



Ron Benham  
Director Nuclear and Regulatory Affairs

March 28, 2022  
RA 22-0029

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Reference: Westinghouse Letter SAP-LOCA-TM-A5-000001, dated February 7, 2022,  
“Wolf Creek 10 CFR 50.46 Annual Notification and Reporting for 2021”

Subject: Docket No. 50-482: 10 CFR 50.46 Annual Report of Emergency Core Cooling  
System (ECCS) Evaluation Model Changes

Commissioners and Staff:

In accordance with 10 CFR 50.46, “Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors,” paragraph (a)(3)(ii), Wolf Creek Nuclear Operating Corporation (WCNOC) is submitting the attached information to fulfill the annual reporting requirement for the Wolf Creek Generating Station (WCGS).

WCNOC has reviewed the above Reference, which addresses 10 CFR 50.46 reporting information pertaining to the Emergency Core Cooling System (ECCS) Evaluation Model changes that were implemented by Westinghouse for 2021. The Evaluation Model changes and errors (except any plant-specific errors in the application of the model) have been provided to the NRC via Westinghouse letter. The review concludes that there were no plant specific changes to, or errors in, the Evaluation Models on the limiting transient peak cladding temperature (PCT) for 2021.

The Attachment provides PCT rack-up forms for the calculated Large Break Loss-of-Coolant Accident (LOCA) and Small Break LOCA PCT margin allocations in effect for the 2021 WCGS Evaluation Models. The PCT values determined in the Large Break and Small Break LOCA analyses of record, combined with all of the PCT allocations, remain below the 10 CFR 50.46(b)(1) regulatory limit of 2200 °F. Therefore, WCGS is in compliance with 10 CFR 50.46 requirements and no reanalysis or other action is required.

This letter contains no commitments. If you have any questions concerning this matter, please contact me at (620) 364-4204.

Sincerely,

A handwritten signature in cursive script that reads "Ron Benham".

Ron Benham

RDB/rlt

Attachment:           Emergency Core Cooling System (ECCS) Evaluation Model Peak Cladding  
                                  Temperature (PCT) Margin Utilization Rack-up Forms

cc:   S. S. Lee (NRC), w/a  
      S. A. Morris (NRC), w/a  
      G. E. Werner (NRC), w/a  
      Senior Resident Inspector (NRC), w/a

Emergency Core Cooling System (ECCS) Evaluation Model Peak Cladding  
Temperature (PCT) Margin Utilization Rack-up Forms

**LOCA Peak Cladding Temperature (PCT) Summary**


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**Plant Name:** WOLF CREEK  
**EM:** NOTRUMP  
**AOR Description:** Appendix K Small Break  
**Summary Sheet Status:** Current

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	PCT (°F)	Reference #	Note #
<b>ANALYSIS-OF-RECORD</b>	936	1	

	Delta PCT (°ΔF)	Reference #	Note #	Reporting Year**
<b>ASSESSMENTS*</b>				
1. Loose Part Evaluation	45	2	(a)	1990

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**AOR + ASSESSMENTS**                      **PCT = 981.0 °F**

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\* The licensee should determine the reportability of these assessments pursuant to 10 CFR 50.46.

\*\* The "Reporting Year" refers to the annual reporting year in which this assessment was included.

**REFERENCES**

- 1 WCAP-16717-P, Rev. 0, "Wolf Creek Generating Station (SAP), MSIV/MFIV Replacement Project, Small Break Loss of Coolant Accident Analysis Engineering Report," January 2007.
- 2 SAP-90-148/NS-OPLS-OPL-I-90-239, "Wolf Creek Nuclear Operating Corporation, RCS Loose Part Evaluation," April 1990.

**NOTES:**

- (a) This penalty will be carried to track the loose part which has not been recovered.

## LOCA Peak Cladding Temperature (PCT) Summary

**Plant Name:** WOLF CREEK  
**EM:** ASTRUM (2004)  
**AOR Description:** Best Estimate Large Break  
**Summary Sheet Status:** Current

	PCT (°F)	Reference #	Note #	
<b>ANALYSIS-OF-RECORD</b>	1900	1		
	Delta PCT (°ΔF)	Reference #	Note #	Reporting Year**
<b>ASSESSMENTS*</b>				
1. Containment Fan Cooler Capacity	0	2,4	(a)	2014
2. Decay Group Uncertainty Factors Errors	-10	3		2014

**AOR + ASSESSMENTS** PCT = 1890.0 °F

\* The licensee should determine the reportability of these assessments pursuant to 10 CFR 50.46.

\*\* The "Reporting Year" refers to the annual reporting year in which this assessment was included.

### REFERENCES

- 1 WCAP-17107-P, Revision 1, "Best-Estimate Analysis of the Large-Break Loss-of-Coolant Accident for the Wolf Creek Nuclear Power Plant Using the ASTRUM Methodology," January 2014.
- 2 LTR-LIS-14-400, "10 CFR 50.46 Report for the Wolf Creek Large Break LOCA Evaluation of the Change in Containment Cooling Capacity," August 2014.
- 3 LTR-LIS-14-492, "Wolf Creek Unit 1 10 CFR 50.46 Report for the Correction of the Decay Group Uncertainty Factors Errors," November 2014.
- 4 LTR-LIS-19-282, "Wolf Creek 10 CFR 50.46 PCT Summary Sheet Updates for Replacement Fan Cooler Tube Bundles Installation and Planned Retirement of Cycle 23 Sheets," August 2019.

### NOTES:

- (a) The estimated effect includes the corrected fan cooler heat removal rates and implementation of replacement tube bundles in the containment fan coolers, which were installed for Cycle 24.

**10 CFR 50.46 Reporting SharePoint Site Check:**

**EMs applicable to Wolf Creek:**

**Realistic Large Break – ASTRUM (2004)**

**Appendix K Small Break – NOTRUMP**

**2021 Issues**

<b>Transmittal Letter</b>	<b>Issue Description</b>
None	None