

November 15, 2023

Docket No.: 99902094  
U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555-0001

Subject: Submittal of “University of Illinois Urbana-Champaign High Temperature Gas-cooled Research Reactor: Micro Modular Reactor (MMR™) Principal Design Criteria” Topical Report

This letter accompanies the submission, as Attachment 1, the Topical Report (TR) titled “University of Illinois Urbana-Champaign High Temperature Gas-cooled Research Reactor: Micro Modular Reactor (MMR™) Principal Design Criteria.” This TR summarizes the methodology for development of the principal design criteria (PDC) for the University of Illinois Urbana-Champaign (UIUC) Micro-Modular Reactor (MMR™) designed by the Ultra Safe Nuclear Corporation (USNC). The PDC were developed based on the key design features of the MMR™ technology and use of the modular high-temperature gas-cooled reactor design criteria (MHTGR-DC) provided in Regulatory Guide 1.232, “Guidance for Developing Principal Design Criteria for Advanced (Non-Light Water) Reactors.” The resultant PDCs incorporate the key design features of the MMR™ technology for licensing of the MMR™ design for deployment at UIUC.

Communication with U.S. Nuclear Regulatory Commission (NRC) staff is requested within 120 days with feedback on the sufficiency of the attached TR. UIUC is requesting the NRC to provide a safety evaluation of the proposed USNC MMR™ PDC as described in Section 4 and listed Appendix A of the TR.

The TR does not contain any commercially sensitive information and can be posted for unrestricted access by the public. Questions or other requests related to the TR should be directed to Caleb Brooks at [csbrooks@illinois.edu](mailto:csbrooks@illinois.edu) or (217) 265-0519.

I declare under penalty of perjury that the foregoing is true and correct. Executed on November 15, 2023.

Sincerely,



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Attachment:

1. “University of Illinois Urbana-Champaign High Temperature Gas-cooled Research Reactor: Micro Modular Reactor (MMR™) Principal Design Criteria” Topical Report, Release 01, dated November 10, 2023

Cc:  
UIUC  
Tim Grunloh  
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USNC  
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NRC  
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