

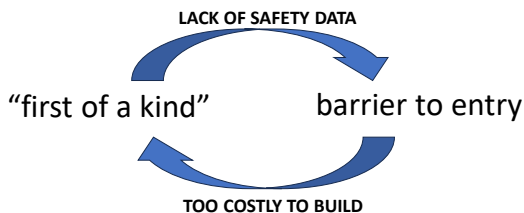
Accelerate U.S. Nuclear Power with Modular Regulations

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ENGINEERING

Introduction

Small Modular Reactors (SMRs) are technically proven, yet commercial deployment is stalled. Current 20th-century frameworks treat modular designs as high-risk, site-centric megaprojects, preventing accurate risk pricing.



- Site-specific reactor design designations make SMRs financially prohibitive for private developers.
- Lack of safety data for SMRs prevents assessment of low-risk technology by private insurers.

Background

- Under Part 50 and Part 52 of the code of federal regulation (CFR), every component is tied to the plot of land where it is installed.
- SMRs solve the bottlenecks of 20th-century reactor regulation through design that starts with safety.

Case Study 1 – “First of a Kind”

Plant Vogtle - Unit 3 and Unit 4

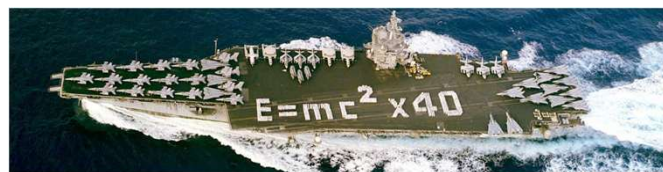
Waynesboro, GA

- Two identical reactors, part of expansion to existing nuclear plant with multiple redesigns.

\$9.7b → **\$36.8b**
Initial Estimate (2009) Construction Complete (2024)

- Reactors are large (1,117MW) and custom built.
- The project highlighted a liability trap where reactor design is linked to site civil engineering.
- Demonstrated gaps in Part 50 and Part 52 certification for deterministic risk of safety.

Case Study 2 – Proven SMRs



USS Enterprise (CVN-65), 2001. Celebrating 40 years of nuclear power service.

- 7,600+ reactor-years, 100+ reactors, 0 accidents
- Standardized, factory-certified products.
- Reactors are small (30MW – 260MW) and modular (one to two reactors per vessel).
- Centralized auditing and design repeatability provide the data required for risk pricing.

Recommendations

1. Provide Temporary Risk Backstops

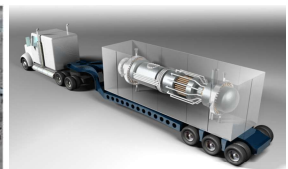
The U.S. Department of Energy and U.S. Treasury should provide insurance backing for new SMRs until adequate safety data is created.

2. Enable Scaling of SMR Manufacturing

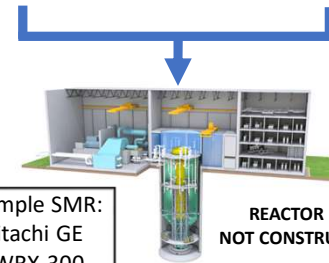
Separate factory-made reactor audits from on-site civil engineering audits.



FOUNDATION APPROVED,
CONSTRUCTION BEGINS



REACTOR BUILT AT FACTORY,
SHIPPED TO LOCATION



REACTOR INSTALLED,
NOT CONSTRUCTED ON SITE

3. Make SMR Safety Data Accessible

Update U.S. Nuclear Regulatory Commission data collection and delivery to increase transparency and access for insurers and industry.