

## **Enclosure 2**

**Transmittal of Public Session Presentation Slides to Support the  
Westinghouse-NRC Pre-Submittal Meeting on the Westinghouse  
AP300 SMR Core Design & Fuel Cycle White Paper**

**(Non-Proprietary)**

**February 2024**

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Enclosure 2

# AP300™ SMR Core Design & Fuel Cycle White Paper Pre-Submittal Meeting

February 2, 2024 – PUBLIC Session



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## Meeting Objective

- Purpose of this pre-submittal meeting is to describe the Core Design & Fuel Cycle AP300 SMR concept which will be documented in a white paper for NRC review and feedback as part of the pre-application licensing activities for AP300.

**Pre-Application Regulatory Engagement Plan submitted to  
NRC via ML23124A012**

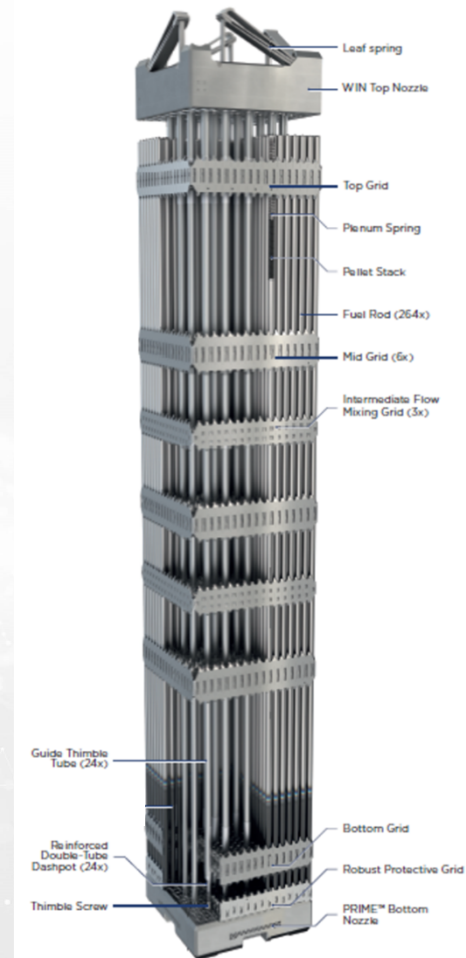


## AP300 SMR Core Design

- ▶ AP300 reactor core is based on proven fuel and core components:
  - ▶ Advanced nuclear fuel optimized for safety
  - ▶ Proven fuel assembly design incorporating accident tolerant technologies
  - ▶ Proven core arrangement and structure optimizing fuel use

**Fuel technology has a proven track record in gen. II and AP1000 plants**

### 17x17 RFA PRIME™



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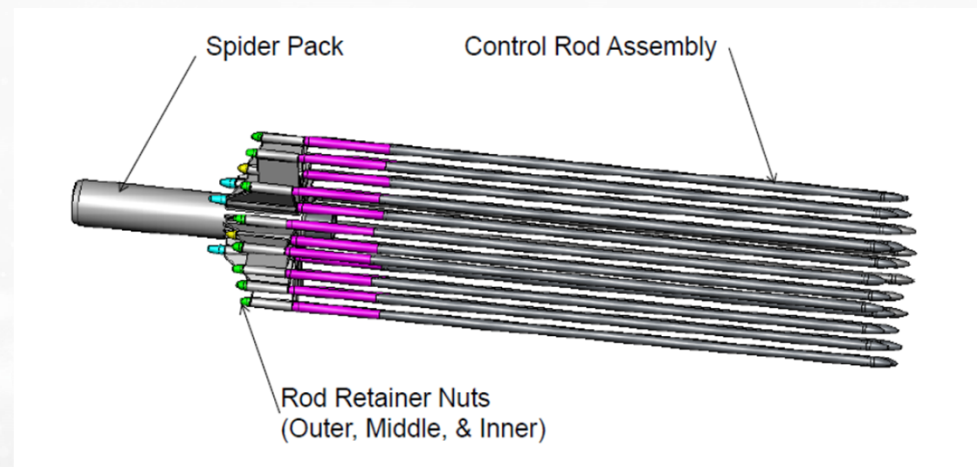




## AP300 SMR Core Control Elements

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- ▶ Control rods:
  - ▶ Used for power and reactivity control
  - ▶ Near-instantaneous reactor shutdown capability
- ▶ Gray rods:
  - ▶ Used for fine reactivity control
  - ▶ Proven design in use in AP1000





## AP300 SMR Fuel Cycle

- ▶ One of the goals of the AP300 SMR is to operate extended refueling cycles
- ▶ To support this goal, the AP300 SMR design has been optimized to seamlessly incorporate extended cycles
- ▶ Westinghouse will also leverage its accumulated experience in fuel design and manufacturing to achieve this goal

**Details will be presented in the closed session of this pre-submittal meeting**



THANK YOU

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# AP300 SMR

The **ONLY** SMR based on N<sup>th</sup> of a Kind Operating Plants



Proven Technology



Advanced Safety



Readily Deployable



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