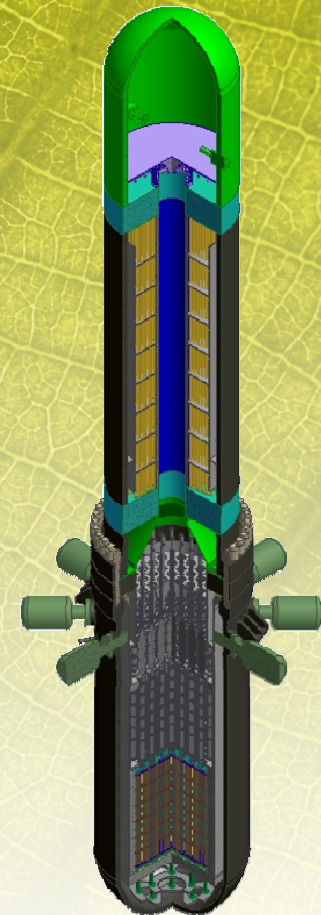


Westinghouse Small Modular Reactor Development Overview



Note: Per WEC Information Classification
Proprietary Class 3 is equivalent to
Non-Proprietary

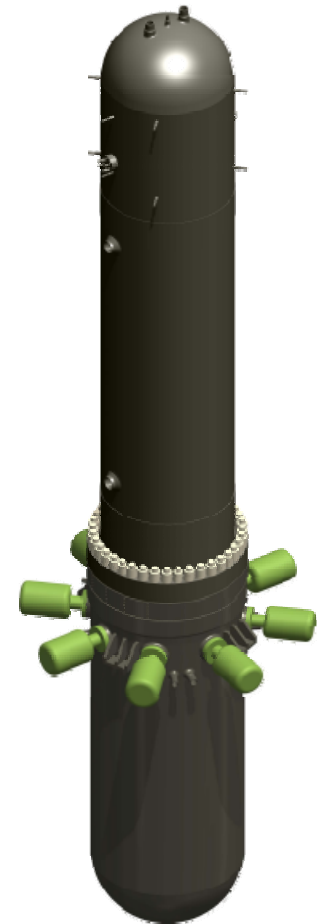
SMR Product Philosophy

Best opportunity for cost competitiveness

- Most power with the least amount of material
- Fully-modular design
- Plant modules that are installed, not constructed
- Rail & truck transportable

Speed to market

- Proven ability to design, license & deploy reactors
- Existing technical skills, licensed technologies & supply chain
- Designing to eliminate supply chain bottlenecks
- Leveraging AP1000® plant experience and lessons learned

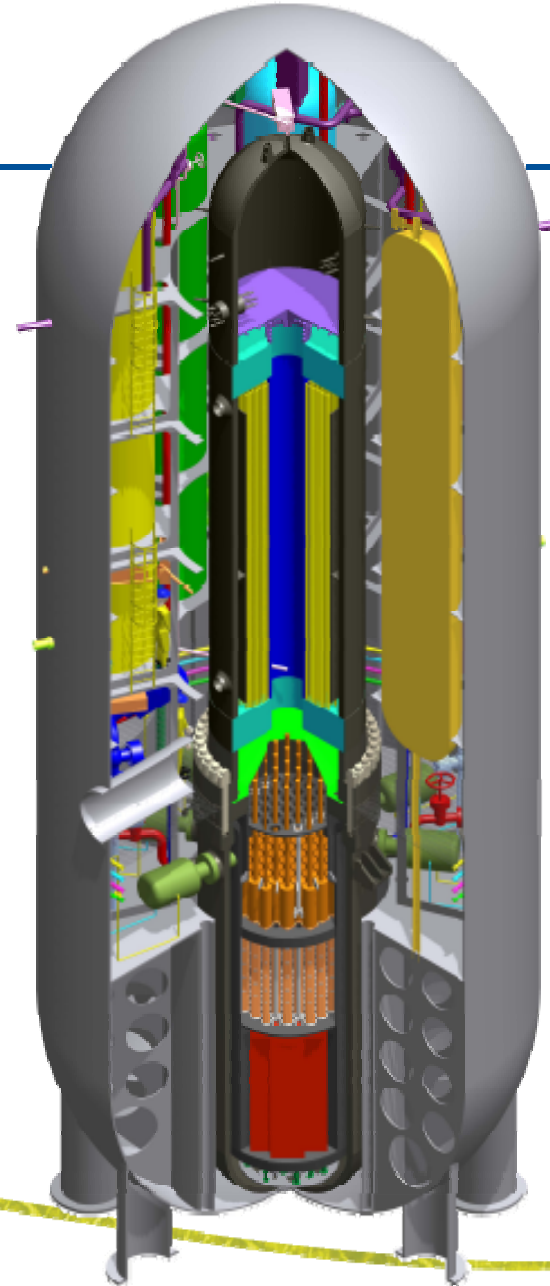


Westinghouse is a 'One-Stop-Shop' for SMR deployment

SMR Product Specifications

Specifications

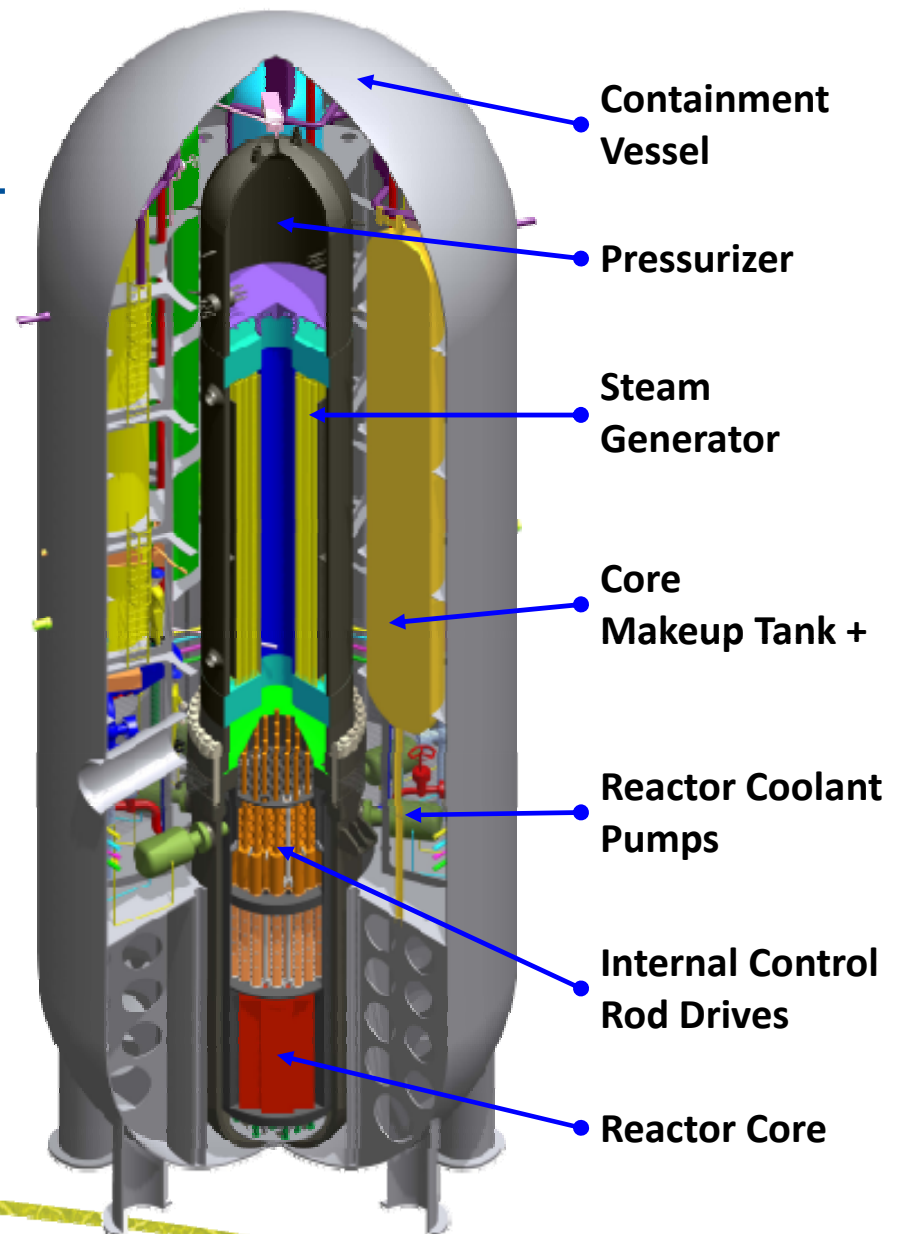
Thermal Output	800 MWt
Electrical Output	> 225 MWe
Passive Safety Systems	No operator intervention required for 7 days
Core Design	17 x 17 Robust Fuel Assembly 8.0 ft Active Length < 5% Enriched U235 89 Assemblies Soluble Boron and 37 Internal CRDMs 24 Month Refueling Interval
Reactor Vessel Size	Outer Diameter: 11.5 ft Height: 81 ft
Upper Vessel Package	280 Tons
Containment Vessel Size	Outer Diameter: 32 ft Height: 89 ft Fully Modular Construction
Reactor Coolant Pumps	8 External, Horizontally-Mounted Pumps Sealless Configuration
Steam Generator	Recirculating, Once-Through, Straight-Tube
Pressurizer	Integral to Vessel
Instrumentation and Control	OVATION®-based Digital Control System



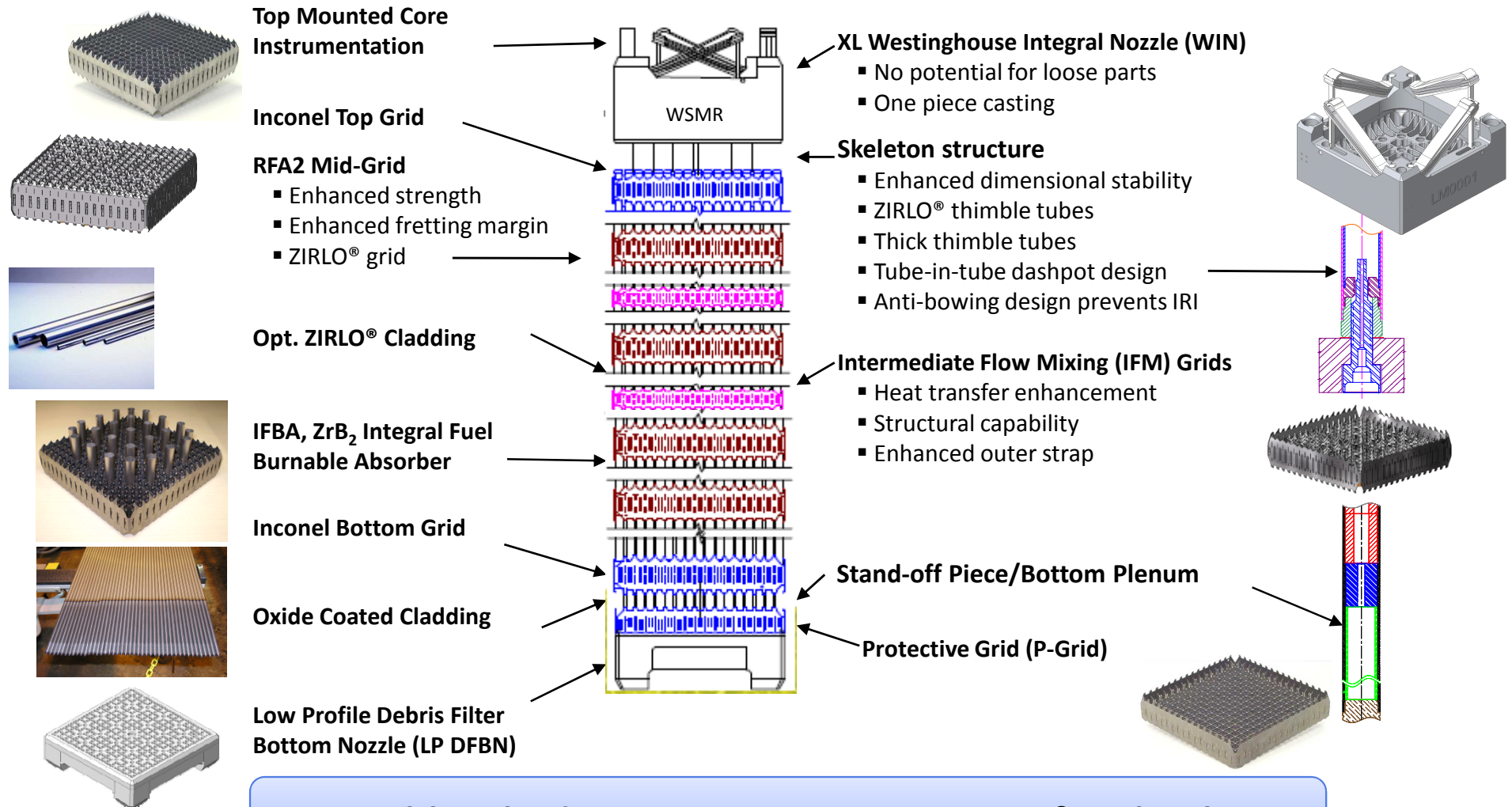
What It Is...

- An integral PWR
- Innovative packaging of proven components
- The highest levels of safety with fewer accident scenarios
- Industry-proven equipment designs
- Compact reactor coolant system and containment
- An engineered solution for today's clean energy challenges

...Simplicity in Design

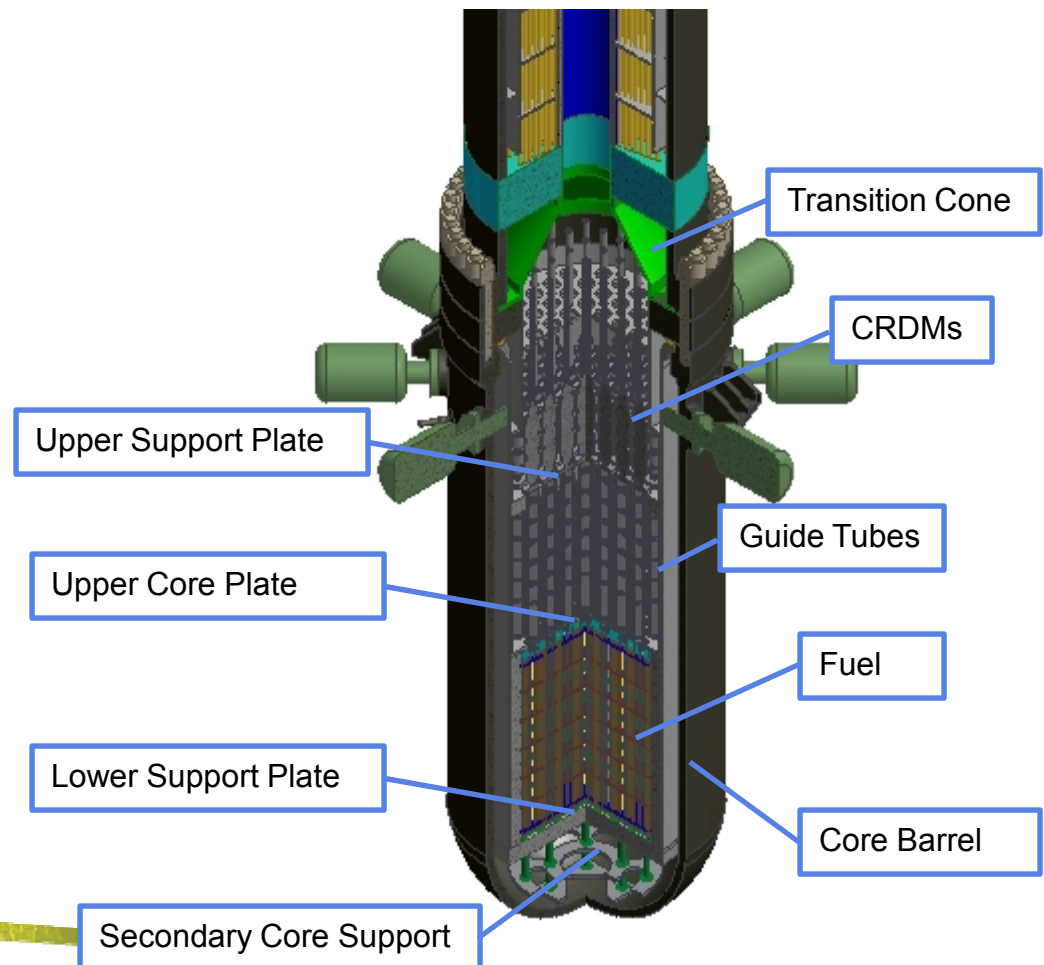


SMR Fuel Design: Proven Features, Ease of Licensing



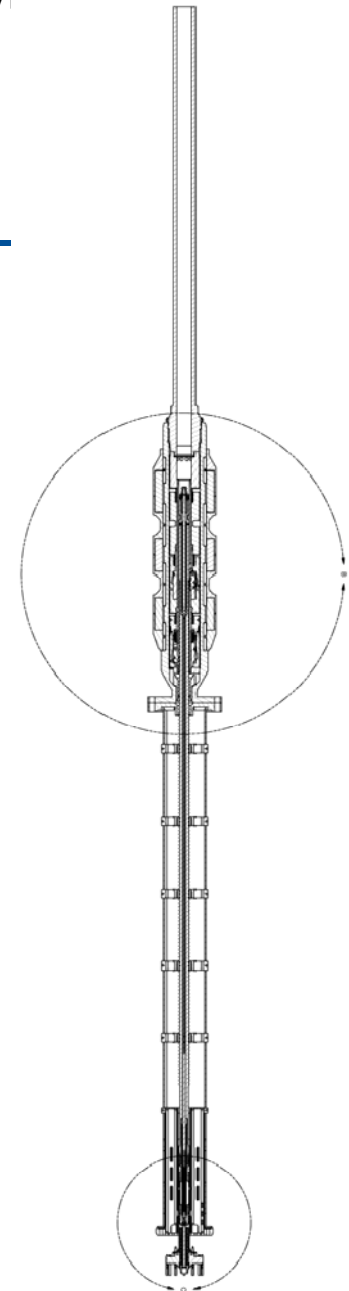
Westinghouse SMR Reactor Vessel Internals

- Design driven by interfaces
 - Steam generator
 - Coolant pumps
 - Reactor vessel
- Utilize AP1000[®] component designs – e.g. guide tubes, support plates and columns, flow skirt, vortex suppression, etc.



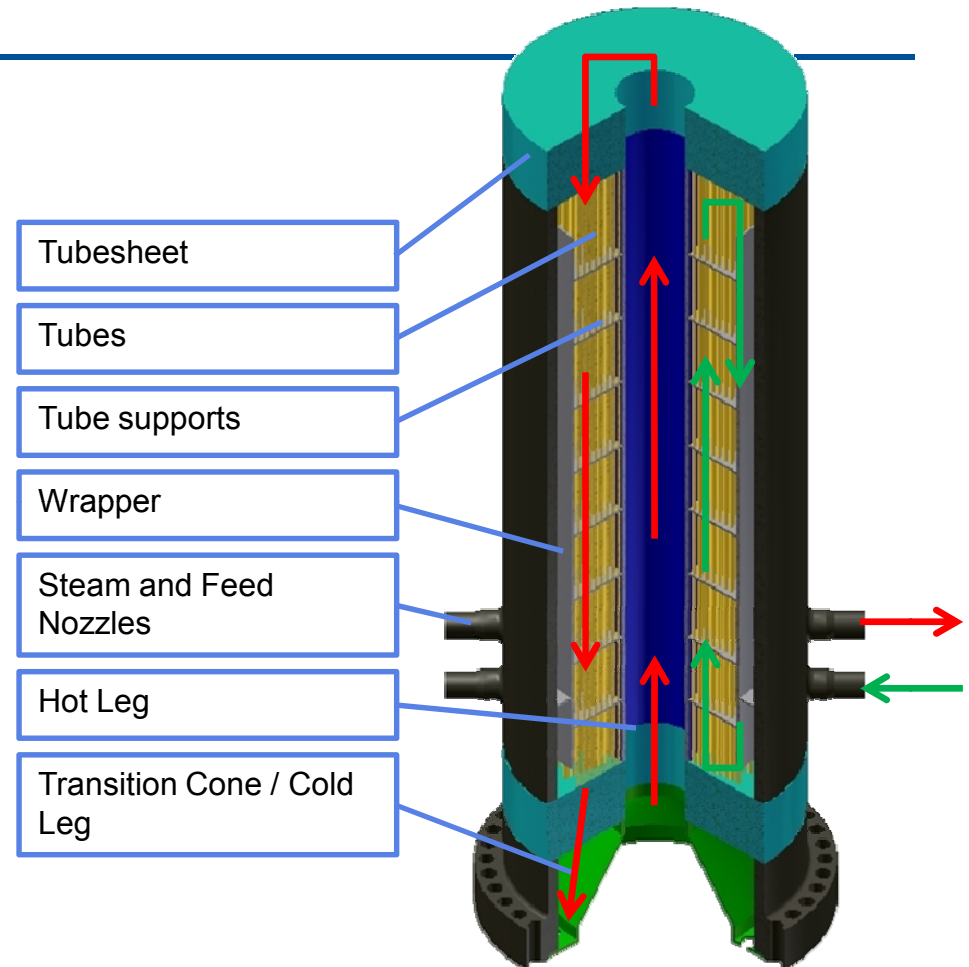
Integral CRDM Design

- Latch assemblies, controls, and interfaces with fuel are all based on existing, proven designs
- Three-coil magnetic jack based AP1000® design with modifications
 - *High-temperature* coil winding design
 - Sealed, stainless steel coil stack housing
 - Sealed power conduit with leak detection
- Test program initiated



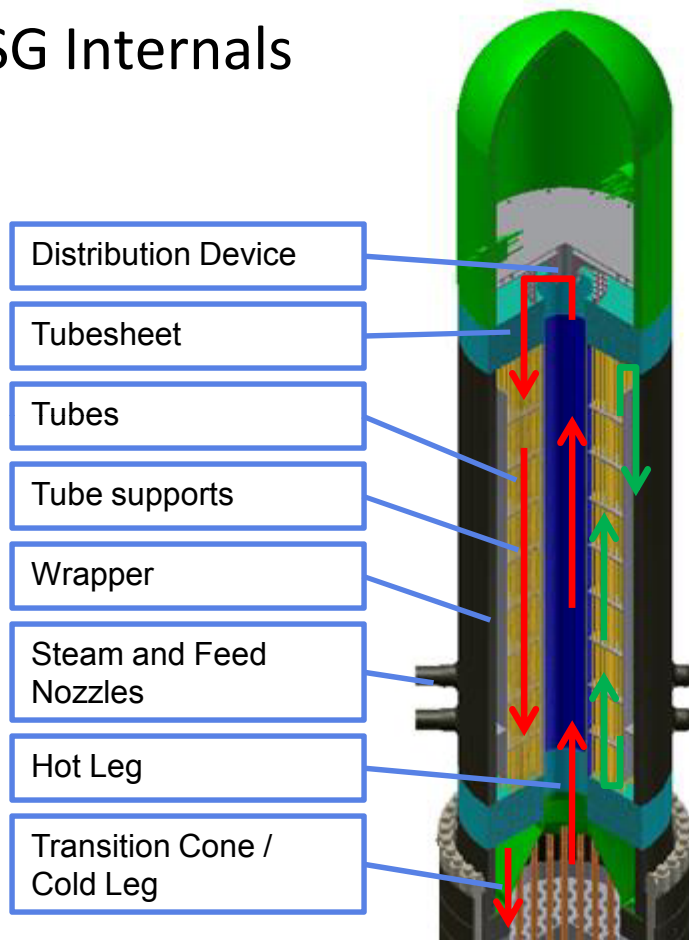
Recirculating Steam Generator

- Straight-tube steam generator
 - Flow from top to bottom of tubes
- Hot leg located in center of tube bundle
 - Transfers hot water to the upper tube sheet
- Main steam and two feedwater piping connections
- Recirculating steam generator with steam/water mixture delivered to steam drum outside containment



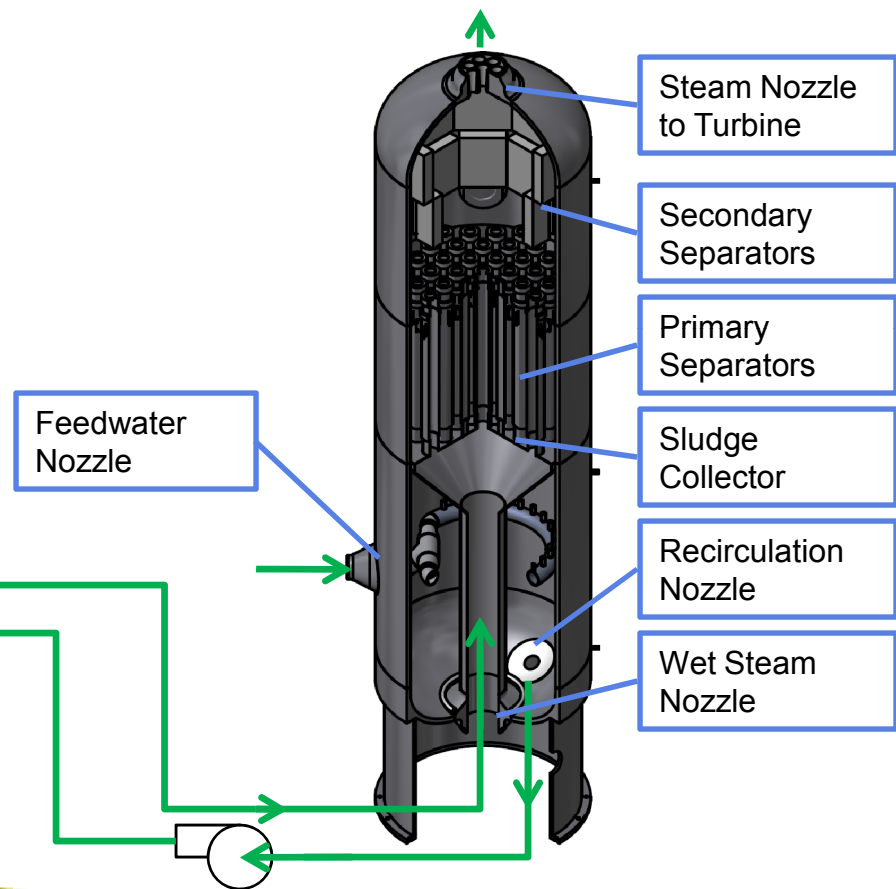
Steam Generator and Steam Drum System

SG Internals



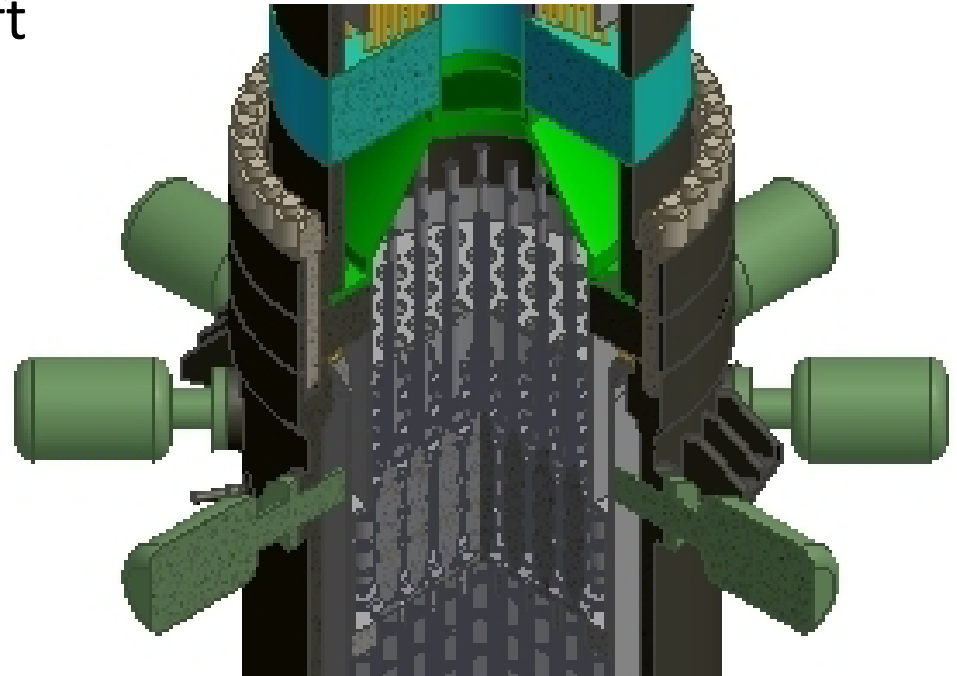
Containment Wall

External Steam Drum



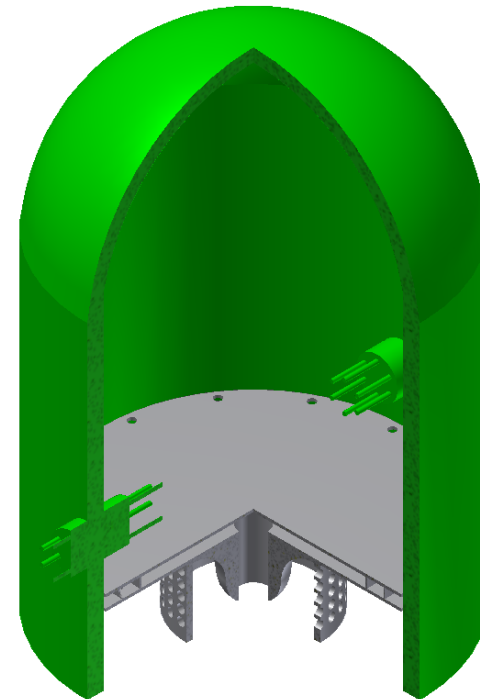
SMR Reactor Coolant Pumps

- Eight reactor coolant pumps providing 12,500 gpm at 100 ft of head (no seal injection)
- Each motor ~350 hp
 - (460 V, 3 phase)
- Total flow 100,000 gpm
- Driven with 2 variable frequency drives (VFD)
- Mount horizontally through pressure boundary below closure flange



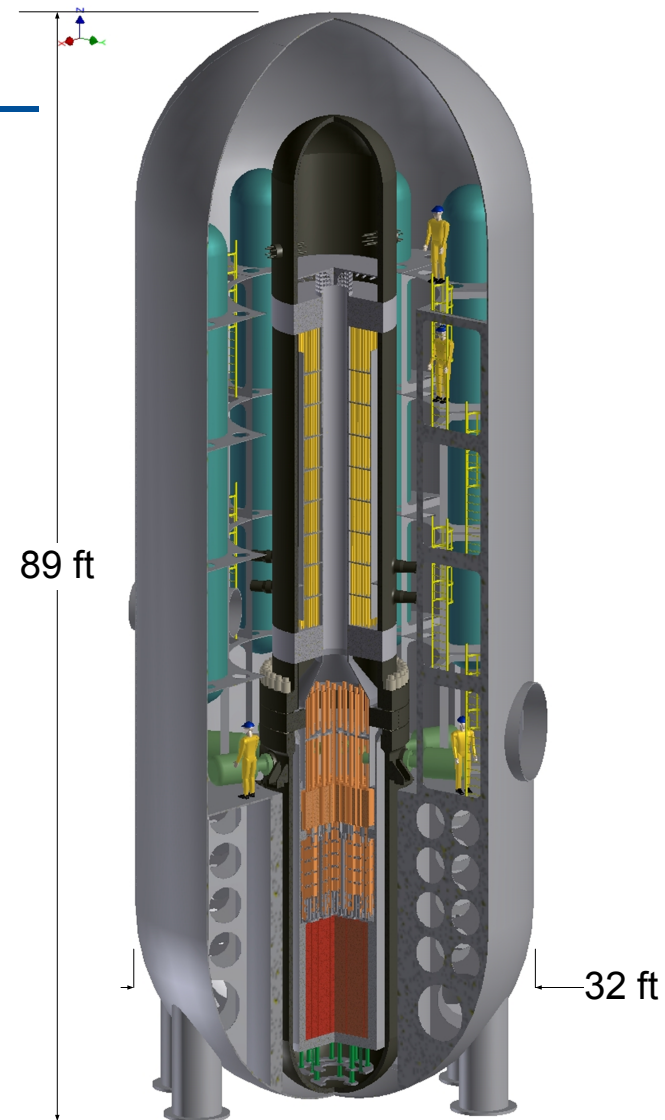
Westinghouse SMR Pressurizer

- Located at top of reactor vessel
- Standard electric heater rods
- Standard spray arrangement
- Steel barrier between pressurizer and top plenum of steam generator

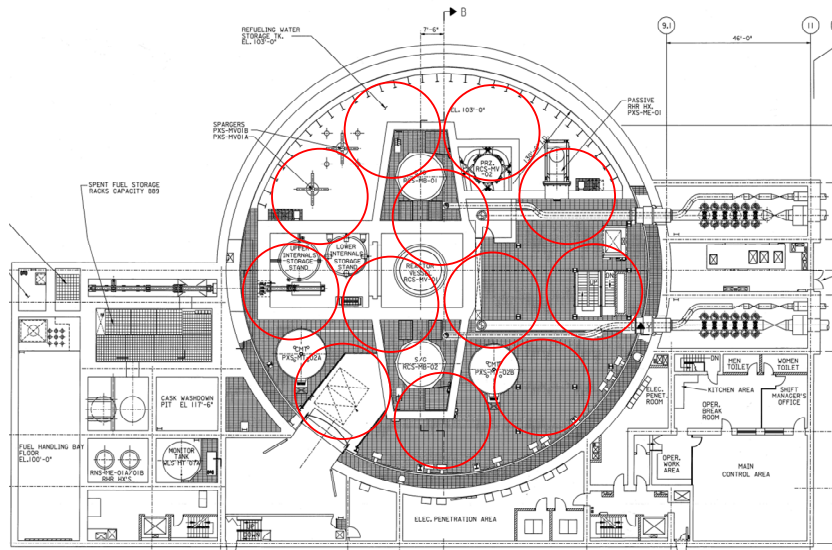


SMR Containment Vessel

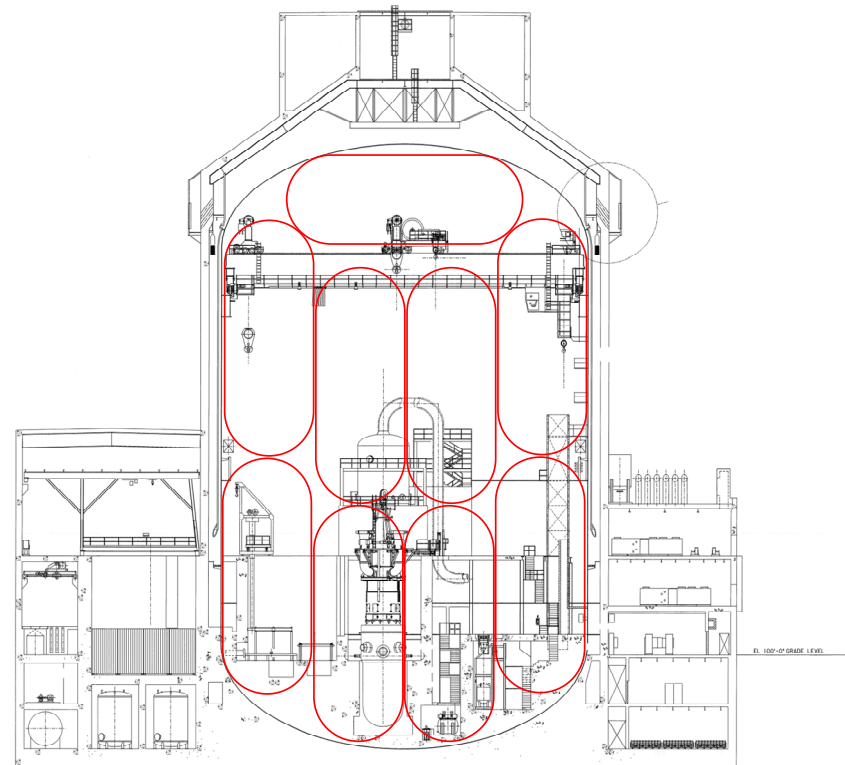
- Compact containment (High pressure)
- Target is to operate containment at vacuum to:
 - Increase heat transfer inside containment
 - Reduce insulation needs
 - Reduce challenge of containment overpressure
- Water cooled on outside of containment (Annulus flooded)
- In vessel retention accomplished by draining tanks of water to flood lower reactor vessel



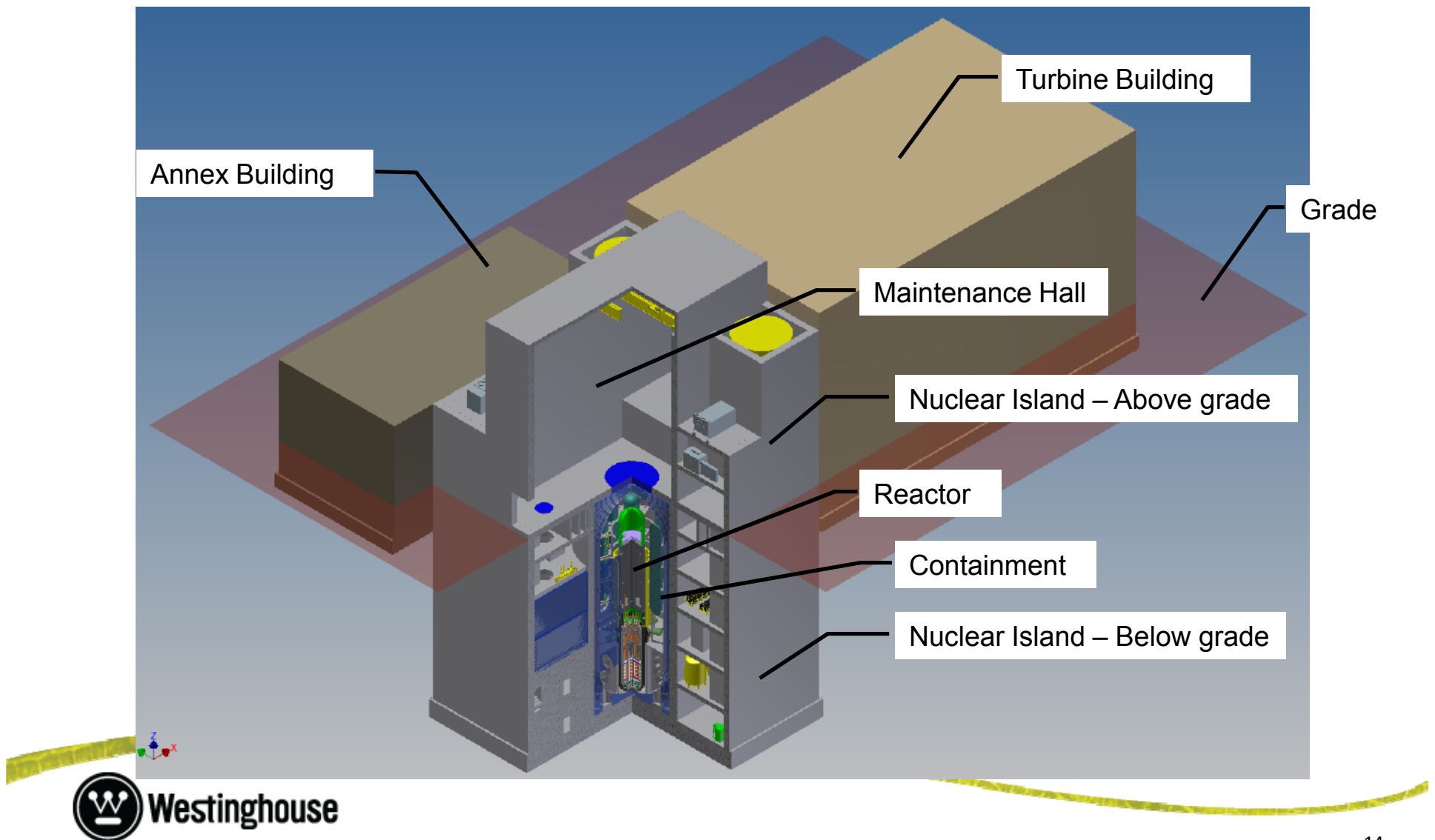
How Small is Small?



**25 Westinghouse SMR
Containment Vessels fit in a
single AP1000® Containment
Vessel**



SMR Plant Layout



The Westinghouse SMR

Fully Modular and Transportable

- Leveraging experience from established supply base
- Working within existing transportation network
- Maximizing ease of logistics
- Factory fabricated, installed on site

