

February 7, 2023

Docket No.: 99902094

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

Subject: University of Illinois Topical Report Submission, 'University of Illinois Urbana-Champaign High Temperature Gas-cooled Research Reactor: Fuel Qualification Methodology'

This letter accompanies the submission of the topical report titled, 'University of Illinois Urbana-Champaign High Temperature Gas-cooled Research Reactor: Fuel Qualification Methodology'.

The scope of this topical report was discussed in a public meeting with the NRC staff November 29, 2022. This report provides an overview of MMR reactor technology, the regulatory basis relevant to fuel qualification that must be satisfied for licensing the MMR, previous high-temperature gas-cooled reactor (HTGR) and TRISO fuel experience, FCM fuel design, manufacturing, quality control, fuel performance, and FCM fuel qualification methodology.

The University of Illinois respectfully requests NRC acceptance review be completed and a review schedule be provided within 60 days of the receipt of this letter. A 12-month review for this topical report is requested for NRC review and approval of the fuel qualification methodology.

Portions of the attached report are considered proprietary, and the technology developer, Ultra Safe Nuclear Corporation, requests it be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390. Enclosure 1 provides the proprietary version of the report and Enclosure 2 provides the non-proprietary report. An affidavit supporting the withholding request is provided in Enclosure 3. Additionally, the information indicated as proprietary has also been determined to contain Export Controlled Information. This information must be protected from disclosure pursuant to the requirements of 10 CFR 810.

Questions or other requests related to this Topical Report should be directed to Caleb Brooks at csbrooks@illinois.edu or (217) 265-0519.

I declare under penalty of perjury that the foregoing is true and correct. Executed on January 24, 2023.

Sincerely,



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Enclosures:

1. 'University of Illinois Urbana-Champaign High Temperature Gas-cooled Research Reactor: Fuel Qualification Methodology' Topical Report, IMRDD-MMR-23-01-P, Release 1 (Proprietary)
2. 'University of Illinois Urbana-Champaign High Temperature Gas-cooled Research Reactor: Fuel Qualification Methodology' Topical Report, IMRDD-MMR-23-01-NP, Release 1 (Non-Proprietary)
3. USNC's Affidavit and Request for Withholding from Public Disclosure

Cc:

UIUC

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Clive Townsend

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Daniel Stout
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Kwabena Shange

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