

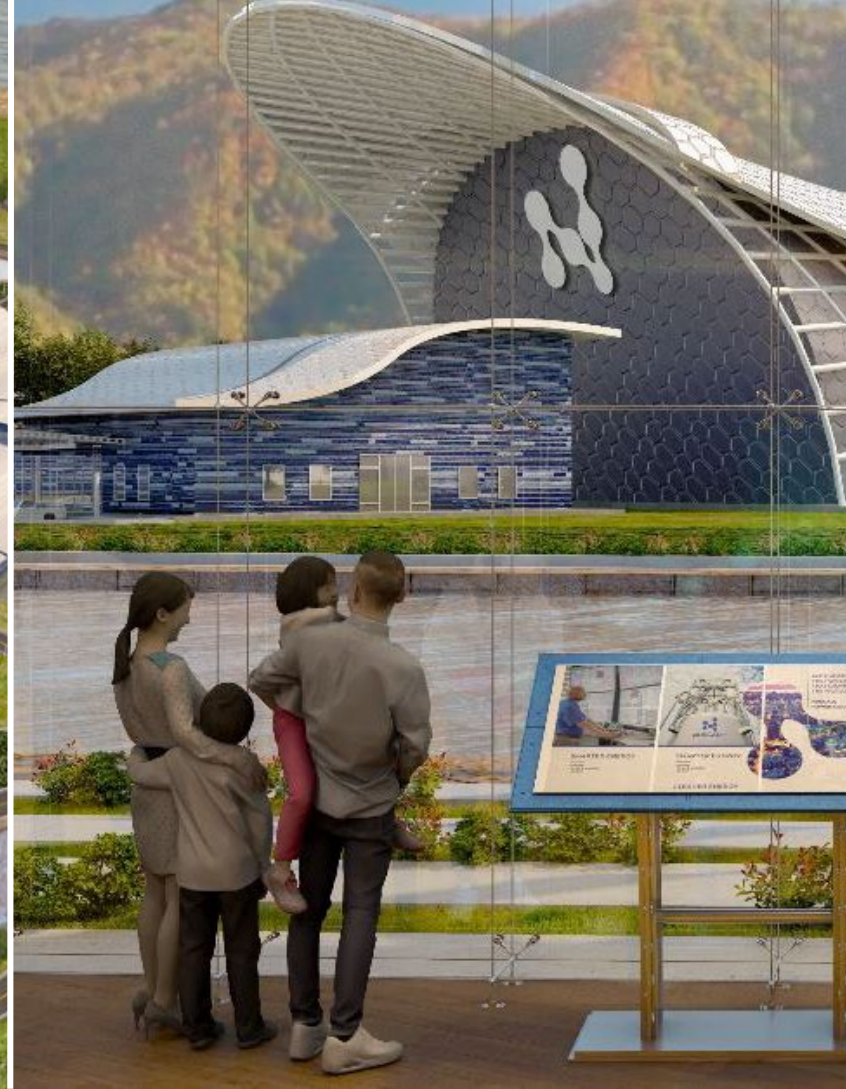
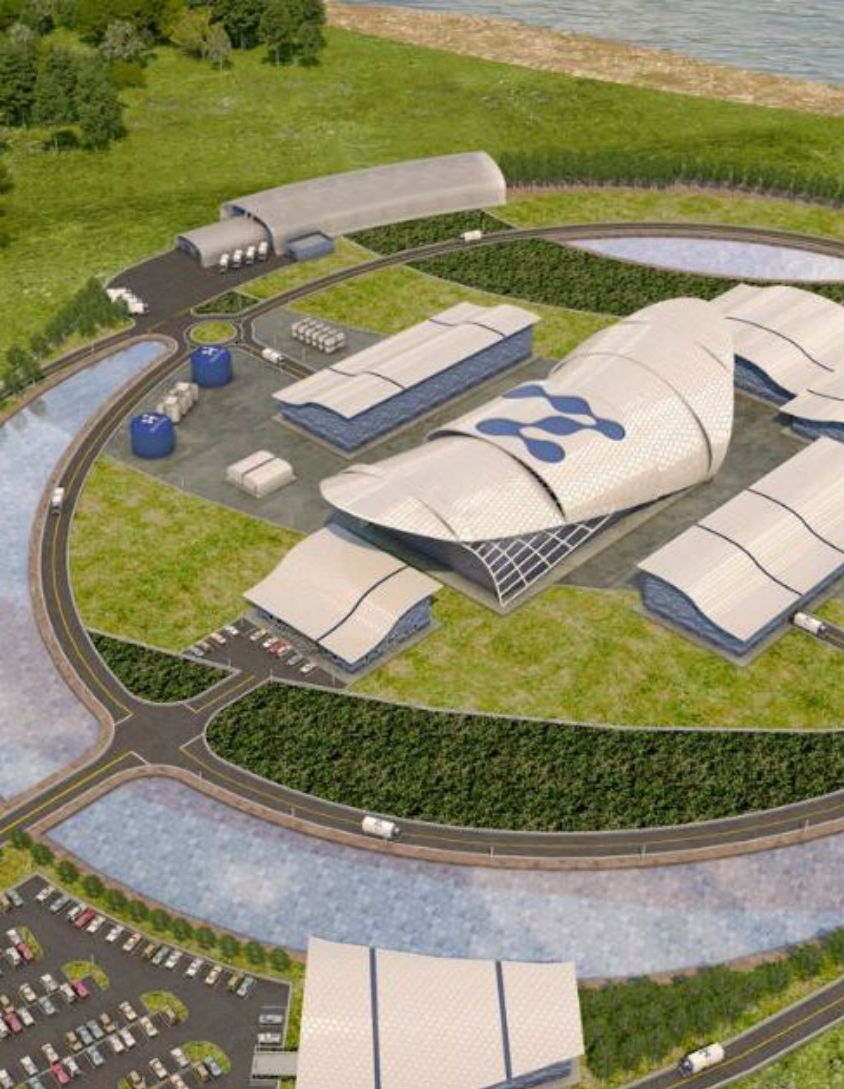


NUSCALE[™]
Power for all humankind

NuScale Power: An Ideal Solution for Repurposing Coal Power Infrastructure

January 11, 2022

Chris Colbert
Chief Financial Officer & Chief Strategy Officer



NuScale has developed a transformational small modular reactor ("SMR") that delivers scalable, safe and reliable carbon-free nuclear power essential to meeting global decarbonization targets

NuScale Power by the Numbers

1st

And Only SMR to Receive
NRC Standard Design Approval

\$1.3bn

Cumulative Capital
Invested to Date

14 Years

R&D and Testing
Founded in 2007

430+

Employees with Unparalleled
Nuclear Experience
35 PhDs
146 Master in Engineering /
Science Degrees

628

Patents
418 Granted, 210 Pending
Extensive Trade Secrets

8

Strategic Investors Supporting
Global Customer Adoption
Established Supply Chain
Network with Continued DOE
Support

Existing Investors

FLUOR

DOOSAN

JGC

GS Energy

Sargent & Lundy

sarens

IHI

SAMSUNG
SAMSUNG C&T

Source:



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

September 11, 2020

Mr. Zackary W. Rad, Director
Regulatory Affairs
NuScale Power, LLC
1100 Circle Boulevard, Suite 200
Corvallis, OR 97330

SUBJECT: STANDARD DESIGN APPROVAL FOR THE NUSCALE POWER PLANT
BASED ON THE NUSCALE STANDARD PLANT DESIGN CERTIFICATION
APPLICATION

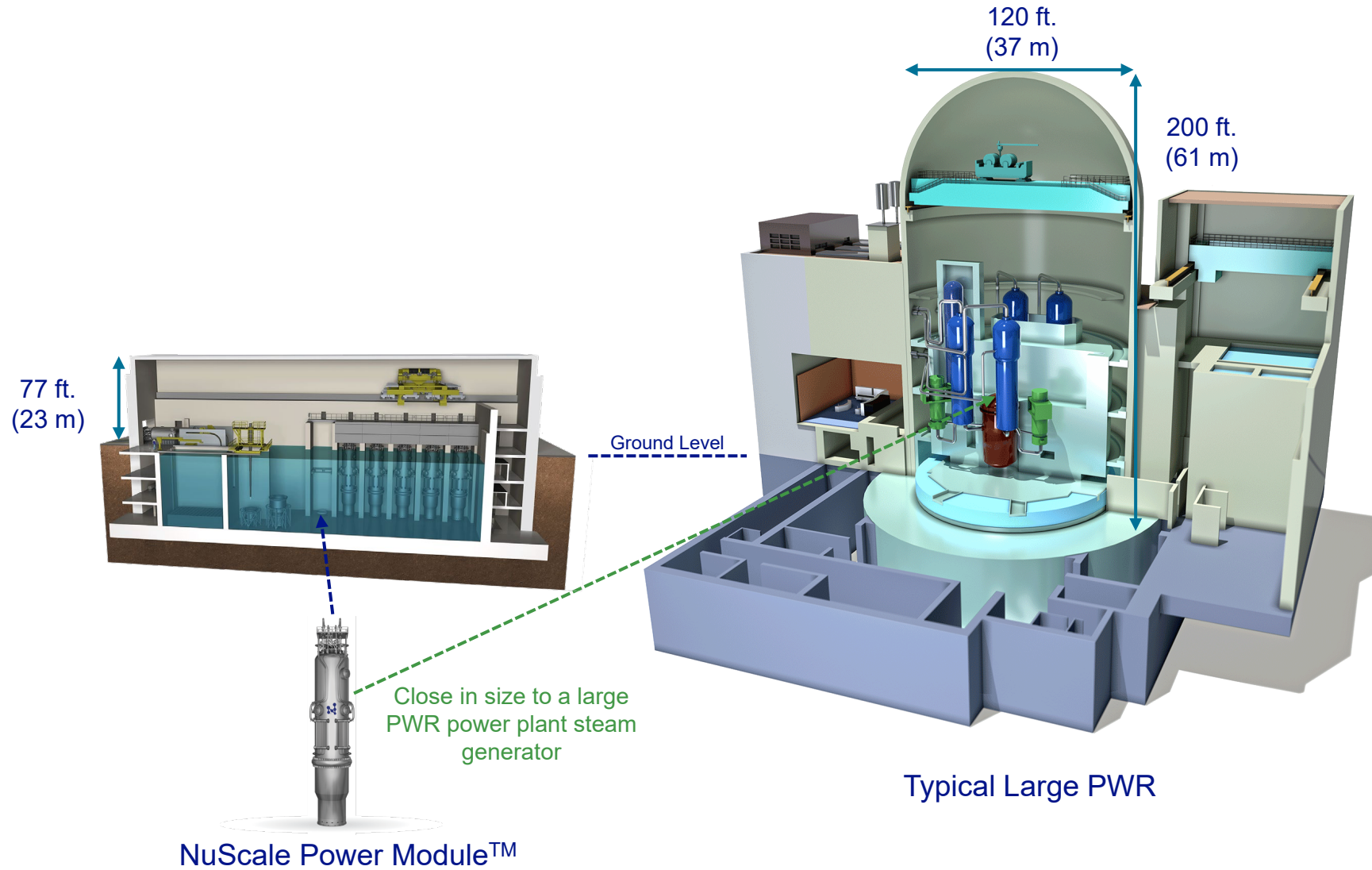
Dear Mr. Rad:

In response to the NuScale Power, LLC. (NuScale) letter to the U.S. Nuclear Regulatory Commission (NRC), "NuScale Power, LLC Request for Standard Design Approval based on the NuScale Standard Plant Design Certification Application," dated July 13, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20195C766), this letter provides the standard design approval (SDA) for the NuScale reactor standard design. The NuScale SDA is attached and can be found in ADAMS (Accession No. ML20246G536).

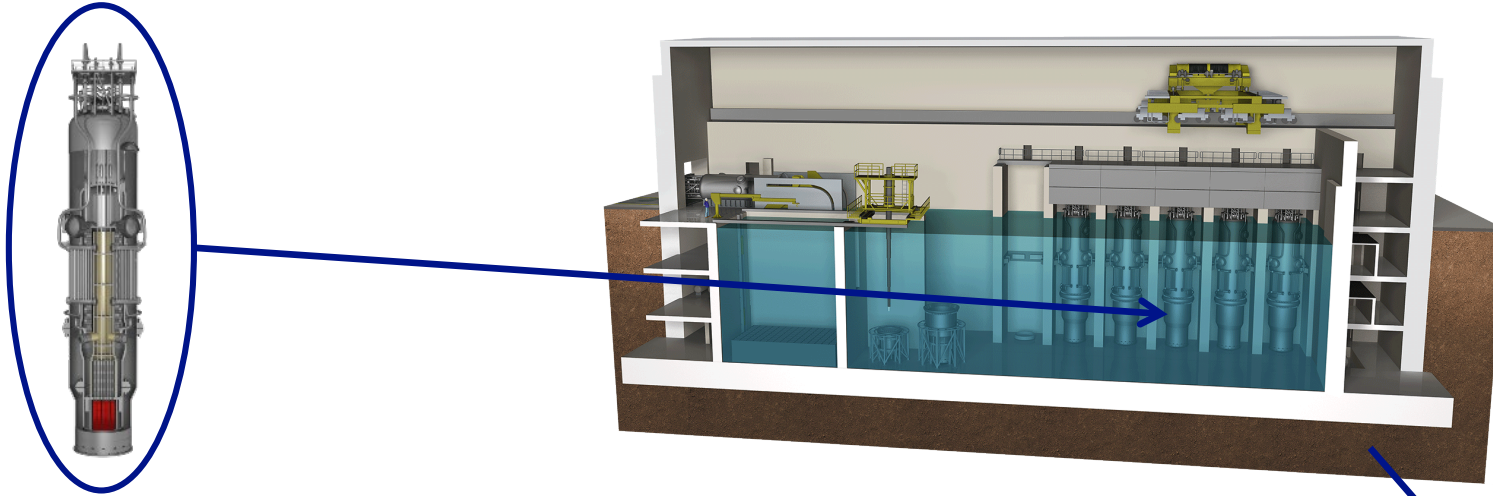
The NuScale design certification application (DCA) was submitted in the NuScale letter to the NRC, "NuScale Power, LLC Submittal of the NuScale Standard Plant Design Certification Application (NRC Project No. 0769)," dated December 31, 2016 (ADAMS Accession No. ML17013A229). The final version of the NuScale Standard Plant Design Certification Application, Revision 5, dated July 29, 2020, can be found in ADAMS (Accession No. ML20225A044).

The SDA allows the NuScale design to be referenced in an application for a construction permit or operating license under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," or an application for a combined license or manufacturing license under 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants." However, this SDA does not constitute a commitment to issue a permit, design certification (DC), or license, or in any way affect the authority of the Commission, the Atomic Safety and Licensing Board, or other presiding officers in any proceeding under 10 CFR Part 2, "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders."

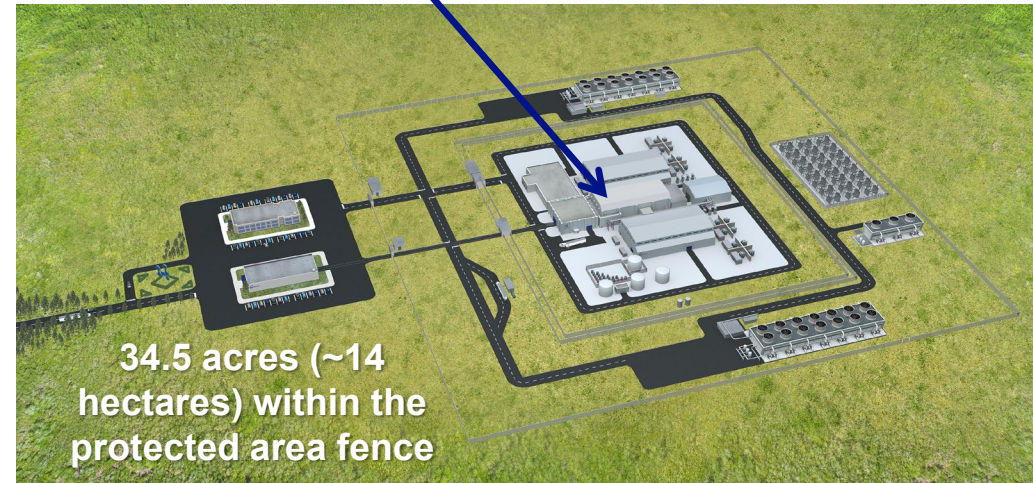
Comparison to a Large Pressurized Water Reactor (PWR)



NuScale Advanced Small Reactor Overview




- Each module produces up to **77 MWe**
- Up to **12 modules** for **924 MWe** gross plant output
- Smaller power plant solutions available for 4-module (308 MWe) and 6-module (462 MWe) plants




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 ✘

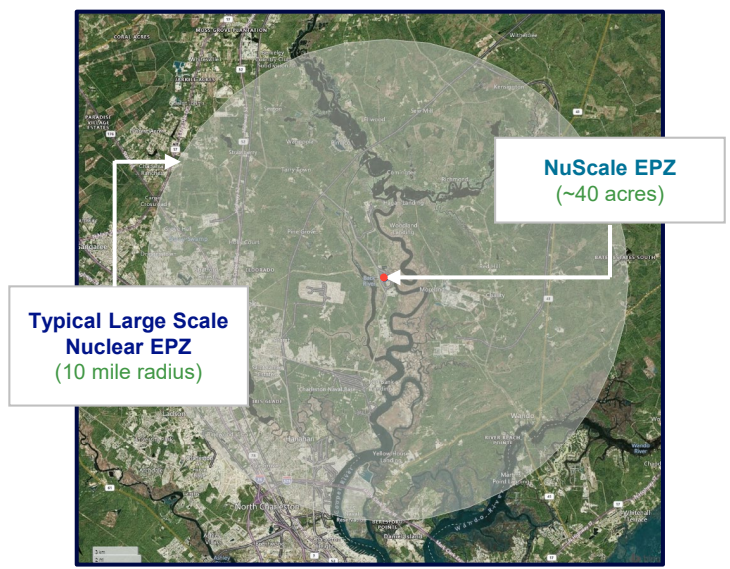
 **Generation IV Reactors Advanced LWR:**
8 Hours With No Operator Actions ✘

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

Source:


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

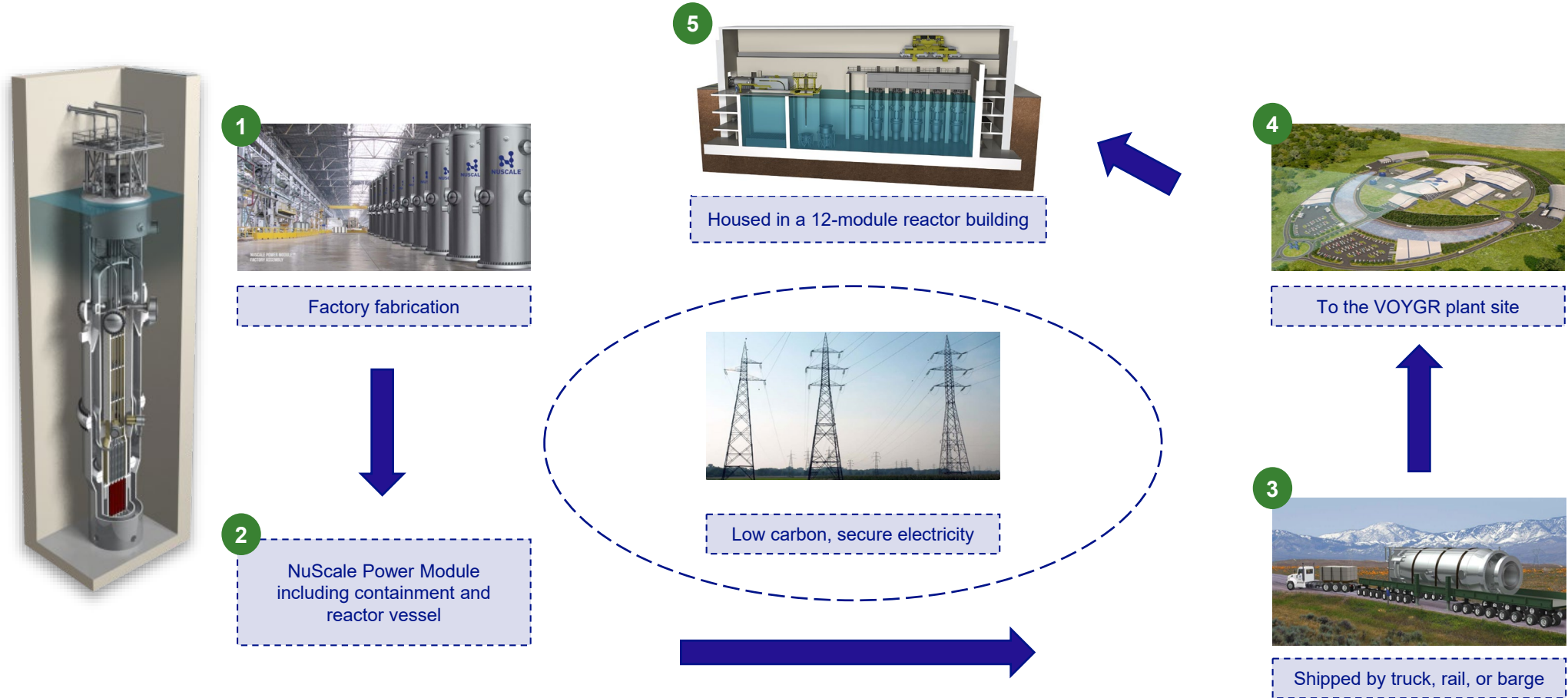
 **First Responder Power**
A NuScale plant can start-up without power from the grid and can inject power back into the system to support grid restoration

 **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

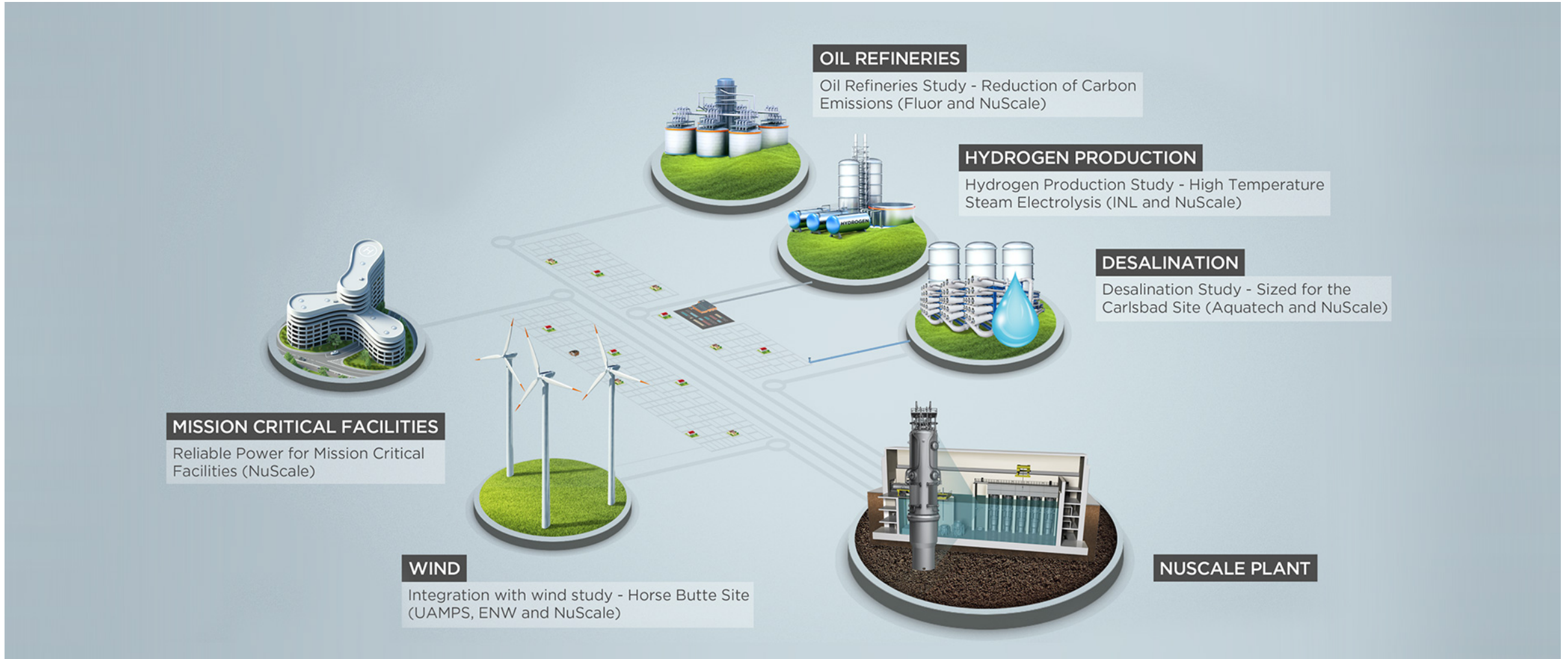
A New Approach to Construction and Operation

NuScale has revolutionized the nuclear supply chain with modular manufacturing of NPM units in-house that are shipped to sites



Beyond Baseload: NuScale Diverse Energy Platform

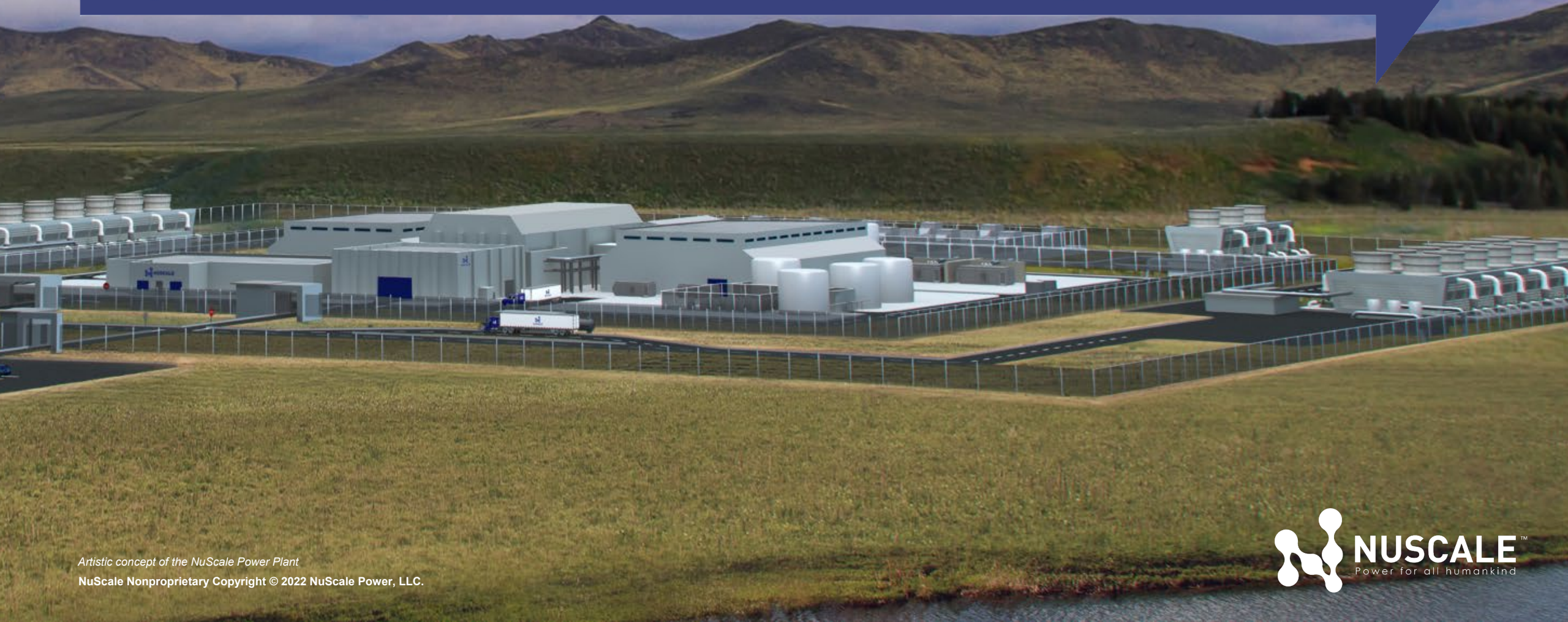
More Than Reliable Baseload and Load-following Electricity Generation



Reports for associated technical studies are available at: www.nuscalepower.com/technology/technical-publications

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Artistic concept of the NuScale Power Plant
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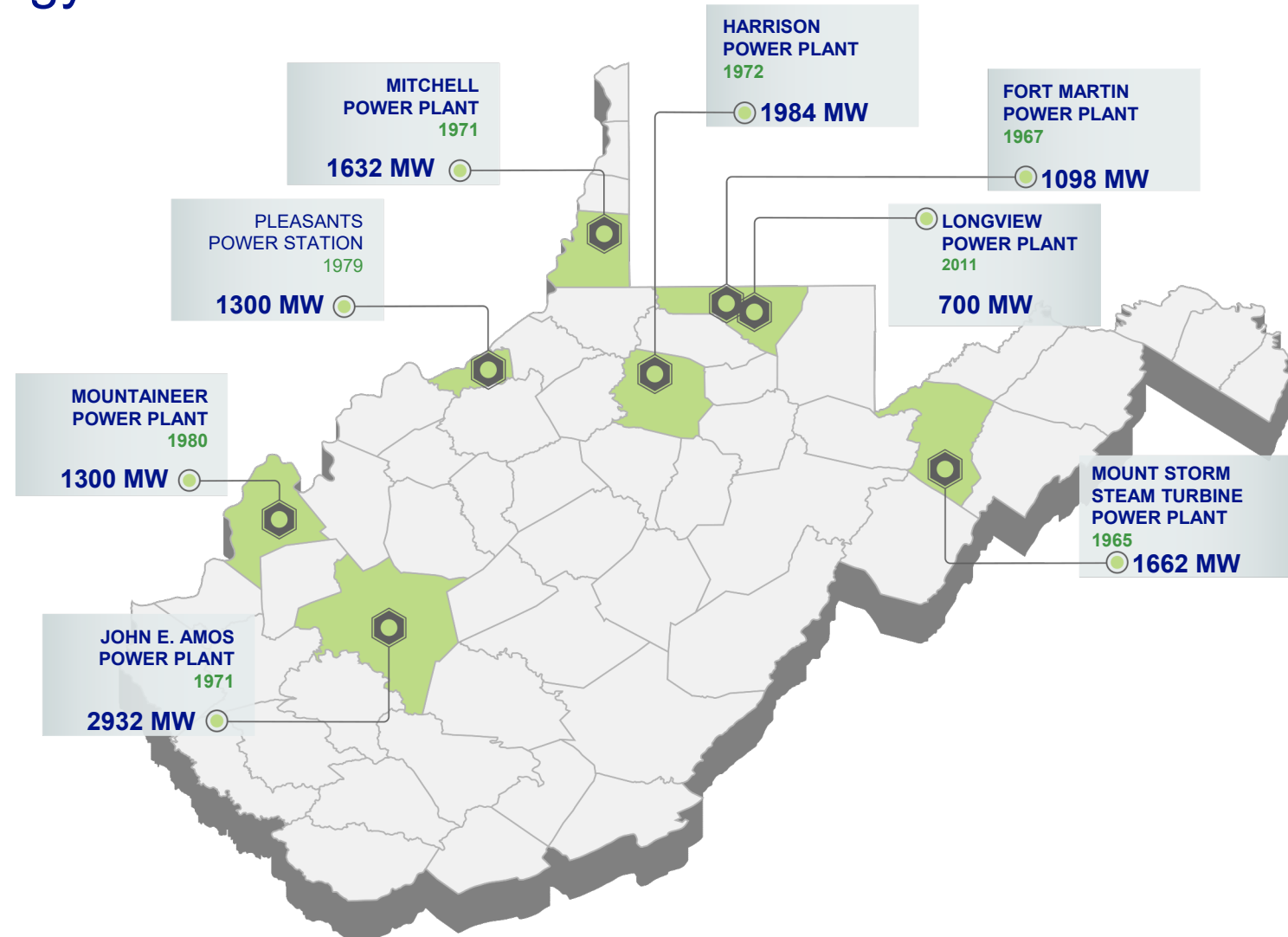


A Part of America's History

- In the U.S., coal-fueled power plants have for decades offered a cost effective solution for meeting the energy demand of our country.
- As recently as 2008, responsible for half of U.S. electricity generation.
- Facing retirements due to age, competition from other generating sources, and market and regulatory factors.
- By 2030, the U.S. will see 73 coal power plants retire, resulting in a loss of 38 GW of capacity.

A Vital Part of West Virginia's Energy

- State is the 10th highest in energy consumption per capita nationwide
- Coal generation accounts for 88% of West Virginia's electricity net generation
- 7 plants coal fired plants
 - Over 12,000 Mwe of generation capacity
 - Average age: 45 years



Source:
 U.S. Energy Information Administration
 Map: Global Data, November 2021

Repowering Our Energy Communities

- A VOYGR™ power plant represents a century long investment in the host community
 - 1,200 construction jobs over three years
 - 270 operation jobs for 60 years
 - 677 induced/indirect jobs for 60 years
 - \$16M in local taxes, \$470M in local goods and services yearly
- Siting VOYGR power plants at retiring coal plants can equitably transition and repower communities clean energy
 - Retain and retrain coal/gas plant workforce
 - Re-use coal/gas plant infrastructure
 - Preserve local tax base and economy, worker families and communities





Construction Jobs

Construction jobs per 12-module VOYGR™-12 power plant **1,171**

- Carpenter, heavy equipment operator, laborers, welders **388**
- Electricians **182**
- Pipefitters, plumbers **90**
- Painters, insulators, laborers **89**
- Electrical Technicians **76**
- Ironworkers, welders **53**
- Mason, sheet metal workers, plasterer **51**
- Home Office: **242**
Engineers, Project Management, Supply Chain, QA, Security, HR



Job Creation/Preservation

- Each VOYGR™-12 power plant will employ **about 270 people full-time**, in high paying quality jobs.
- Examples of types of jobs:
 - Plant Operators.
 - Nuclear Maintenance Craftsmen.
 - Radiation Protection Technicians.
 - Training Staff.
 - Non-nuclear Craftsmen.
 - Security Officers.
 - Department Managers.
 - Technical Supervisors.
 - Engineers.
- The **domestic supply chain** for manufacturing 3 plants per year could **generate about 14,172 jobs**.



Job Creation

- Each VOYGR™-12 power plant will employ approximately **270 people full-time**. Examples of types of jobs include:

Estimated Number of Job Positions	Required Education Level	Job Position Examples
45	Bachelor of Science	Department Managers Technical Supervisors System Engineers
162	Associates Degree, Vocational Education	Plant Operators Maintenance Craftsmen Radiation Protection Technicians Training Staff
61	High School or GED	Sit Support Craftsmen Security Officers Storekeeper
2	Entry Level	Administration Support

- The domestic supply for manufacturing 36 **modules per year = 14,172 jobs**

Department/Position	Estimated Number of Positions*
Plant Manager	1
Department Managers	6
Operations	45
Radiation Protection	17
Chemistry	14
Work Control	13
Outage Planning	21
Instrumentation & Controls (I&C)	10
Mechanics	8
Electricians	11
Plant Systems Engineering	9
Reactor Engineering	5
Licensing	5
Emergency Preparedness	2
Training	19
Site Support/Facilities	13
Corrective Action Program (CAP)	2
Supply Chain	5
Fix It Now (FIN) Team	15
Backshift Supervisor	1
Security	48

NuScale VOYGR™ Staffing

- For a 12-unit VOYGR-12 power plant, approximately **270 plant personnel** support operations, online maintenance, refueling, outage maintenance, security, and more.

This is a standalone facility staffing estimate. Further staffing reduction is possible through the centralized facility support services offered and provided by NuScale.

**LET'S CHANGE THE POWER
THAT CHANGES
THE WORLD**





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Chris Colbert
Chief Financial Officer & Chief Strategy Officer
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