

March 11, 2024

Docket No.: 99902094

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

Subject: Submission of the University of Illinois Topical Report, “University of Illinois Urbana-Champaign High-Temperature Gas-Cooled Research Reactor: Fuel Qualification Methodology,” Release 01, dated February 29, 2024, Document No. IMRDD-MMR-24-01

By letter dated February 7, 2023 (ML23038A241), the University of Illinois Urbana-Champaign (UIUC) submitted the Topical Report (TR), “University of Illinois Urbana-Champaign High-Temperature Gas-Cooled Research Reactor: Fuel Qualification Methodology,” Release 01, dated January 23, 2023, Document No. IMRDD-MMR-23-01 (ML23038A242) to the U.S. Nuclear Regulatory Commission (NRC) for acceptance and review.

By email dated March 22, 2023 (ML23079A127), the NRC Staff informed UIUC that NRC Form 897 for the NRC staff proprietary determination review of the UIUC TR titled, “University of Illinois Urbana-Champaign High Temperature Gas-cooled Research Reactor: Fuel Qualification Methodology,” had been completed.

By email dated March 31, 2023 (ML23088A117), the NRC staff determined that the TR provided sufficient information to begin its technical review. By email dated July 10, 2023 (ML23191A864), the NRC staff indicated it planned to begin a regulatory audit of the TR.

By letter dated July 27, 2023 (ML23208A308), UIUC notified the NRC Staff that Ultra Safe Nuclear Corporation (USNC) had determined the need to revise aspects of the report that are material to the NRC staff’s review to address recent updates to the Micro Modular Reactor® (MMR®) fuel design. To support an effective and efficient NRC staff review, UIUC requested that the referenced TR be withdrawn and that an updated TR will be submitted in the future.

By letter dated August 18, 2023 (ML23229A238), the NRC staff notified UIUC that it had terminated its review of the TR; however, information provided to the NRC staff in support of the TR would remain in the NRC Agencywide Documents Access and Management System (ADAMS). Also, the NRC staff terminated the regulatory audit that was initiated for this TR. No activities were conducted under the regulatory audit for this TR prior to the termination of the review; therefore, no audit report was issued.

Attached is the TR titled, “University of Illinois Urbana-Champaign High-Temperature Gas-Cooled Research Reactor: Fuel Qualification Methodology,” Release 01, dated February 29, 2024, Document No. IMRDD-MMR-24-01, which incorporates the updates to the MMR® fuel design.

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 TR is requested for NRC review and approval of the fuel qualification methodology.

Portions of the attached TR are considered proprietary, and the technology developer, USNC, 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 TR and Enclosure 2 provides the nonproprietary version. 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 the TR 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 March 11, 2024.

Sincerely,



Caleb S. Brooks, Ph.D.
Associate Professor
University of Illinois at Urbana-Champaign
Department of Nuclear, Plasma, and Radiological Engineering
Talbot Laboratory, Room 111C, MC-234
104 South Wright St, Urbana, IL 61801
TEL 217-265-0519 | FAX 217-333-2906
csbrooks@illinois.edu

Enclosures:

1. “University of Illinois Urbana-Champaign High-Temperature Gas-cooled Research Reactor: Fuel Qualification Methodology’ Topical Report,” IMRDD-MMR-24-01-P, Release 01 (Proprietary)
2. “University of Illinois Urbana-Champaign High-Temperature Gas-cooled Research Reactor: Fuel Qualification Methodology’ Topical Report,” IMRDD-MMR-24-01-NP, Release 01 (Non-Proprietary)
3. USNC’s Affidavit and Request for Withholding from Public Disclosure

Cc:

University of Illinois Urbana-Champaign
Tim Grunloh



Les Foyto

Ultra Safe Nuclear Corporation

Zackary Rad

Jeff Perry

U.S. Nuclear Regulatory Commission

Edward Helvenston

