than an RFP was appropriate for SPS at pages 13-17 of his rebuttal testimony. At page 15, he states that RFPs should not be used for price discovery or study purposes. Finally, refer to page 17 of Mr. Koujak's rebuttal testimony for a discussion of why an RFI was particularly appropriate for SPS because it has an available resource that can meet its capacity and reliability needs, which is the converted Harrington units. Mr. Koujak explains that it is consistent with industry standards to analyze an existing resource to maximize the existing life of the facility to try to extract all of its remaining value.

Preparer: D. Dean Koujak
Sponsor: D. Dean Koujak

QUESTION NO. AXM 5-23:

Please explain whether Mr. Koujak normally recommends to clients that RFIs should be used rather than RFPs to obtain binding bids in determining the least cost alternatives for supplying utility generation capacity and energy requirements. If so, please provide any analysis, reports and testimony he has developed for clients within the last five calendar years that provide such recommendations.

RESPONSE:

Mr. Koujak did not provide any recommendation to SPS with regards to the format of the bid procurement. SPS made the decision to issue an RFI, and Mr. Koujak was not consulted on that decision, nor did he need to be.

Instead, Mr. Koujak assessed the reasonableness of the RFI process SPS conducted. As Mr. Koujak explained in his rebuttal testimony, requesting binding bids for study purposes to determine the least cost alternatives, which is what SPS needed in this situation, would not be appropriate. A binding bid would be obtained through an RFP only after a utility undertook a detailed study process to determine the specific resource need of the utility (see Koujak Rebuttal Testimony at 15).

There are no responsive analysis, reports or testimony.

Preparers: D. Dean Koujak, Ben R. Elsey
Sponsors: D. Dean Koujak, Ben R. Elsey

QUESTION NO. AXM 5-24:

Please confirm that SPS's Tolk RFI was not intended to obtain binding proposals for replacement of the Harrington coal units and does not even mention the Harrington plant. If deny, please explain and provide documentation to support the denial.

RESPONSE:

Confirm, in part, and deny, in part. The September 2020 RFI was not intended to obtain binding proposals for replacement of the Harrington coal units and it does not mention Harrington by name. Instead, the RFI sought bids for potential generating resources for a scenario in which all of SPS's coal-burning units are retired or replaced before 2030, which includes the coal-fired Harrington units.

As Mr. Koujak explained in his direct testimony at page 10, the purpose of an RFI is to provide the issuing utility with information relating to market interest, capability, options, and pricing. Issuance of an RFI is consistent with seeking information for study purposes, which was necessary and appropriate for SPS particularly because it has an available resource that can meet its capacity and other reliability needs: converting all three Harrington units to natural gas. (See Koujak Rebuttal Testimony at 17)

Preparers: D. Dean Koujak, Ben R. Elsey
Sponsors: D. Dean Koujak, Ben R. Elsey

QUESTION NO. AXM 5-25:

Please explain whether Mr. Koujak believes it is feasible for SPS or any utility to forecast production costs of a utility system such as SPS over a 20-year study period to within a margin of error of 3%. If so, please provide any analysis, reports and testimony he has developed within the last five calendar years to support this opinion.

RESPONSE:

As an initial matter, it is not clear why AXM is identifying a 3% margin of error or what is the source for that amount. In responding to this RFI, neither SPS nor Mr. Koujak are endorsing the use of that number as a reasonable way to assess modeling results. In addition, it is important for a utility to consider qualitative issues that may be difficult to capture in economic modeling results, such as reliability, voltage and transmission support benefits, the value of maintaining interconnection rights.

To clarify, no production cost simulation will accurately predict the actual dispatch of resources as compared to real-world conditions. Therefore, there will be a deviation potentially beyond 3% between any scenario modeled by SPS and real-world conditions over the course of a 20-year study period. It is for this reason that utilities would test a variety of sensitivities to see how they could influence the results directionally and in relation to each other, including fuel price assumptions, interconnection costs, load forecasts, etc. While it is not appropriate to rely on a single set of assumptions, it is reasonable for a utility to rely on a variety of sensitivities that test different market conditions that can impact the modeled results. As each situation is unique and Mr. Koujak is not aware of a "3% margin of error" standard, there is no relevant analysis, reports, and testimony that can succinctly address the 3% margin of error issue.

Preparer: D. Dean Koujak
Sponsor: D. Dean Koujak

QUESTION NO. AXM 5-26:

Please explain whether Mr. Koujak believes it is appropriate to compare the cost of generating resource such as the converted Harrington units that have an estimated remaining service life of 10-15 years to the cost of a new generating resource that has an expected service life of 30 to 40 years without considering the additional benefits of the new resource due to its longer service life. If so, please explain in detail why this is appropriate. If not, explain why not.

RESPONSE:

Yes, Mr. Koujak believes such a comparison is appropriate. Specifically, it is appropriate to analyze how to maximize the value of existing assets on behalf of customers. In typical resource planning processes, it is typical for a utility to defer the need for costly upgrades when there is no immediate, established need to invest in new generating resources. There is an economic benefit, known as a deferral benefit, when such investments are pushed out into the future. There is an added benefit in terms of optionality, in that the utility may be able to take advantage of a newer, more efficient technology in the future. Furthermore, the EnCompass analysis did consider and evaluate the cost-effectiveness of replacing the existing Harrington resource with Combustion Turbines ("CTs"). However, the modeling indicated that the additional benefits of the new resource (CTs) did not outweigh its comparatively higher Engineering, Procurement, and Construction (EPC) costs. Accordingly, customers would have to pay significantly more if SPS were to install CTs instead of continuing to use the Harrington units by converting them to operate on natural gas.

Preparers: D. Dean Koujak, Ben R. Elsey
Sponsors: D. Dean Koujak, Ben R. Elsey

QUESTION NO. AXM 5-27:

Please indicate whether Mr. Koujak reviewed the interconnection cost assumptions for each resource included in the analyses of Harrington conversion alternatives presented in Mr. Elsey's testimony. If so, provide Mr. Koujak's assessment of the impact of these interconnection cost assumptions on the overall cost of each of the six scenarios evaluated by Mr. Elsey. If not, explain why not.

RESPONSE:

Please see the response to 5-21.

Preparers: D. Dean Koujak, Ben R. Elsey
Sponsors: D. Dean Koujak, Ben R. Elsey

QUESTION NO. AXM 5-28:

Please indicate whether Mr. Koujak reviewed the natural gas price assumptions for the base case, and low gas price and high gas price sensitivities in the analyses of Harrington conversion alternatives presented in Mr. Elsey's testimony. If so, provide Mr. Koujak's assessment of the reasonableness of these gas price assumptions and his understanding of their impact on the NPV results for each of the six scenarios evaluated by Mr. Elsey. If not, explain why not.

RESPONSE:

Mr. Koujak reviewed the natural gas price assumptions as presented in Mr. Elsey's testimony. Mr. Koujak has provided his assessment of the methodology and reasonableness of the gas price assumptions in Section 4.1 of the Independent Evaluator Report, which is attached to Mr. Koujak's Direct Testimony. Generally, higher gas price forecasts raised the NPV of revenue requirements across the board for the six scenarios to account for correspondingly higher fuel costs. Higher gas costs did not change the modeling results appreciably.

Preparers: D. Dean Koujak, Ben R. Elsey
Sponsors: D. Dean Koujak, Ben R. Elsey

QUESTION NO. AXM 5-29:

Please explain Mr. Koujak's direct knowledge and experience using the EnCompass model.

RESPONSE:

As part of his duties as an Independent Evaluator, Observer, and Monitor across a variety of jurisdictions, Mr. Koujak has overseen production cost simulation development using a variety of commercially available software, which includes PROMOD, PLEXOS, Strategist, and Aurora. He has in the past worked with utilities in the area of resource planning and congestion analysis, which leveraged GE MAPS and PROMOD. Mr. Koujak has been engaged recently with utilities that have adopted the use of EnCompass software, which is gaining significant market adoption due to certain unique capabilities of the software particularly in terms of its ability to optimize resource selections on economic merits. While Mr. Koujak does not have direct experience operating the EnCompass model specifically and operating the model would be out of the scope of an Independent Evaluator or Monitor, Mr. Koujak does have extensive experience in reviewing, analyzing and interrogating the input and output files of production cost models. Please see section 4 of the Independent Evaluator Report for further information on the review conducted.

Preparer: D. Dean Koujak
Sponsor: D. Dean Koujak

QUESTION NO. AXM 5-30:

Please provide documentation of any analysis conducted or reviewed by Mr. Koujak to confirm that the SPS EnCompass model used for Mr. Elsey's analyses of Harrington conversion and replacement scenarios in this case is reasonably simulating operations and production costs of the SPS system.

RESPONSE:

Please see the Independent Evaluator Report attached to Mr. Koujak's Direct Testimony for documentation and further information on the analysis conducted, particularly section 4.

Preparer: D. Dean Koujak
Sponsor: D. Dean Koujak

QUESTION NO. AXM 5-31:

Please confirm that the base case "Harrington Conversion" alternative (Scenario 2) evaluated by witness Elsey assumes that SPS would add approximately 850 MW of new wind and solar resources before the Harrington coal units are converted to burn gas and would add a total of approximately 700 MW of new gas-fired combustion turbine peaking units over the years 2028, 2029 and 2030. If deny, provide documentation that supports such denial.

RESPONSE:

Confirmed with the following clarification.

The years listed for new resources in the EnCompass output files represent the beginning of the year the resource goes in-service. In other words, if a resource is listed with a 2025 in-service date, this represents the resource being placed in-service at 12:00am on 1/1/2025, or put differently, immediately upon or simultaneously with the conversion of the Harrington Units.

SPS's base case "Harrington Conversion" alternative (Scenario 2) assumes SPS would add approximately 1,808 MW of new wind and 40 MW of new solar resources before, or immediately upon the conversion of the Harrington units.

SPS's analysis also assumes additional combustion turbines generators are added beginning end of year 2027.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

QUESTION NO. AXM 5-32:

Please confirm that the base case "Retire and Replace" alternative (Scenario 1) evaluated by witness Elsey assumes that SPS would add approximately 1100 MW more renewable energy capacity and approximately 700 MW more new gas-fired combustion turbine peaking capacity than is added in the Harrington Conversion case (Scenario 2) over the 2025-2030 period. If deny, provide documentation that supports such denial.

RESPONSE:

Confirmed. Although for clarity, the 700 MW of new combustion turbines is a winter rating and would only provide approximately 600 MW of capacity during the summer.

Preparer: Ben R. Elsey
Sponsor: Ben R. Elsey

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 April 22, 2022, in accordance with the Order Suspending Rules, issued in Project No. 50664.

Mark A. Santos