

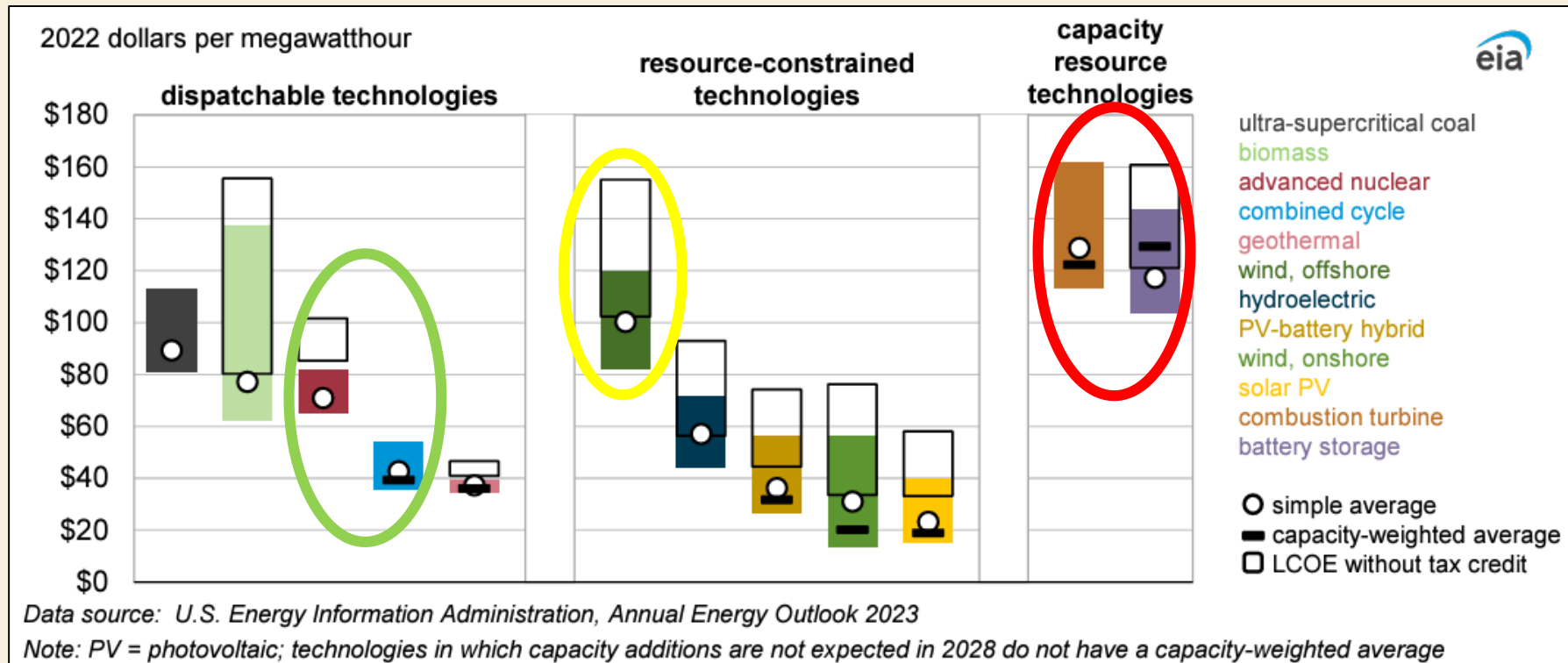
# STEPS TO BUILDING NEW NUCLEAR





Step 1:  
Put together  
needed  
partnerships

## Step 2: Compare other technologies for full life cycle



*1000 MWE Nuclear (80 yrs.) = 5,000 MWE (Renewable) + 8,000 MWE (Gas/Battery backup)*  
*Total life-cycle costs reduced with nuclear as you are not constantly replacing, reinsuring, operations & maintenance and paying for site decommissioning*

# VOGTLE 3 AND 4 CUSTOMER BENEFITS

## Toshiba Parent Guaranty

- Parent Guaranty established at beginning of construction to protect Georgia customers
- \$3.68 billion total

## DOE Loan Guarantee

- \$5.13 billion loan to Georgia Power through the FFB
- > \$520 million in finance savings to customers

## Production Tax Credits

### Advanced Nuclear Facility Federal Income Tax Credit

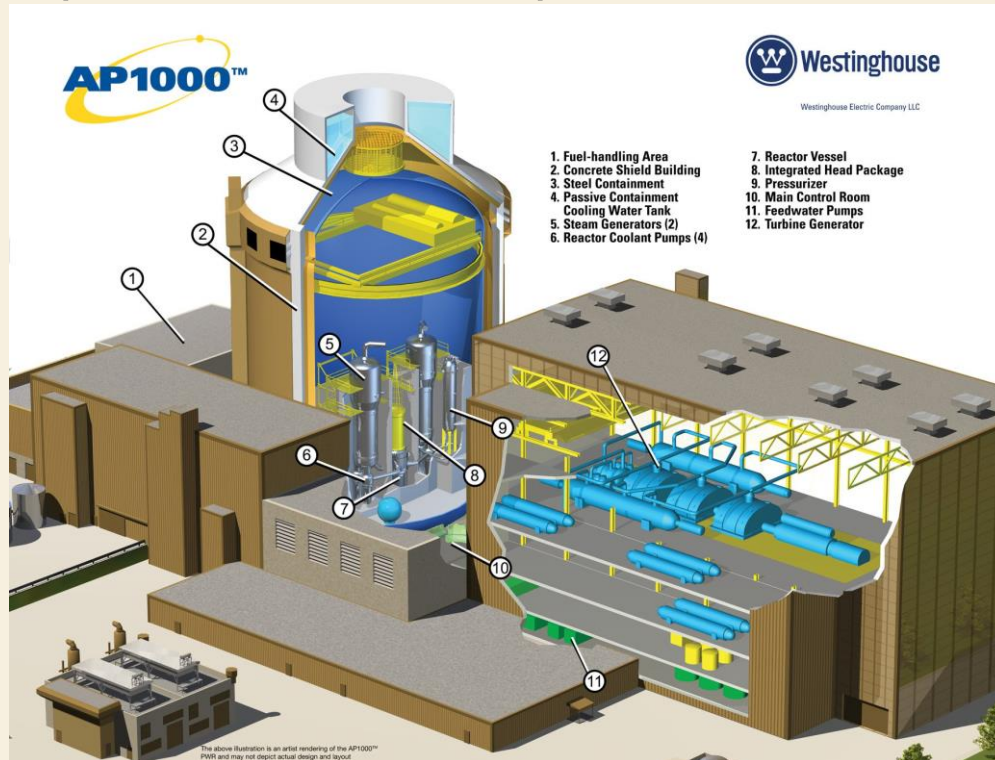
- 1.8 cents for each kWh of electrical energy produced and sold for 8 years after COD
- Will provide approximately \$1 billion in benefits to customers through reduced revenue requirements after COD

# VOGTLE PRUDENCE PROCEEDING

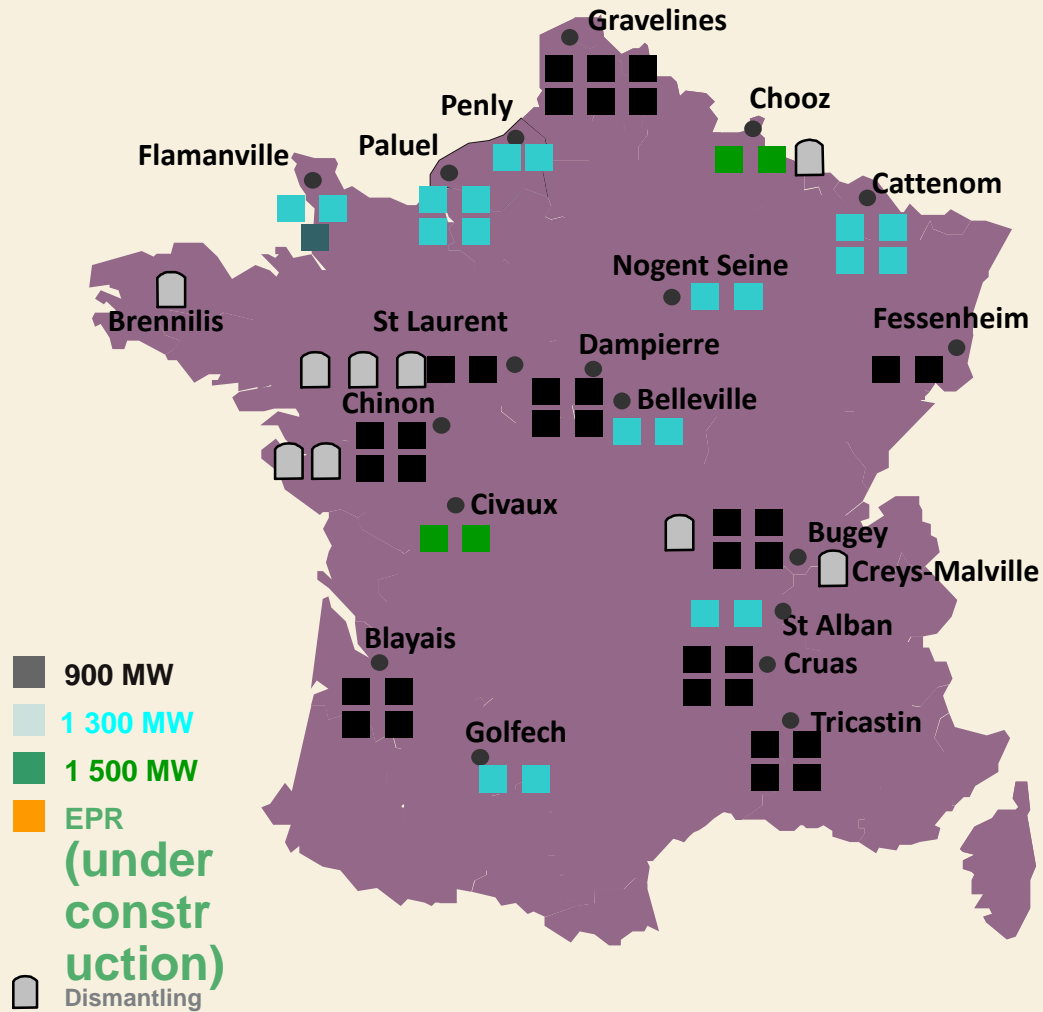
- Stipulated Agreement
  - **August 30, 2023 filed Stipulated Agreement between the Georgia Power, PIA Staff & other Intervenors**
    - \$7.562 billion agreed to for recovery as well as projected operations and maintenance costs
    - GPC will forgo recovery of \$2.6 billion less than the total projected construction and capital cost
    - Stipulated Agreement takes a balanced approach between recovery of costs and recognizes affordability needs for customers
    - Approximately 10% peak rate impact based upon \$7.562B capital costs that were deemed prudent
  - **Additional Stipulation details supported by Stipulating Parties:**
    - 2025 IRP filing: increase DSM proposed savings target from .60% to .75% of retail sales; continue to evaluate expansion of renewable programs to the extent they are beneficial to customers
    - Senior Citizen Discount: eligibility expansion
    - Support for Inflation Reduction Act’s “Solar for All” program
- Commission Approval
  - December 19, 2023, the Georgia PSC approved the Stipulated Agreement, allowing the recovery of \$7.562 billion for Plant Vogtle’s Units 3 & 4.
  - The approval follows the PSC’s 2017 Vogtle Construction Monitoring Order and balances investment with customer affordability, excluding \$2.6 billion in costs from customer rates.

# WESTINGHOUSE AP1000 TECHNOLOGY

- The AP1000<sup>®</sup> Plant is a two-loop pressurized water reactor (PWR) that uses a simplified, innovative and effective approach to safety.
- AC electrical power is not required for safe shutdown.
- Fully digital control room, some analog backup safety systems.
- Operator action not required for 72 hours to maintain core and containment cooling.



# TALK TO EXPERTS



**63 GW, 19 sites,  
58 PWRs operated reactors**

3 standardized series :

- 900 MW (3 loops) : 34 units, 31 GW,

- 1300 MW (4 loops) : 20 units, 26 GW,

- 1500 MW (N4, 4 loops) : 4 units, 6 GW,

STANDARDIZATION EFFECT

Cumulated operating experience > 1300 years

- 44 GW commissioned between 1980 and 1990

- Average operation time : 23 years

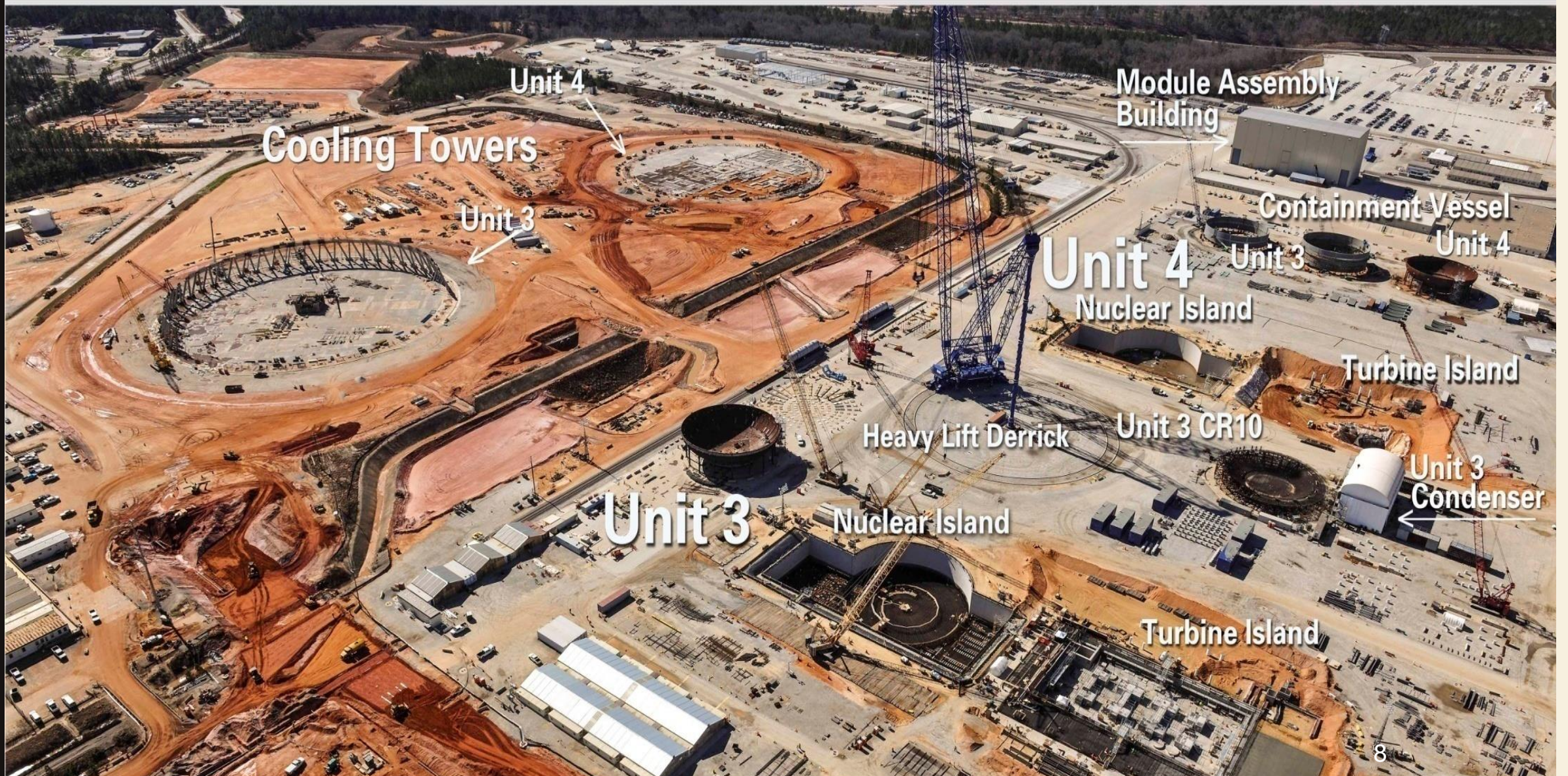
- Third ten years outage for 900 and 1300 MW

A WORLD UNIQUE EXPERIENCE OF DESIGN, BUILDING AND OPERATION.

New plant: 1 EPR.

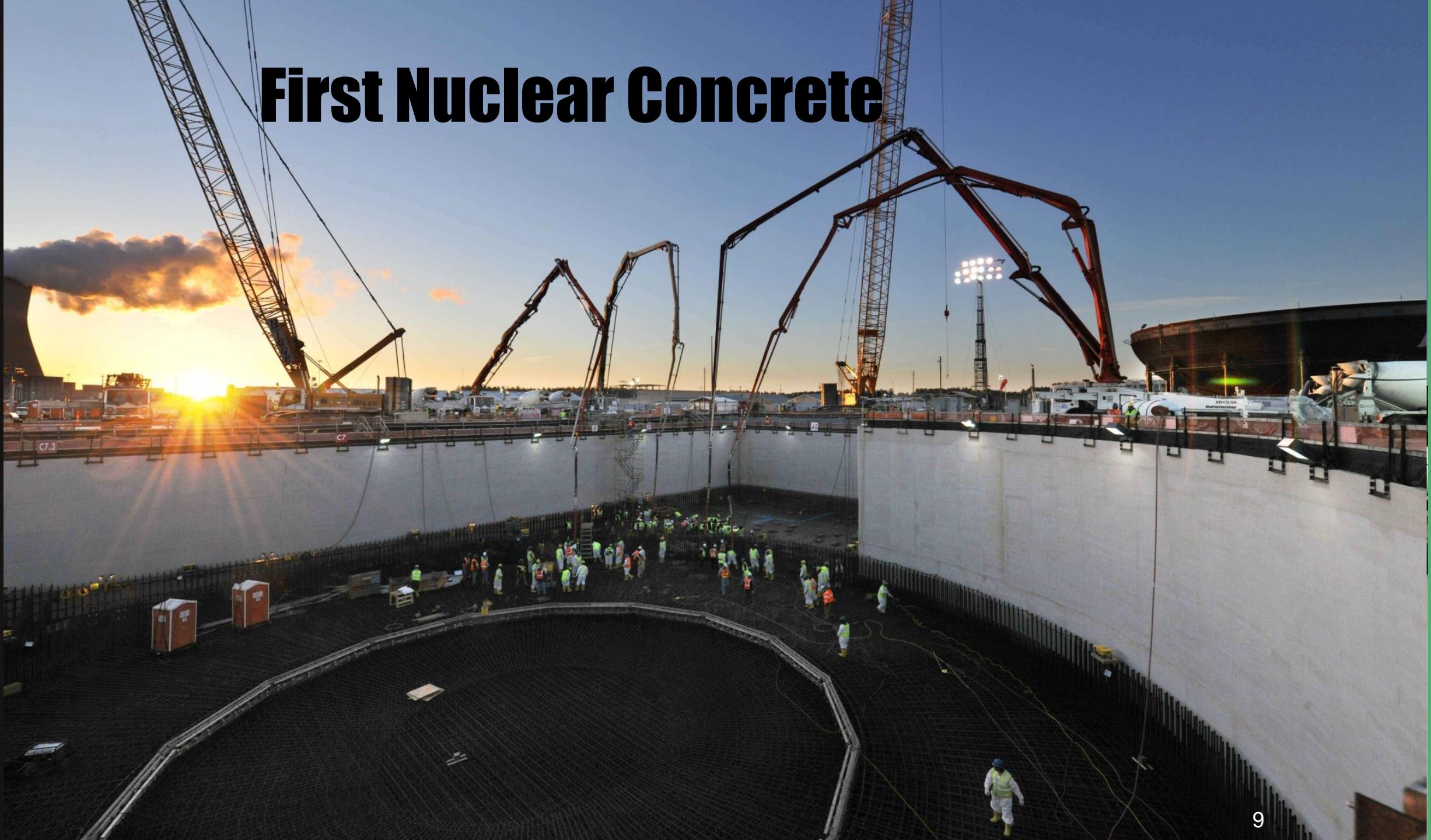
+ dismantling

# Vogtle 3&4 - Construction, January 31, 2013





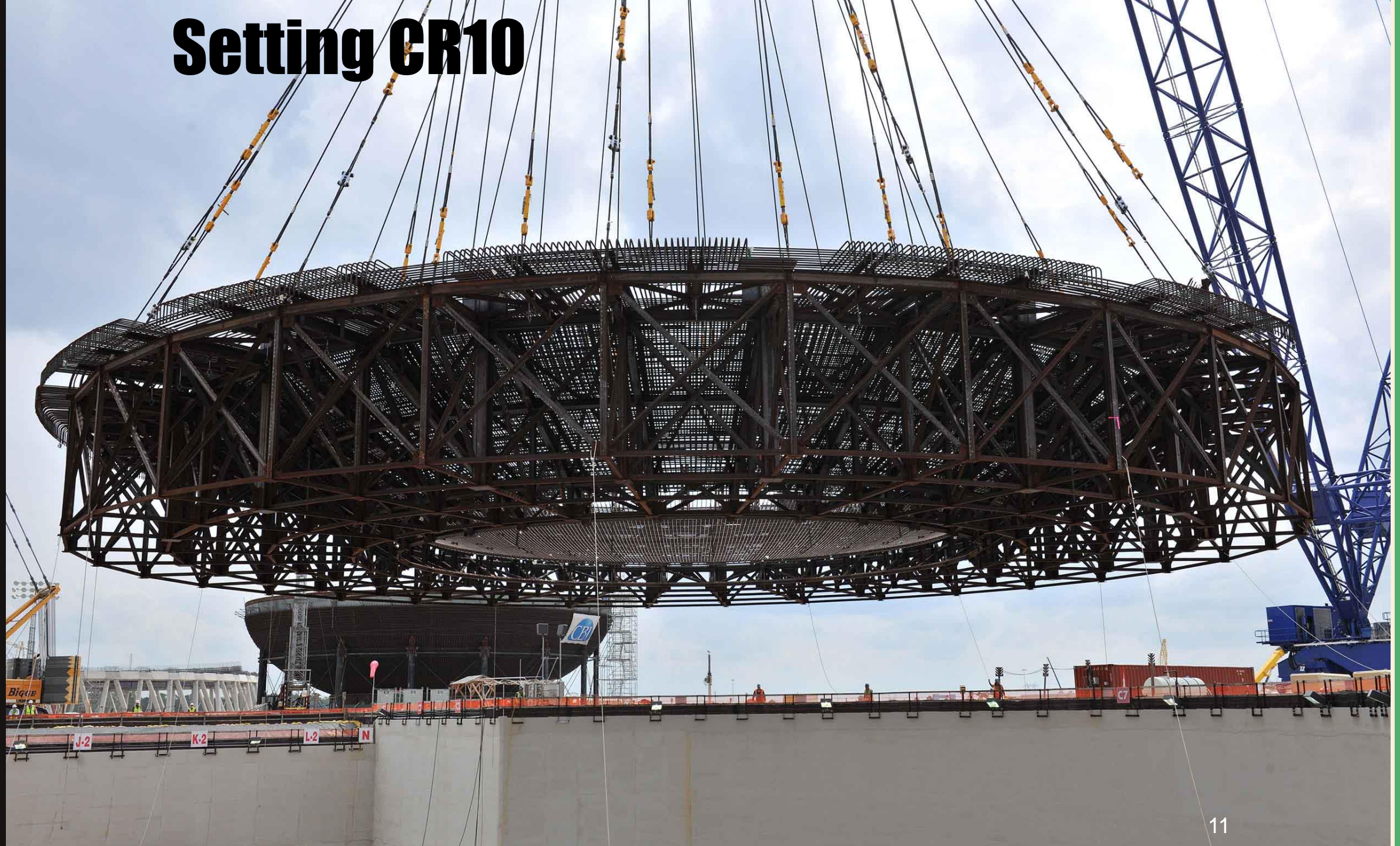
# First Nuclear Concrete



# Enough concrete to build a sidewalk from Atlanta to Seattle



# Setting CR10



# Construction Progress



# Cooling Tower beginnings



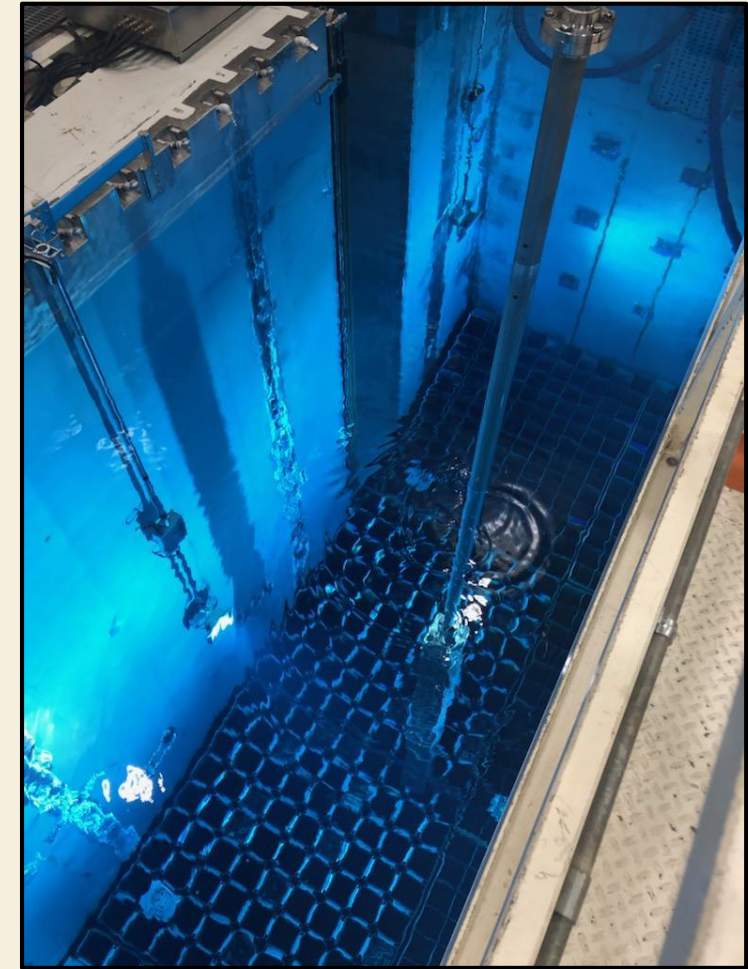
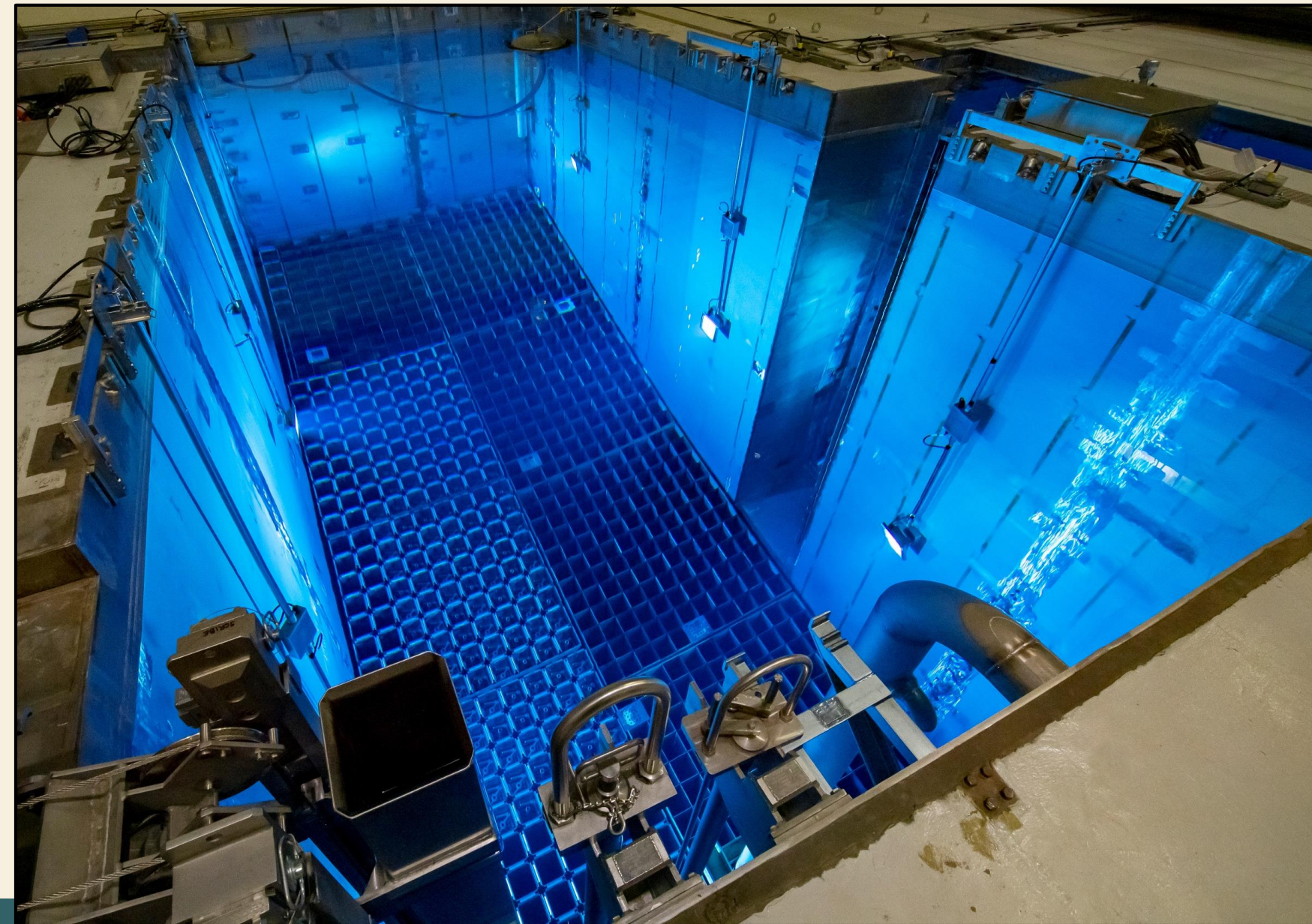
# Construction Progress



# UNIT 3 TURBINE DECK

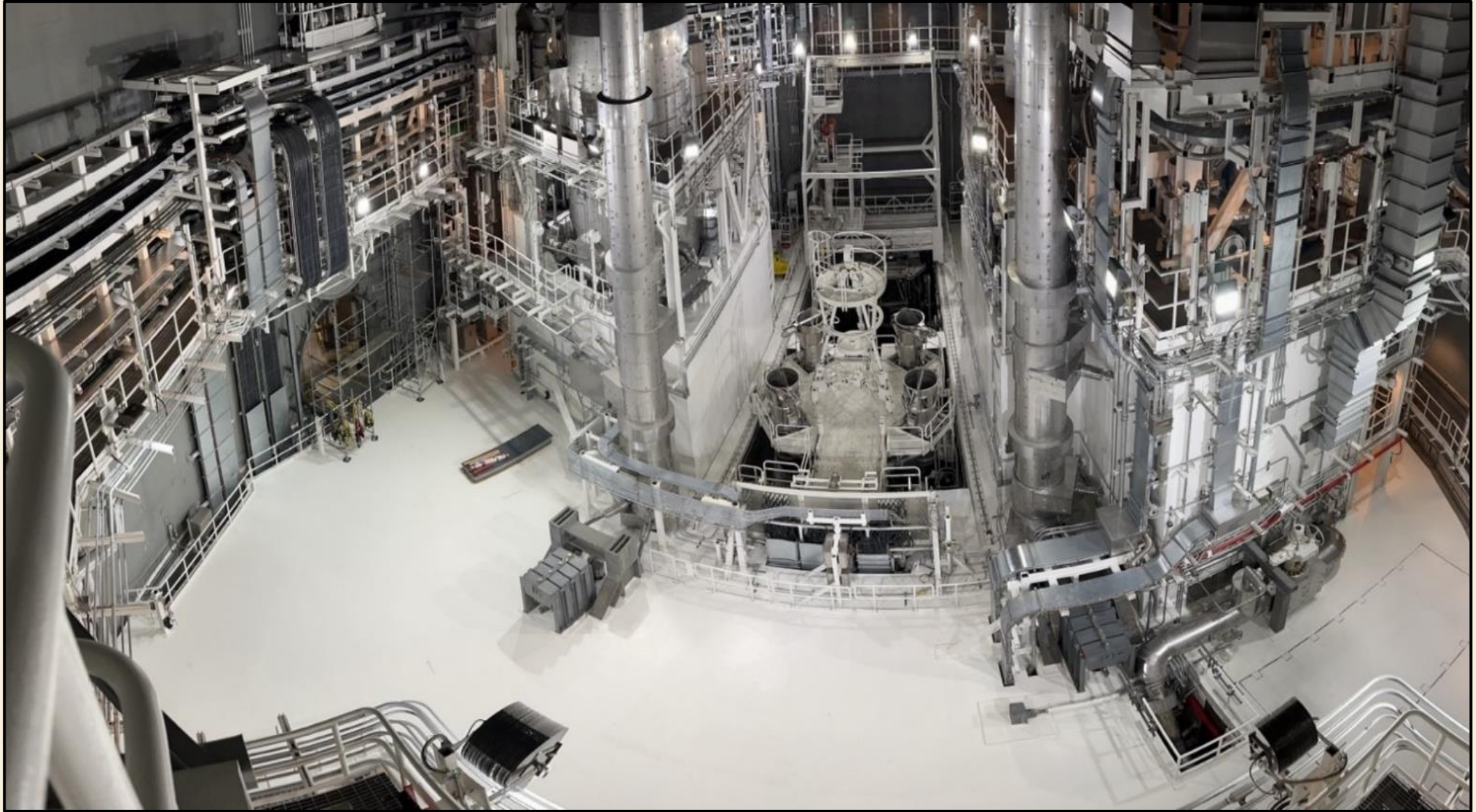


# VOGTLE UNIT 3 & 4 SPENT FUEL POOL





# UNIT 4 CONTAINMENT





Powering 1M  
Homes

# Vogtle Unit 3 & 4

## Two units

Westinghouse AP1000  
1,102 MWe each

## Ownership

Georgia Power – 45.7%  
Oglethorpe Power – 30%  
MEAG Power – 22.7%  
Dalton Utilities – 1.6%

## Location

Waynesboro, Georgia

## Workforce

- ▶ 9,000+ workers at peak
- ▶ 800 permanent jobs expected when both units are operating

## Vogtle Units 1-4

- ▶ Largest generator of clean energy in the nation
- ▶ Expected to power 1+ million homes and businesses

## Operating life

Unit 3 COD: July 2023  
Unit 4 COD: April 2024

Expected 60-80 years

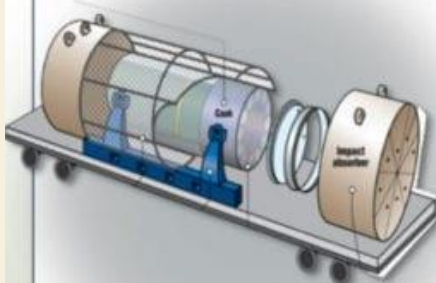
...Past the year 2100

# SMALL REACTORS GIVING CHOICES

## Creating the next-generation National Reactor Testing Station: *Advanced Reactor Pipeline Vision*

### Demonstrate first <10MW micro-reactor by early 2020s

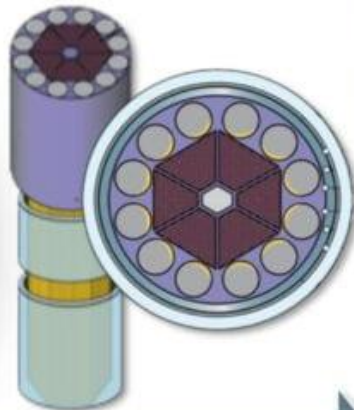
- Resolve key advanced reactor issues
- Open new markets for nuclear energy
- Provide a 'win' to build positive momentum



2021

### Commercial micro-reactors deployed

- Support deployment of micro-reactors for key remote site power and process heat customers



2025

### SMR operating by 2026

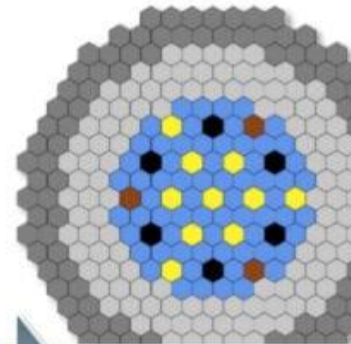
- Enable deployment through siting and technical support
- Joint Use Modular Plant leased for federal RDD&D



2026

### Versatile Test Reactor (VTR) operating by 2026

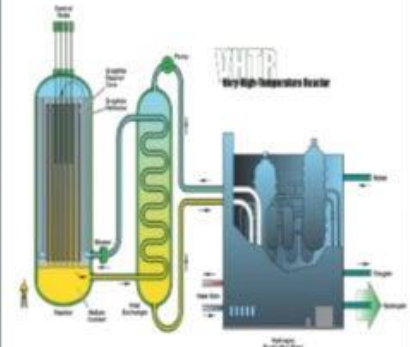
- Re-establish leadership in fast-spectrum testing and fuel development capability
- Supported by micro-reactor demonstration
- Support non-LWR advanced reactor demonstration



2028

### Non-LWR Advanced Demonstration Reactor by 2030

- Demonstrate non-LWR technology replacement of U.S. baseload clean power capacity



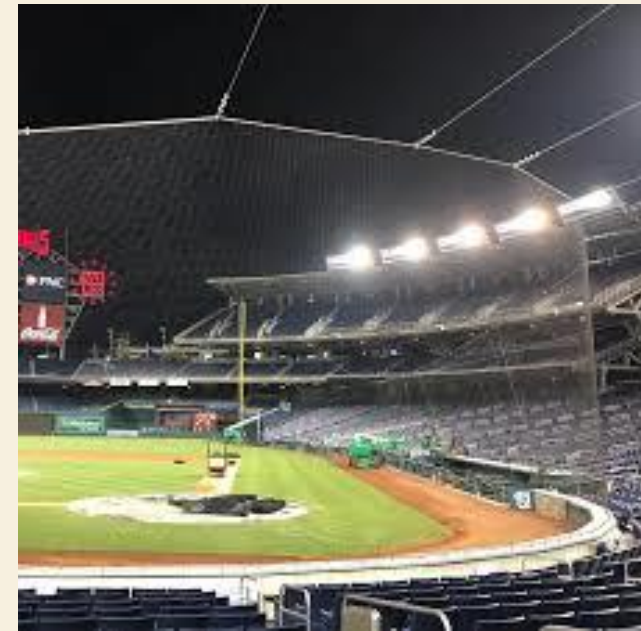
2030

# FEDERAL BACKSTOP NEEDED FOR OVERRUNS

TOO SMALL



BIG BACKSTOP NEEDED





**MASSIVE  
ENERGY  
LOAD  
GROWTH  
AHEAD**

# ENERGY MATTERS

A RADIO SHOW



*“Helping you save money,  
use technology  
and be more sustainable.”*

On Demand  
at  
[Wgauradio.com](http://Wgauradio.com)

