

**THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

Before Commissioners: Shari Feist Albrecht, Chair
 Jay Scott Emler
 Dwight D. Keen

In the Matter of the 2017 Wolf Creek Triennial)
Decommissioning Financing Plan.) Docket No. 18-WCNE-107-GIE

ORDER

This matter comes before the State Corporation Commission of the State of Kansas (Commission) for consideration and decision. Having reviewed the pleadings and record, the Commission makes the following findings:

1. On September 1, 2017, the Wolf Creek Nuclear Operating Corporation (WCNOC), Kansas Gas and Electric Company d/b/a Westar Energy (Westar), Kansas City Power & Light Company (KCP&L), and Kansas Electric Power Cooperative, Inc. (KEPCo) (collectively referred to as the Parties) jointly submitted the Decommissioning Financing Plan for the Wolf Creek Generating Station (Wolf Creek).

2. The decommissioning dockets are designed to approve a methodology, which reasonably estimates the costs to decommission Wolf Creek and set a cost escalation rate.¹ This Docket represents the eleventh review over the last thirty years of the cost to decommission Wolf Creek.² The Decommissioning Financing Plan includes the 2017 Triennial Decommissioning Cost Study for Wolf Creek.³ TLG Services, Inc. prepared the Decommissioning Cost Analysis for WCNOC. TLG's Decommissioning Cost Analysis offered two decommissioning cost estimate

¹ Transcript (Tr.), p. 7.

² *Id.*

³ Joint Pleading Regarding Decommissioning Financing Plan, Sep. 1, 2017.

methods: DECON and SAFSTOR. In past Dockets, the Commission has approved the DECON method.⁴

3. Since Wolf Creek's last Decommissioning Cost Analysis in 2014, the question whether the federal government will remove the spent fuel from Wolf Creek upon its decommissioning remains a major concern.⁵ As a result, in the 15-WCNE-093-GIE Docket, the Commission directed WCNOG to provide a cost estimate that includes long-term on-site storage of spent fuel.⁶ In response, TLG produced Appendix E, which includes some assumptions that the federal government would not timely remove the spent fuel.⁷ TLG included those assumptions in Appendix E of its 2017 Decommissioning Cost Analysis, but noted, "[b]ecause the assumptions used in this Appendix E analysis are so speculative at this point, the hypothetical cost effects shown here have not been included in the overall updated cost estimate in this report."⁸ Appendix E gave rise to a third decommissioning scenario: DECON Alternative with Long-Term Spent Fuel Management (DECON ALT).

4. WCNOG's Application contained three decommissioning cost estimate methods and a single cost escalation rate.⁹ The cost escalation rate is not disputed. The three cost estimate methods are: (1) DECON; (2) DECON Alternative with Long-Term Spent Fuel Management (DECON ALT); and (3) SAFSTOR.¹⁰ DECON assumes the U.S. Department of Energy will take the spent fuel at the time of decommissioning.¹¹ DECON ALT includes costs associated with on-

⁴ Direct Testimony of Leo M. Haynos (Haynos Direct), May 15, 2018, p. 6.

⁵ Attachment 2 to Triennial Wolf Creek Decommissioning Cost Study (Study Attachment 2), Aug. 2017, p. 130 of 139.

⁶ Haynos Direct, p. 11.

⁷ *Id.*; Study Attachment 2, p. 130.

⁸ *Id.*

⁹ *Tr.*, p. 8.

¹⁰ *Id.*

¹¹ *Id.*

site storage of spent fuel for an extended period of time after decommissioning.¹² Both DECON methods assume the spent fuel will be removed from the plant, whereas under SAFSTOR, the spent fuel remains at the facility.¹³ SAFSTOR is a deferred decontamination, where the unit is shut down and safely stored until the unit is removed over a sixty-year timeframe.¹⁴ The total cost for DECON is \$814 million (ending in 2053).¹⁵ The total cost for DECON ALT is \$1.09 billion (ending in year 2075).¹⁶ The total cost for SAFSTOR is \$1.09 billion (ending in 2106).¹⁷ DECON and SAFSTOR have similar engineering, planning, and site preparation requirements.¹⁸

5. On May 15, 2018, Adam Gatewood and Leo Haynos filed testimony on behalf of Commission Staff (Staff). Gatewood recommended the Commission adopt the inflation forecasts proposed by TLG.¹⁹ Haynos testified that TLG is a nationally renowned engineering firm specializing in decommissioning nuclear plants and that their decommissioning estimates are reasonable.²⁰ Due to the U.S. Department of Energy's failure to develop a plan to dispose of spent nuclear fuel from commercial nuclear generating plants, Haynos recommended that any estimate should consider the costs of on-site storage.²¹ Haynos concluded:

Because of the uncertainty in DOE accepting spent fuel, I recommend the Commission consider the Appendix E cost estimate [DECON ALT] as the appropriate methodology for accumulating sufficient funds to decommission the Wolf Creek site. In consideration of the industry's hesitancy in acknowledging DOE's failure to date to accept spent fuel, the Commission alternatively could approve the SAFSTOR estimate as the appropriate methodology for the decommissioning financing plan.²²

¹² *Id.*

¹³ Haynos Direct, p. 7.

¹⁴ *Id.*; Study Attachment 2, pp. 8-9 of 139.

¹⁵ Haynos Direct, p. 13.

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ Study Attachment 2, pp. 38-39 of 139.

¹⁹ Direct Testimony of Adam H. Gatewood, May 15, 2018, p. 3.

²⁰ Haynos Direct, pp. 8-9.

²¹ *Id.*, p. 12.

²² *Id.*, p. 13.

6. On June 12, 2018, Larry Wilkus filed Rebuttal Testimony, explaining that in developing the cost estimate and the resulting impact on rates to fund Westar's and KCP&L's decommissioning trust funds, WCNOC had assumed the Commission would continue to rely on the DECON method.²³ Accordingly, if the Commission adopted either of the methods recommended by Haynos (DECON ALT or SAFSTOR), the utilities would need to collect more money from customers to fund their decommissioning trust funds.²⁴ Wilkus requested recovery of the additional funds through energy cost adjustments in the pending Westar and KCP&L rate cases.²⁵

7. On June 18, 2018, the Citizens Utility Ratepayer Board (CURB)²⁶ filed the Surrebuttal/Reply Testimony of Stacey Harden, in response to Wilkus's testimony that any increased funding level of the decommissioning trust in this Docket should be recovered through Westar's and KCP&L's RECA Tariffs.²⁷ Harden testifies that Wilkus's testimony recommending the Commission approve a specific ratemaking treatment for the potential increased funding level is premature and that the Annual Contribution level should continue to be part of base rates, to be determined in the pending KCP&L and Westar rate cases.²⁸

8. On June 22, 2018, WCNOC²⁹ and Staff filed a Joint Motion to Approve Settlement and Agreement. Under the proposed Settlement and Agreement, the Commission would adopt the DECON ALT methodology in its Decommissioning Cost Analysis. Under the DECON ALT methodology, the Signatories agree \$1.088 billion in 2017 dollars is the cost for decommissioning funding and for use by Westar, KCP&L and KEPCo in setting funding levels for each company's

²³ Rebuttal Testimony of Larry Wilkus, June 12, 2018, p. 4.

²⁴ *Id.*

²⁵ *Id.*, p. 6.

²⁶ CURB was granted intervention on September 19, 2017.

²⁷ Surrebuttal/Reply Testimony of Stacey Harden, June 18, 2018, p. 3.

²⁸ *Id.*, p. 5.

²⁹ Westar and KCP&L each own 47% of WCNOC. KEPCo owns the remaining 6%.

respective Decommissioning Trust Account.³⁰ The owners of Wolf Creek agree to use an annual 2.91% escalation rate to escalate the 2017 decommissioning cost estimate from 2017 dollars to the appropriate dollar amount in the year the decommissioning costs occur.³¹ CURB is opposed to the proposed Settlement.

9. On June 27, 2018, Wilkus, Gatewood, and Haynos filed testimony in support of the settlement; and Harden of CURB, filed testimony opposing the settlement. CURB's primary concern in opposing the settlement was the DECON ALT plan results in a significant increase in the decommissioning cost estimate.³²

10. On June 29, 2018, Wilkus, Gatewood, and Haynos each filed rebuttal testimony in support of the proposed settlement. In his testimony, Wilkus explained adopting the DECON ALT plan would increase Westar's annual revenue requirement by approximately \$2 million and KCP&L's by approximately \$1.2 million.³³ The increased revenue requirement constitutes about a one-tenth of 1% increase for Westar and less than 0.02% increase for KCP&L.³⁴

11. On July 10, 2018, the Commission held an Evidentiary Hearing. WCNOC, Staff, and CURB appeared by counsel. The Commission heard live testimony from a total of five witnesses, including two on behalf of WCNOC, one on behalf of CURB, and two on behalf of Staff.³⁵ The parties had the opportunity to cross-examine the witnesses at the evidentiary hearing and to redirect their own witnesses. CURB did not dispute the numbers proposed by TLG regarding the Wolf Creek decommissioning costs, but argued the numbers were based on

³⁰ Non-Unanimous Settlement Agreement, June 22, 2018, ¶ 4.

³¹ *Id.*, ¶ 5.

³² Testimony in Opposition to Settlement of Stacey Harden, June 28, 2018, p. 4.

³³ Responsive Testimony in Support of Stipulation and Agreement of Larry Wilkus, June 29, 2018, p. 2.

³⁴ *Id.*, pp. 2-3.

³⁵ *See* Tr. p. 3.

speculation and assumptions.³⁶ Accordingly, CURB asserts the Settlement Agreement is not supported by substantial, competent evidence.³⁷

12. At the hearing, CURB stated:

CURB simply requests the Commission to reject the Settlement Agreement as proposed by the parties and instead take a long, hard look at the evidence and all the options presented to the Commission available in the TLG plan and make the best decision possible.³⁸

While CURB contends there is not substantial evidence to support using DECON ALT as a decommissioning scenario, it does not contest the 2.91% escalation rate agreed to in the Settlement Agreement. Since the recommended 2.91% escalation rate is uncontested, the Commission finds it appropriate to apply the 2.91% escalation rate to whichever decommissioning scenario it selects.

13. As CURB and Staff note, TLG openly acknowledges the speculative nature of the DECON ALT decommissioning scenario.³⁹ Similarly, Haynos explains this Docket represents the first time TLG has presented a formal study detailing the DECON ALT scenario.⁴⁰ In the last Triennial Review, Haynos recommended considering interim long-term storage, but was unable to recommend a methodology with interim long-term storage because TLG had not presented an in-depth cost estimate for interim long-term storage.⁴¹ Appendix E represents the first time the Commission has been presented with an estimate instead of a conceptual approach.⁴²

14. Even though TLG offers a cost estimate for the DECON ALT decommissioning scenario, the Commission remains concerned that DECON ALT is too speculative. All of the parties to the Docket agree that the DECON ALT method is speculative. Rather than adopt a

³⁶ Tr., pp. 11-12.

³⁷ *Id.*, p. 12.

³⁸ Tr., pp. 13-14.

³⁹ *See id.*, p. 27; Haynos Direct, p. 11; Study Attachment 2, p. 130 of 139.

⁴⁰ Tr., p. 79.

⁴¹ *Id.*, pp. 82-83.

⁴² *Id.*

methodology reliant on unsubstantiated speculation, the Commission prefers a methodology that has been endorsed by the Nuclear Regulatory Commission (NRC).

15. In 1988, the NRC announced decommissioning requirements for licensed nuclear power facilities.⁴³ The NRC defined three acceptable decommissioning alternatives: (1) DECON, (2) SAFSTOR, and (3) ENTOMB. Under DECON, portions of a facility and site containing radioactive contaminants are removed or decontaminated to a level where the property can be used without restriction after the plant closes.⁴⁴ Under SAFSTOR, the nuclear facility is safely stored and decontaminated to a level where the property can be used without restriction within 60 years.⁴⁵ Under ENTOMB, radioactive contaminants are encased in concrete until the radioactive material decays to a level permitting unrestricted use of the property.⁴⁶ In March 2017, the NRC staff proposed removing the ENTOMB option from existing guidance documents, deeming it impracticable.⁴⁷ None of the parties advocate for the ENTOMB method. As there is no evidence in the record to support the ENTOMB method, the Commission will not consider it as a viable option.

16. Since 1989, the NRC's Information Digest indicates eighteen reactors have been shut down.⁴⁸ DECON was the decommissioning alternative selected for nine of those reactors, SAFSTOR was selected for five, and the remaining four were initially placed in safe-storage before switching to DECON.⁴⁹ In choosing between DECON and SAFSTOR, the Commission believes it would be extremely irresponsible to select a methodology that assumes the federal government will be able to accept the spent fuel at the time of decommissioning. There is no evidence that the

⁴³ Study Attachment 2, p. 8 of 139.

⁴⁴ *Id.*

⁴⁵ *Id.*, pp. 8-9.

⁴⁶ *Id.*, p. 9.

⁴⁷ *Id.*

⁴⁸ Attachment 7 to Triennial Wolf Creek Decommissioning Cost Study (Study Attachment 7), Aug. 2017, p. 4 of 20.

⁴⁹ *Id.*, pp. 4-5 of 20.

federal government has any plan to collect and remove the spent fuel. Accordingly, the Commission is gravely concerned that adopting any methodology that does not factor in on-site storage would subject future generations to massive unfunded decommissioning costs, resulting in rate shock. To avoid future rate shock, the Commission is left with two options: DECON ALT or SAFSTOR.

17. The cost estimate for SAFSTOR and DECON ALT are roughly the same in today's dollars,⁵⁰ but 80% of DECON ALT spending occurs from 2045-2050, shortly after the plant is shut down.⁵¹ Under SAFSTOR, only about 30% of the spending occurs during that timeframe, with 43% of the spending occurring between 2100 and 2106.⁵²

18. The Commission finds SAFSTOR is the best cost estimate methodology for decommissioning Wolf Creek. Unlike DECON ALT, SAFSTOR is one of the three cost estimate methodologies recognized by the NRC. The Commission gives great weight to the NRC's recognition of SAFSTOR as an appropriate cost estimate. DECON ALT appears to be a hybrid of DECON and SAFSTOR that has been used in four decommissionings since 1989,⁵³ but has not been officially recognized by NRC. Therefore, while the Commission finds SAFSTOR is the best cost estimate methodology for decommissioning Wolf Creek based on the available evidence, if WCNOB believes DECON ALT is a better cost estimate methodology, the Commission encourages WCNOB to present a more detailed Appendix E in its next Triennial Review.

⁵⁰ Tr., pp. 32-33; Haynos Direct, p. 13.

⁵¹ *Id.*

⁵² *Id.*

⁵³ See Study Attachment 7, p. 4 of 20.


THEREFORE, THE COMMISSION ORDERS:

- A. The Joint Motion to Approve Settlement and Agreement is denied.
- B. The SAFSTOR cost estimate methodology will be used to calculate decommissioning costs for Wolf Creek. The 2.91% escalation rate agreed to by the parties is approved.
- C. Any party may file and serve a petition for reconsideration pursuant to the requirements and time limits established by K.S.A. 77-529(a)(1).⁵⁴
- D. The Commission retains jurisdiction over the subject matter and parties to enter further orders as it deems necessary.

BY THE COMMISSION IT IS SO ORDERED.

Albrecht, Chair; Emler, Commissioner; Keen, Commissioner

Dated: 08/02/2018 _____



Lynn M. Retz
Secretary to the Commission

BGF

⁵⁴ K.S.A. 66-118b; K.S.A. 77-503(c); K.S.A. 77-531(b).

CERTIFICATE OF SERVICE

18-WCNE-107-GIE

I, the undersigned, certify that the true copy of the attached Order has been served to the following parties by means of electronic service on 08/02/2018.

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