Columbia Fuel Fabrication Facility

Governor’s Nuclear Advisory Council
April 2026

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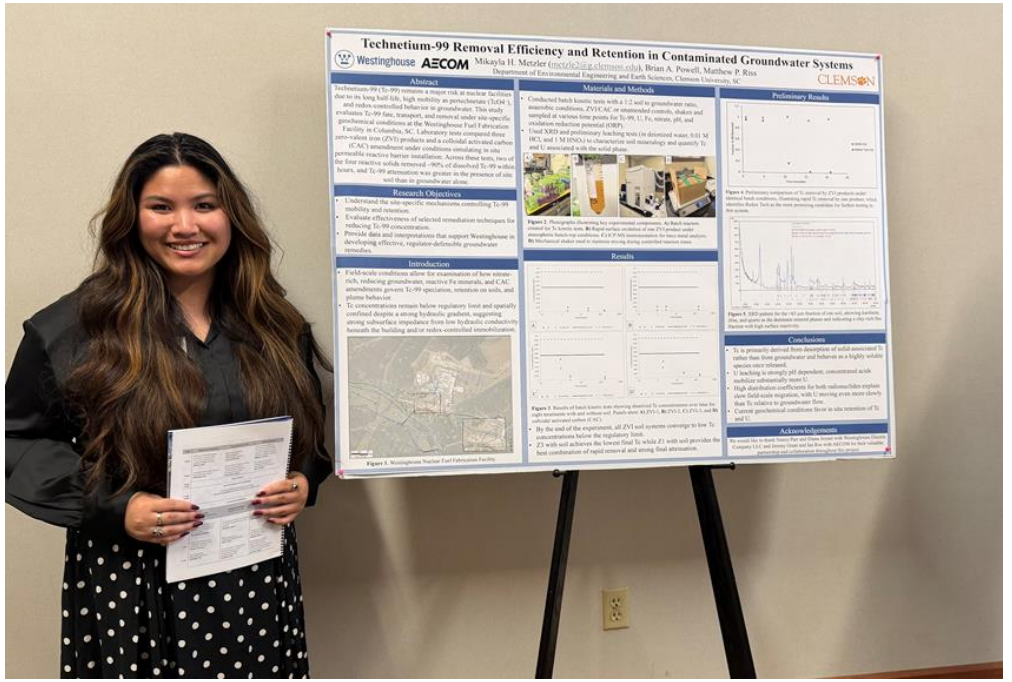
Agenda

- **Introductions**
- **Current Fuel Manufacturing Activities**
  - Environmental
  - ADOPT Fuel
  - Grid Manufacturing
- **Looking Forward**

Significant Progress continues in Environmental Risk Elimination

- Addressing on-site legacy impacts through a site-wide Feasibility Study
  - Routine meetings with SC-DES
  - Partnership with Clemson University to support treatability studies and pilot testing for radiological impacts
- Inspection and life-cycle management of underground piping
- Proactive planning for wastewater treatment system improvements to support long-term operations
- Continuous improvement of community engagement and stakeholder communication strategies



Presentation on bench-scale treatability studies at Clemson Hydrogeology Symposium on 4/2/26

ADOPT Fuel

- **ADOPT** (Advanced DOped Pellet Technology) fuel is a standard UO2 fuel that has been doped with small amounts of chromia(Cr_2O_3) and alumina (Al_2O_3).
- The additives facilitate densification and diffusion during sintering resulting in a higher density and enlarged grain size compared to undoped UO_2.
- **ADOPT** fuel provides improved in-reactor properties
  - Higher thermal stability
  - Better oxidation resistance
  - Increased PCI margins at high temperatures
  - Lower transient fission gas release
- **ADOPT** fuel provides improved economics
  - Enhanced diffusion enables a faster sintering time
  - ~2% increase in density compared to that of CFFF UO_2

ADOPT Pellets

- **ADOPT** fuel is a commercial product within the European market with extensive manufacturing and operating experience. Westinghouse has over 20 years of irradiation experience in delivering over 25 regions of fuel containing ADOPT fuel pellets.

ADOPT Fuel Manufacturing At Columbia

- CFFF has manufactured two regions of **ADOPT** fuel
  - Currently in operation in Turkey Point Unit 4 in Florida
  - First and second regions completed in Spring and Fall of 2025
  - Third region planned for Fall of 2026
- Columbia implemented improved process capability to enable manufacturing of **ADOPT** fuel.
  - Plant modifications necessary for the complexity of blending the dopants with UO_2
- Additional domestic reactor operators are evaluating transitioning to Westinghouse **ADOPT** Fuel with accident tolerant features
- **ADOPT** fuel combined with additional accident tolerant features is designed to
  - enhance safety
  - improve economics
  - enable 24-month fuel cycles

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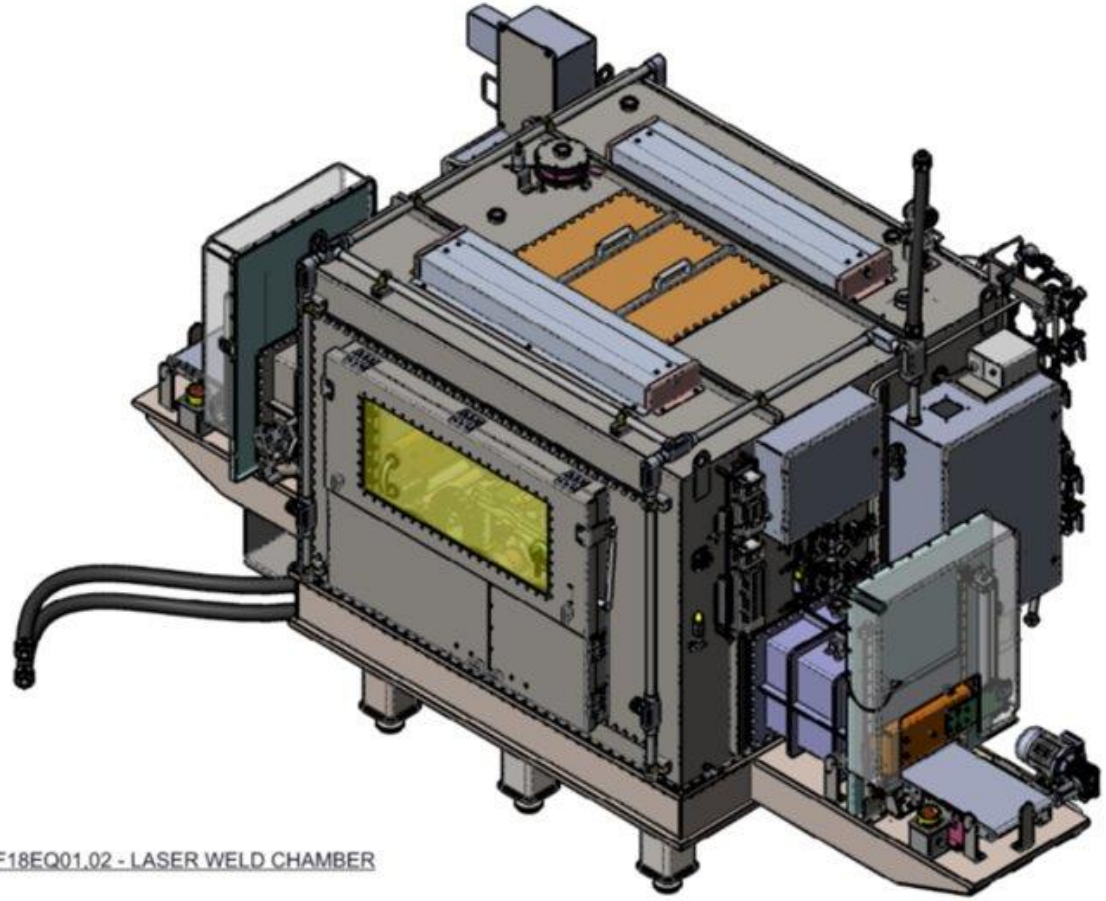
Grid Manufacturing At Columbia

- CFFF manufactures grids for
  - PWR fuel manufactured at CFFF
  - PWR fuel manufactured at Westinghouse Sweden
  - European and Asian PWR fuel manufacturers
- Grids vary significantly in design and complexity
- Focus on continuous improvement in 2025 provided positive sustained results in training and product quality
- One additional Laser Welder will be commissioned mid year 2026, positioning CFFF to continue to meet customer demand and support the LEU+ facility



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Current Operations Summary

- **Safe, Transparent, and Compliant Operations**
  - CFFF operates under comprehensive federal, state, and local oversight, with open engagement, transparent reporting, and a strong focus on safety and environmental responsibility.
- **Environmental Progress**
  - Environmental risks are clearly defined and actively managed.
- **Advanced Fuel Capability**
  - CFFF is successfully manufacturing ADOPT fuel with accident tolerant features.
  - Investments at CFFF support improved Safety, Performance, and Extended Fuel Cycles.
- **Strategic Value**
  - The facility strengthens domestic nuclear fuel supply, energy security, and clean-energy reliability.

LOOKING FORWARD: LEU+

LEU+ fuel plays a critical role in supporting carbon-free energy generation as nuclear plants transition to extended operating cycles.

Improved safety and sustainability technologies.

Energy-efficient upgrades that incorporate production automation.

Will create new jobs while expanding career advancement opportunities for existing employees.

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Supportive Regulatory Changes

Federal and State legislation changes will streamline licensing and permitting reviews for energy projects.

- **Executive Order 14156**
- **NEIMA, ADVANCE Act, Executive Order 14300**
- **South Carolina Energy Security Act**

Aquatic Habitat Restoration

Nationwide Permit 27

- Relocation of swale away from industrial facilities
- New swale resembles a nearby aquatic/riparian area, which enhances the aquatic ecosystem
- Naturalized channel with increased sinuosity
- Vegetated buffer to provide shade and habitat

PERMITTING

- Approved Jurisdictional Determination (AJD)
- Nationwide Permit 27 issuance

EARTHWORK

- Planning, design, and preparation
- Excavation work

COMPLETION

- April 2026

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