

WOLF CREEK

NUCLEAR OPERATING CORPORATION

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Manager Nuclear and Regulatory Affairs

May 23, 2019

RA 19-0058

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Reference: Letter RA 18-0046, dated April 25, 2018, from C. R. Hafenstine, WCNOG, to USNRC

Subject: Docket No. 50-482: Correction to Wolf Creek Generating Station 2017 Annual Radioactive Effluent Release Report – Report 41

To Whom It May Concern:

The referenced letter provided the Wolf Creek Generating Station 2017 Annual Radioactive Effluent Report – Report 41. Subsequent to the submittal of the effluent report, it was discovered that an error existed on page 9. The Enclosure to this submittal replaces page 9 of the report in its entirety.

This correction was evaluated under 10 CFR 50.9(b) and does not require notification to the Nuclear Regulatory Commission (NRC) within two working days. This letter contains no commitments. If you have any questions concerning this matter, please contact me at (620) 364-4204.

Sincerely,



Ron Benham

RDB/rlt

Enclosure: Correction to Page 9 of the 2017 Annual Radioactive Effluent Release Report

cc: S. A. Morris (NRC), w/e
B. K. Singal (NRC), w/e
N. H. Taylor (NRC), w/e
Senior Resident Inspector (NRC), w/e

TE48
NRR

Enclosure to RA 19-0058

**Correction to Page 9 of the 2017 Annual Radioactive Effluent Release Report
(1 page)**

CR 00118486

An error was identified during the final review of liquid release permit packet U1LB2017-069 issued for the discharge of THF04A (Secondary Liquid Waste Monitor Tank A). The tank was discharged on December 14, 2017 at 07:58 using an incorrect, non-conservative high setpoint of $8.32\text{E-}4$ uCi/ml, when the high setpoint should have been $4.24\text{E-}4$ uCi/ml. The setpoint error was caused by using an incorrect sample volume in the tritium calculation. The actual sample volume was one milliliter, but the technician entered two milliliters resulting in one half of the actual value, $1.7495\text{E-}1$ uCi/ml versus $3.622\text{E-}1$ uCi/ml. The error was confirmed by reanalyzing the saved composite sample. The trend of the radiation monitor reading during the release did not exceed the correct and more conservative setpoint of $4.24\text{E-}4$ uCi/ml. The effluent software was updated and closed with the correct tritium value.

CARBON-14 (CR 36059)

Regulation 10CFR50.36a requires nuclear power plants to report quantities of principal radionuclides in the annual radioactive effluent release report. In the early 1980s, the NRC decided that C-14 radionuclide would not be required to be reported because it would not make a significant contribution to dose. Since this time, technology has advanced both for effluent isotopic reduction and isotope detection and estimation. It is more likely the C-14 meets the definition of a principal radionuclide in accordance with the newly published Regulatory Guide 1.21 Revision 2 (June 2009).

The NRC allows the reporting of this isotope based on estimation methods. EPRI TR 1021106 developed an estimation method based on peer-reviewed research that incorporates parameters of Wolf Creek's reactor design to estimate the gross amount of C-14 produced annually. This value is fed into additional calculations, based on Regulatory Guide 1.109, Calculation of Annual Doses to Man From Routine Releases of Reactor Effluents For the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I, to provide an estimation of annual dose. Based on the 2010 theoretical calculations and assuming the maximum percentage of inorganic C-14 compounds (30%), Wolf Creek has estimated the annual release of C-14 to be 10.7 curies and to contribute maximum dose values of 1.30 mrem/yr child bone dose and 0.259 mrem/yr child total body. This is well below the 10CFR50, Appendix I, ALARA design objective of 15 mrem/yr. Additionally, this value is on par with the dose expected from naturally occurring radiocarbon.