



Office of Nuclear Energy

NRC Certifies First U.S. Small Modular Reactor Design

JANUARY 20, 2023

[Office of Nuclear Energy](#) » NRC Certifies First U.S. Small Modular Reactor Design





NuScale VOYGR™ SMR power plant

NuScale Power

The U.S. Nuclear Regulatory Commission (NRC) **issued its final rule** in the Federal Register to certify NuScale Power's small modular reactor.

The company's power module becomes the first SMR design certified by the NRC and just the seventh reactor design cleared for use in the United States.

The rule takes effects February 21, 2023 and equips the nation with a new clean power source to help drive down emissions across the country.



Historic Rule Making

The published final rule making allows utilities to reference [NuScale's SMR design](#) when applying for a combined license to build and operate a reactor.

The design is an advanced light-water SMR with each power module capable of generating 50 megawatts of emissions-free electricity.

NuScale's VOYGR™ SMR power plant can house up to 12 factory-built power modules that are about a third of the size of a large-scale reactor. Each power module leverages natural processes, such as convection and gravity, to passively cool the

reactor without additional water, power, or even operator action.

The NRC accepted NuScale's SMR design certification application back in March 2018 and issued its **final technical review** in August 2020. The NRC Commission later voted to certify the design on July 29, 2022—making it the first SMR approved by the NRC for use in the United States.

"We are thrilled to announce the historic rulemaking from the Nuclear Regulatory Commission for NuScale's small modular reactor design, and we thank the Department of Energy (DOE) for their support throughout this process," **said NuScale Power President and Chief Executive Officer John Hopkins**. "The DOE has been an invaluable partner with a shared common goal – to establish an innovative and reliable carbon-free source of energy here in the U.S. We look forward to continuing our partnership and working with the DOE to bring the UAMPS Carbon Free Power Project to completion."

"SMRs are no longer an abstract concept," **said Assistant Secretary for Nuclear Energy Dr. Kathryn Huff**. "They are real and they are ready for deployment thanks to the hard work of NuScale, the university community, our national labs, industry partners, and the NRC. This is innovation at its finest and we are just getting started here in the U.S.!"

NuScale is currently seeking an uprate to enable each module to generate up to 77 megawatts. The NRC is expected to review their application this year.

Supporting SMR Development

The U.S. Department Energy provided more than \$600 million since 2014 to support the design, licensing, and siting of NuScale's VOYGR SMR power plant and other domestic SMR concepts.

DOE is currently working with Utah Associated Municipal Power Systems (UAMPS) through the **Carbon Free Power Project** to demonstrate a six-module NuScale VOYGR plant at Idaho National Laboratory.

The first module is expected to be operational by 2029 with full plant operation the following year.

UAMPS finished subsurface field investigation activities at the proposed INL site and expects to submit a combined license application to the NRC in the first quarter of 2024.

NuScale Power has 19 signed and active domestic and international agreements to deploy SMR plants in 12 different countries, including Poland, Romania, the Czech Republic, and Jordan in addition to the Carbon Free Power Project.

Learn more about [NuScale Power design certification process](#) with the NRC.

FOLLOW US



Office of
Nuclear Energy

1000 Independence Ave. SW
Washington DC 20585
202-586-5000



An office of



[ABOUT OFFICE OF NUCLEAR ENERGY](#)



ENERGY.GOV RESOURCES



FEDERAL GOVERNMENT



[Web Policies](#) • [Privacy](#) • [No Fear Act](#) • [Whistleblower Protection](#) •
[Notice of EEO Findings of Discrimination](#) • [Information Quality](#) •
[Open Gov](#) • [Accessibility](#) • [Vulnerability Disclosure Program](#)