



NUSCALE™
Power for all humankind

NuScale Power Overview

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Who is NuScale Power?

- NuScale Power was formed in 2007 for the sole purpose of completing the design and commercializing a small modular reactor (SMR) – the NuScale Power Module™
- Initial concept was in development and testing since the 2000 U.S. Department of Energy (DOE) MASLWR program
- Fluor Corporation, global engineering and construction company, became lead investor in 2011
 - In 2013, NuScale won a competitive U.S. DOE Funding Opportunity for matching funds, and has been awarded over \$450M in DOE funding since then
- 639 patents granted or pending in nearly 20 countries
- >430 employees in 5 offices in the U.S. and 1 office in the U.K.
- Rigorous design review by the U.S. Nuclear Regulatory Commission (NRC)—NuScale received Design Approval in August 2020
- Total investment in NuScale to date is greater than US\$1.4B



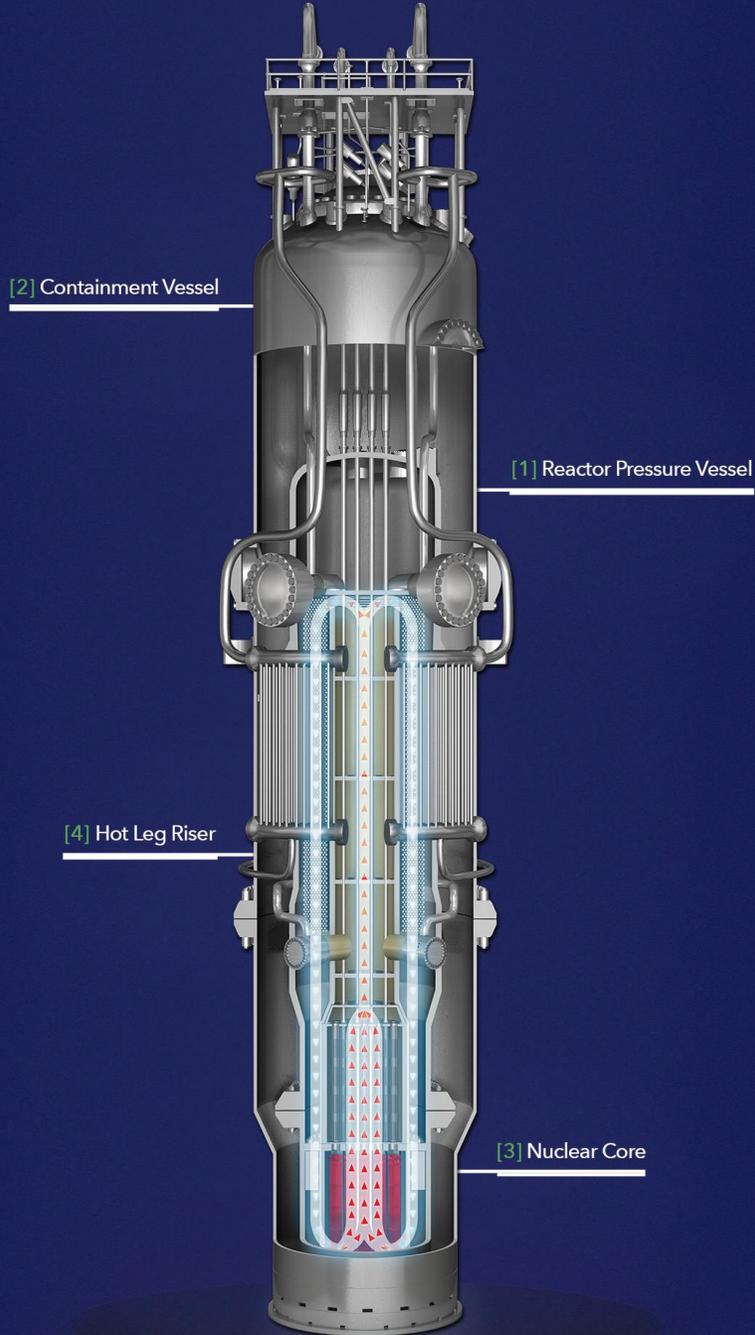
NuScale Engineering Offices Corvallis



One-third Scale NIST-2 Test Facility



NuScale Control Room Simulator

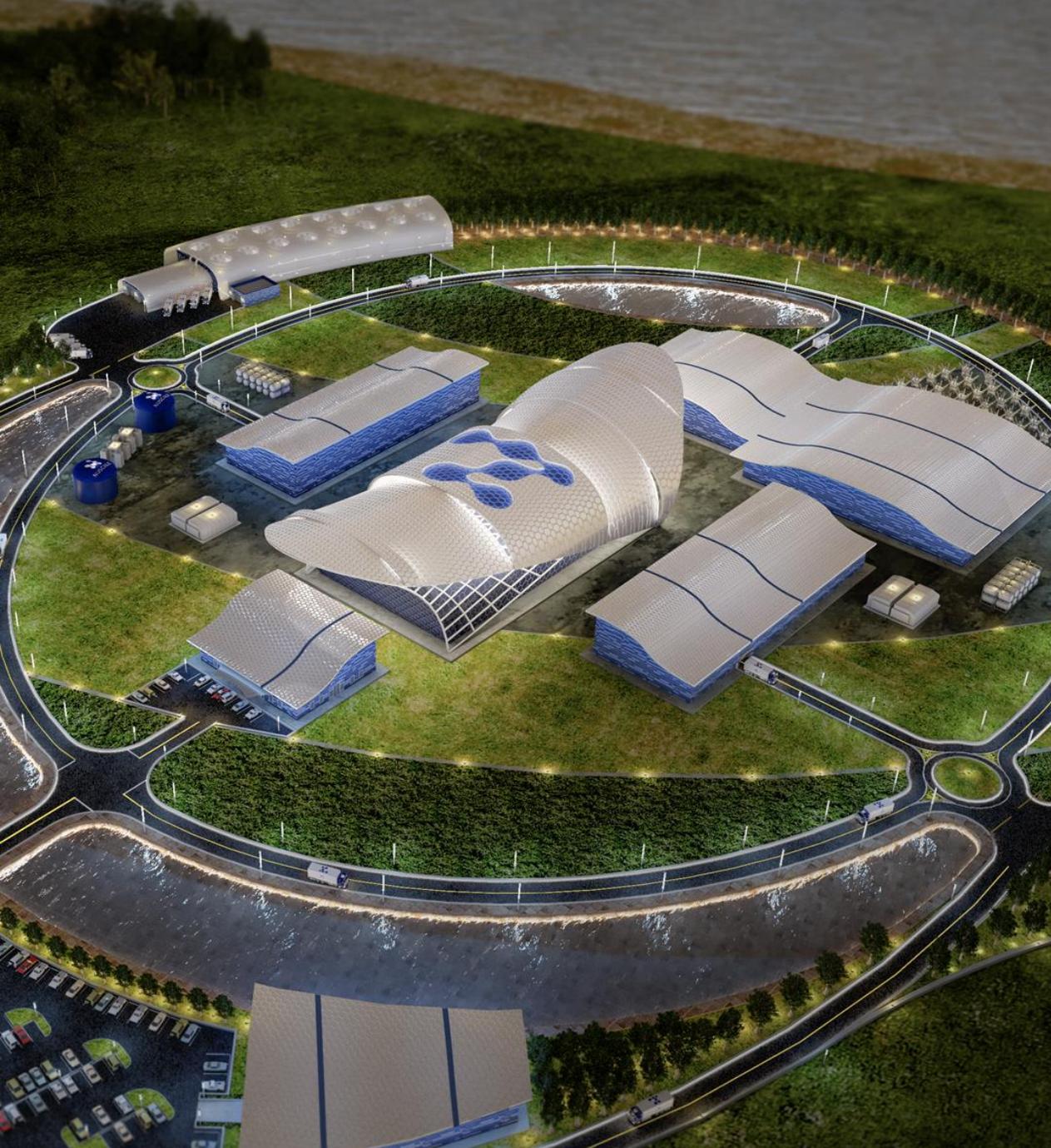


Core Technology: NuScale Power Module™

- A NuScale Power Module™ (NPM) includes the reactor vessel, steam generators, pressurizer, and containment in an integral package – simple design that eliminates reactor coolant pumps, large bore piping and other systems and components found in conventional reactors
- Each module produces up to 77 MWe
 - Small enough to be factory built for easy transport and installation
 - Dedicated power conversion system for flexible, independent operation
- Modules are incrementally added to match load growth
 - Up to 12 modules for 924 MWe gross output
 - Smaller power plant solutions available for 4-module (308 MWe) and 6-module (462 MWe) VOYGR™ plants

NuScale Product Offerings

- Reference plant design
 - Scalable 12-NPM, 924 MWe power VOYGR™-12 plant
 - Design approved by U.S. NRC in August 2020
- Smaller, scalable power plant solutions
 - VOYGR-4: 4-NPM, 308 MWe power plant
 - VOYGR-6: 6-NPM, 462 MWe power plant
 - All features and capabilities of reference plant
- Microreactor concepts
 - 10-50 MWe Micro-NPM
 - 1-10 MWe Heat Pipe Reactor
- Research & Development
 - Numerous design improvements identified and in development



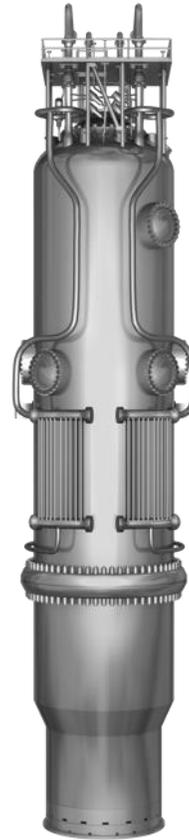
Artistic concept of the NuScale Power Plant

Providing Identical Technology for Every Implementation

6-module VOYGR-6 plant

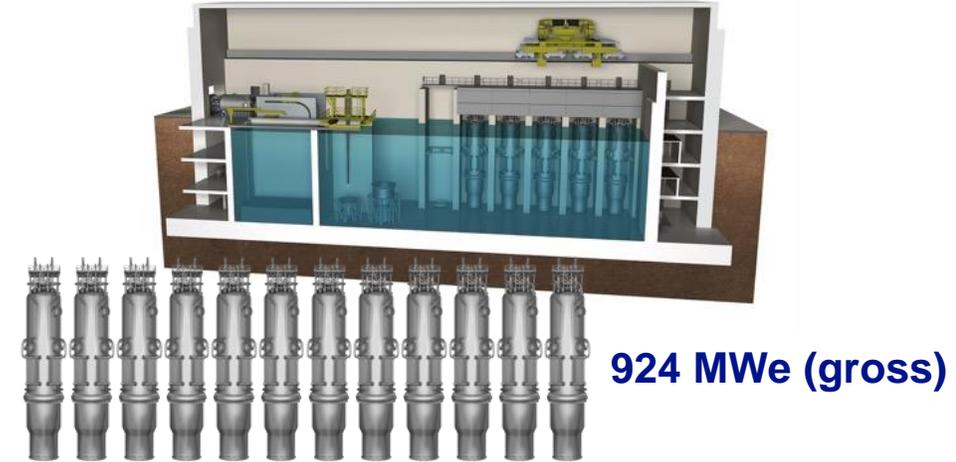


4-module VOYGR-4 plant



NuScale Power Module™
77 MWe (gross)

12-module VOYGR-12 plant



- Flexibility in size and cost advantages, with the same operational flexibility and unparalleled safety case.
- Each module feeds one turbine generator train, eliminating single-shaft risk.
- Demonstrated resiliency for every configuration (black-start, island mode, seismically robust, cyber secure, etc.)

Inherently Safe Design Sets New Industry Standards – Triple Crown of Nuclear Plant Safety™

Unlimited Coping Period for Reactors

Comparison of Reactor Coping Period Following an Extreme Station Blackout (loss of both AC and DC power)

 **Generation II Reactors:**
4-8 Hours With Significant Operator Actions Required 

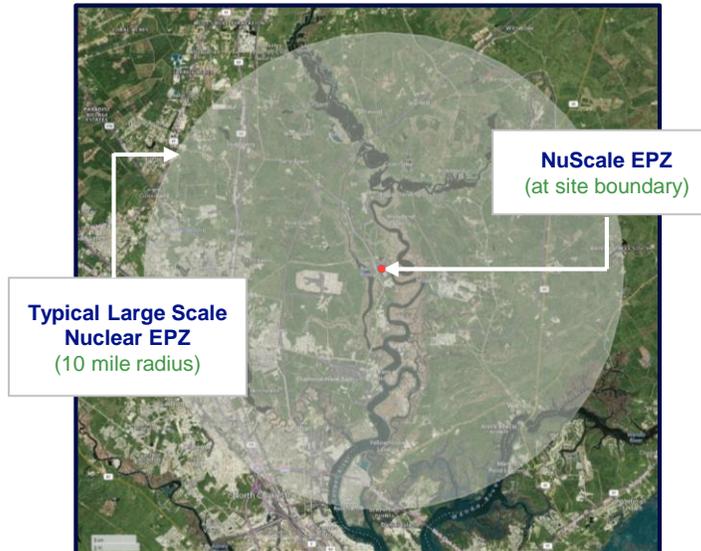
 **Generation III & III+ Reactors:**
Up To 72 Hours With No Operator Actions 

 **Generation IV Reactors Advanced LWR:**
8 Hours With No Operator Actions 

 **UNLIMITED WITH NO OPERATOR ACTIONS OR EXTERNAL SUPPORT** 

Only SMR that Supports U.S. NRC Site Boundary Emergency Planning Zone (“EPZ”)

The smaller EPZ enables NuScale Plants to be sited in close proximity to end-users, which is of particular importance to **process heat off-takers and repowering retiring coal-fired generation facilities**



Williams Power Station (Coal, 650 MW), S. Carolina
Announced retirement date of 2028

Unparalleled Capability and Performance



Capable of “Black-Start” and Operation in “Island Mode”

A NuScale plant can be started without the need for power from the grid and can operate disconnected from the grid – a first for a nuclear power plant



First Responder Power

A NuScale plant can start-up without power from the grid and can inject power back into the system to support grid restoration



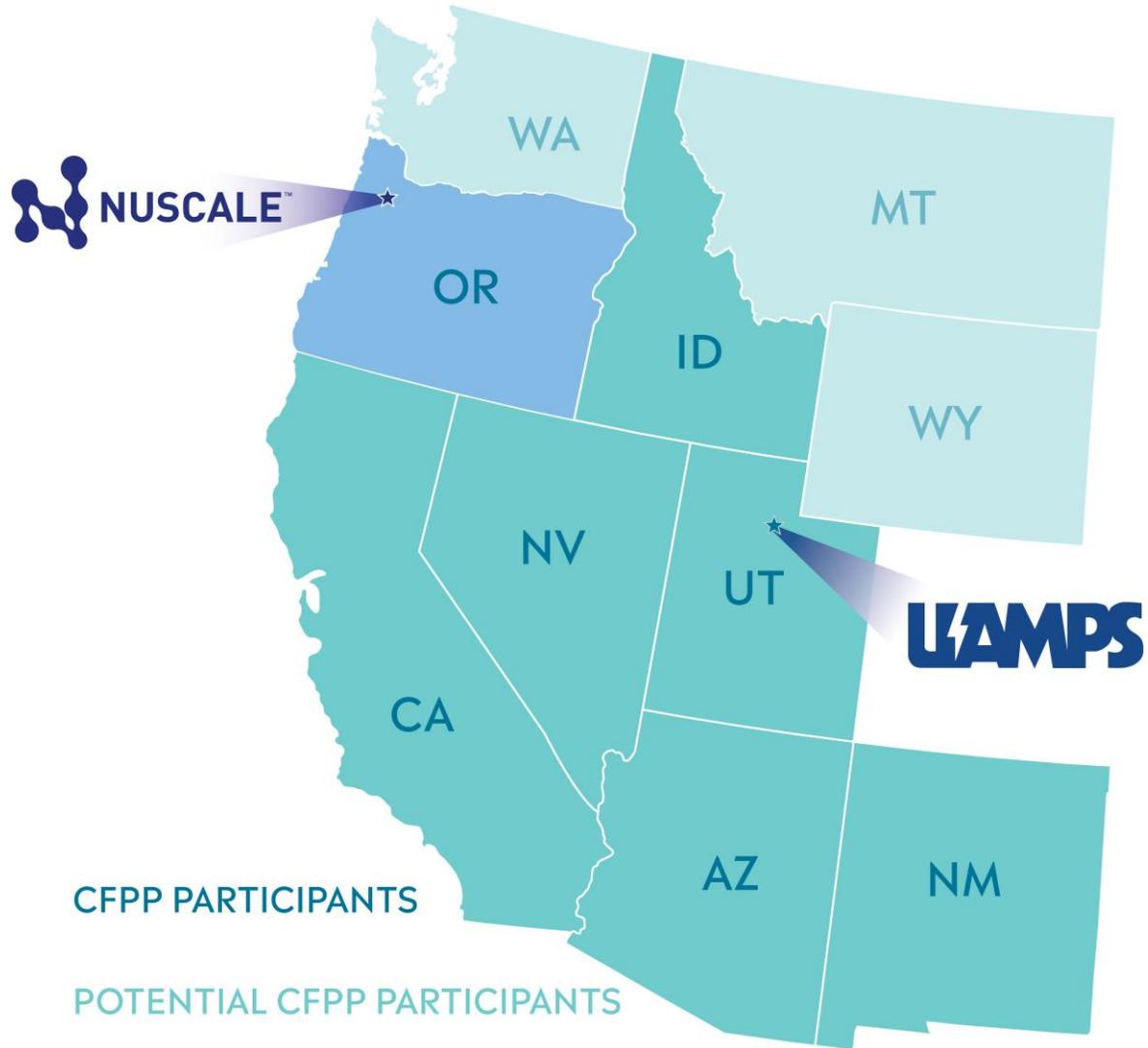
Deliver Highly Reliable Power

Under a microgrid connection, a 12-module NuScale plant can provide over the 60-yr plant lifetime 154 MWe of power to mission critical installations at 99.95% reliability



Flexible Siting Options

A NuScale plant can be sited at the “end of the line” with only a single grid connection, or off-grid



First Deployment: UAMPS Carbon Free Power Project

- Utah Associated Municipal Power Systems (UAMPS) provides energy services to community-owned power systems throughout the Intermountain West
 - 49 members in Utah, California, Idaho, Nevada, New Mexico and Wyoming.
 - 28 members are **CFPP participants** in Utah, Arizona, California, Idaho, Nevada, New Mexico
 - Discussions with **potential CFPP participants** in Montana, Wyoming, Arizona and Washington.
- First commercial deployment of the NuScale VOYGR™ plant will be at the Idaho National Laboratory (INL) as part of the UAMPS Carbon Free Power Project
- In January 2021, UAMPS and Fluor signed a cost-reimbursable development agreement to provide estimating, development, design and engineering services to develop the site-specific cost estimates for deployment of the NuScale technology at the INL site.



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