UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 14, 2023

Thomas Bergman
Vice President, Regulatory Affairs
NuScale Power, LLC
11333 Woodglen Dr., Suite 205
Rockville, MD 20852

SUBJECT: APPLICABILITY OF 10 CFR PART 110 TO MICROREACTORS FOR TERRESTRIAL RESEARCH OR COMMERCIAL USE

Dear Thomas Bergman:

The U.S. Nuclear Regulatory Commission's (NRC) Office of International Programs (OIP) is responding to your letter dated February 22, 2023, in which you requested "affirmation that microreactor technology designed specifically for commercial, terrestrial applications" falls within the scope of the NRC's export licensing authority pursuant to 10 CFR part 110 and the Atomic Energy Act of 1954, as amended.

Your letter states that NuScale is developing a microreactor design for "terrestrial, peaceful applications." Specifically, you state that your microreactor technology is "not being designed for military or space applications," but is being developed for research or commercial applications, including power for remote communities, remote industrial applications, and disaster recovery.

Based on the information you have provided, OIP agrees with your assertion that your non-light water microreactor design, as described, would presumptively fall under the scope of the NRC's export licensing jurisdiction. The NRC's nuclear export licensing authority includes "nuclear reactors and especially designed or prepared equipment and components for nuclear reactors" (10 CFR § 110.8(a)), and the definition of "nuclear reactor" is broadly defined as "an apparatus, other than an atomic weapon or nuclear explosive device, designed or used to sustain nuclear fission in a self-supporting chain reaction" (10 CFR § 110.2). Although the list of nuclear reactor equipment under NRC export licensing authority in Appendix A is mostly based on light water reactor technology, Appendix A is illustrative and not exclusive.

As your letter recognizes by its reference to the International Traffic in Arms Regulations, certain nuclear-related exports may be subject to the export controls of other U.S. Government departments or agencies, depending on the particular end use and deployment application for each individual reactor (such as spacecraft components or maritime applications). Additionally, any NRC-licensed export of a nuclear reactor would also be dependent upon the presence of a civil "123 Agreement" for nuclear cooperation with the recipient nation, which would prohibit the use of any equipment transferred pursuant to the agreement from being used "for any nuclear explosive device, or for research on or development of any nuclear explosive device, or for any other military purpose" (42 U.S.C. § 2153(a)(3)). The NRC also notes that its export jurisdiction covers tangible equipment and components for nuclear reactors but does not cover exports of intangible nuclear technology and assistance related to such reactors (e.g., design information, software, engineering services, etc.), which fall under the jurisdiction of the U.S. Department of Energy under 10 CFR part 810.

In sum, based on your representations that your non-light water microreactor design is being developed for “terrestrial, peaceful” applications for research or commercial use only, OIP agrees that such an export would presumptively fall within the NRC’s export licensing authority. We nevertheless encourage early and frequent communications as you continue to develop your microreactor technology and identify specific foreign end uses and deployment opportunities.

Sincerely,

Signed by Atack, Sabrina
on 06/14/23

Sabrina D. Atack, Deputy Director
Office of International Programs