

New Fuel Licensing Readiness:

The Utilities Journey with Accident Tolerant Fuel (ATF)

ATF: Enhanced Resistance to a Nuclear Incident & Lowering Cost of Electricity

Operationally Resilient and Accident Tolerant Fuel

Increased Enrichment

Higher Burnups

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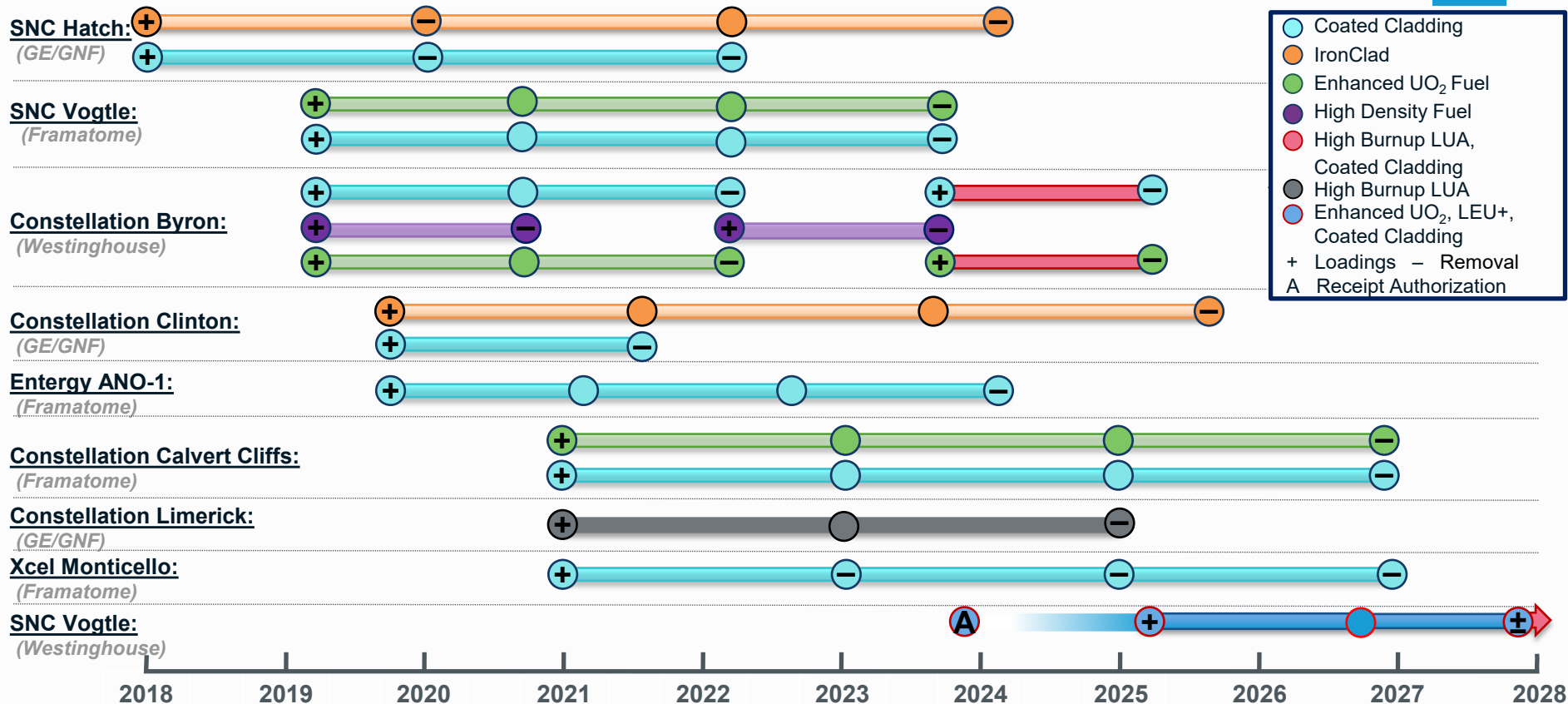
 **Southern Nuclear**

Strategic Aspirations... A Utility Perspective



- Develop and deploy fuel technologies that enhance accident tolerance and provide operational resiliency while enabling sustained economic performance through minimizing cost and improving efficiency
- Safely and economically enable 24-month cycle operation for the entire fleet of existing light water reactors:
 - Burnups up to ~75 GWd/MTU
- Achieve fuel licensing infrastructure to support burnup and enrichment extensions (LEU+) beyond legacy limits in the mid-2020s
- Commercialization and economies of scale of these advanced fuel technologies through sustainable volumes to meet the domestic and global demand

Key U.S. ATF/LEU+/HBU Commercial Testing



Current Stakeholder Focus



- **Predictable Outcomes within a Durable Regulatory Framework**



- **Burnup Licensing**
 - Fuel Fragmentation, Relocation, Dispersal
 - Alternate Source Term Methodology (Reg. Guide 1.183 Rev. 1 → Rev. 2)
- **Increased Enrichment Licensing (entire fuel cycle including transport)**
- **Supply Chain and Foundations to Commercialization**
 - Demonstrated Benefit + Predictable Licensing = Investment
 - Manufacturability | Global Supply Chain | Harmonization of International Licensing (transport)

ATF Deployment with Increased Enrichment and Burnup

**IMPROVED
PLANT
ECONOMICS**

**HIGHER FUEL
EFFICIENCY**



**ENHANCED
SAFETY &
PERFORMANCE**

**LESS
WASTE**