

May 19 2021

Docket No. TBD

Ms. Andrea D. Veil
Director, Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Notice of Intent to Submit an Application for a Construction Permit for a Research & Test Reactor

Dear Ms. Veil:

The University of Illinois at Urbana-Champaign (UIUC) and our Department of Nuclear, Plasma, and Radiological Engineering (NPRE) is pleased to inform the U.S. Nuclear Regulatory Commission (USNRC), of our intent to submit an application for a Construction Permit (CP) for a test reactor facility on the UIUC campus. The proposed RTR will be based on High Temperature Gas Cooled Reactor (HTGR) technology, to be constructed, licensed and operated at a thermal power level of 15 MWt. The CP application will be submitted as permitted under 10CFR50.23, described in 10CFR50.21(c), and in accordance with the Atomic Energy Act Sections 31 and 104(c).

As introduced through drop-in meetings between USNRC and UIUC staff over the past year, the university plans to deploy the Micro-Modular Reactor (MMRTM)¹ HTGR design developed by Ultra Safe Nuclear Corporation (USNC), Seattle, WA (www.usnc.com). UIUC's MMR based test reactor meets all the applicable requirements of the AEA Section 104 and 10CFR50, for a test reactor that is designed, constructed, operated and utilized for prototype testing, research, and training, which will be demonstrated in the license application for a CP, and subsequently, in UIUC's application for an Operating License (OL).

The UIUC team is currently in the process of developing our Regulatory Engagement Plan with schedules and other tasks and intend to submit this early in the third calendar quarter of 2021. Subsequently, we intend to engage with NRC staff in pre-application discussions through both public and private meetings, submission of White Papers and engage in dialog on USNRC's positions and concerns on the technology, the facility, utilization and regulatory issues for deploying a MMR based RTR on the UIUC campus. prior to the full submittal of the application. We intend to use established NRC guidance in NUREG-1537, as amended through NRC's Interim Staff Guidance (ISG), in the preparation of the Preliminary Safety Analysis Report.

¹ MMR is a registered trademark of Ultra Safe Nuclear Corporation

UIUC requests that your staff assign a Docket/Project Number for our proposed license application so our request can be formally docketed. UIUC and our collaborators on this project look forward to initiating dialog and interactions with staff to license and construct the nation's newest RTR.

Please contact Dr. Caleb Brooks, Principal Investigator for this project (csbrooks@illinois.edu) should you have any questions or need additional information. We are looking forward to working with USNRC to bring this project to reality.

Sincerely,



Susan A. Martinis, Ph.D.
Vice Chancellor for Research and Innovation
Stephen G. Sligar Professor of Molecular and Cellular Biology
Professor of Biochemistry

Cc: Mr. William "Duke" Kennedy, NRR/DANU
Mr. Adrian Muniz, NRR/DANU
Dr. Caleb Brooks, NPRE Associate Professor, UIUC
Dr. Rizwan Uddin, NPRE Professor and Department Head, UIUC
Dr. Harley Johnson, Associate Dean, Grainger College of Engineering, UIUC
Dr. Rashid Bashir, Dean, Grainger College of Engineering, UIUC
Dr. Francesco Venneri, Chief Executive Officer, USNC
Dr. Junaid Razvi, Director of Licensing, USNC
Ms. Wendy Simon-Pearson, General Counsel, USNC