

Enclosure 1
ACRS Presentation - Design Overview

generation

mPower

ACRS Presentation – Design Overview (Public Presentation)

April 10, 2014

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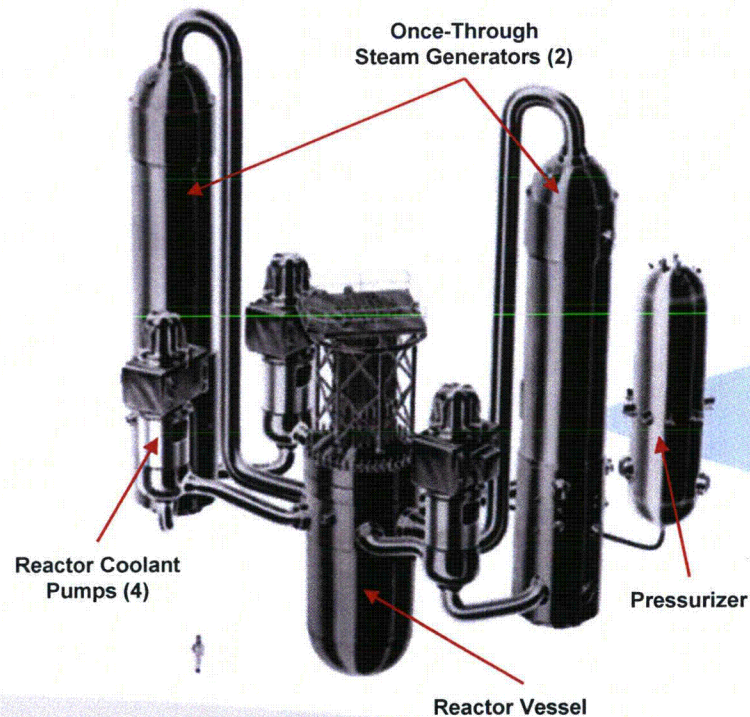
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This is a pre-application document and includes preliminary B&W mPower reactor design or design supporting information and is subject to further internal review, revision, or verification.

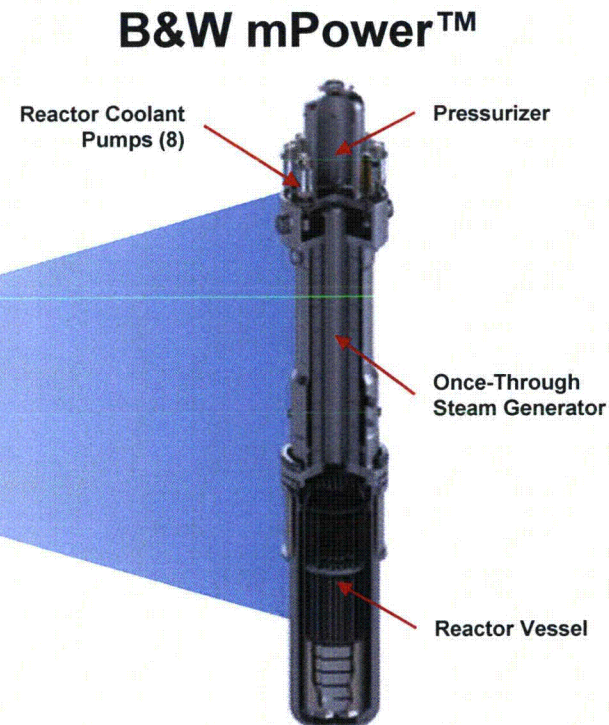
- Plant Overview:
 - What is a mPower SMR?
 - 2-Unit Plant
 - Cross Section of Reactor Services Building
 - Reactor Component Breakdown
 - Steam Generator
- Unique “Defense in Depth” and Safety Strategies

What is a mPower Small Modular Reactor (SMR)?

Traditional 1000 MWe+ PWR

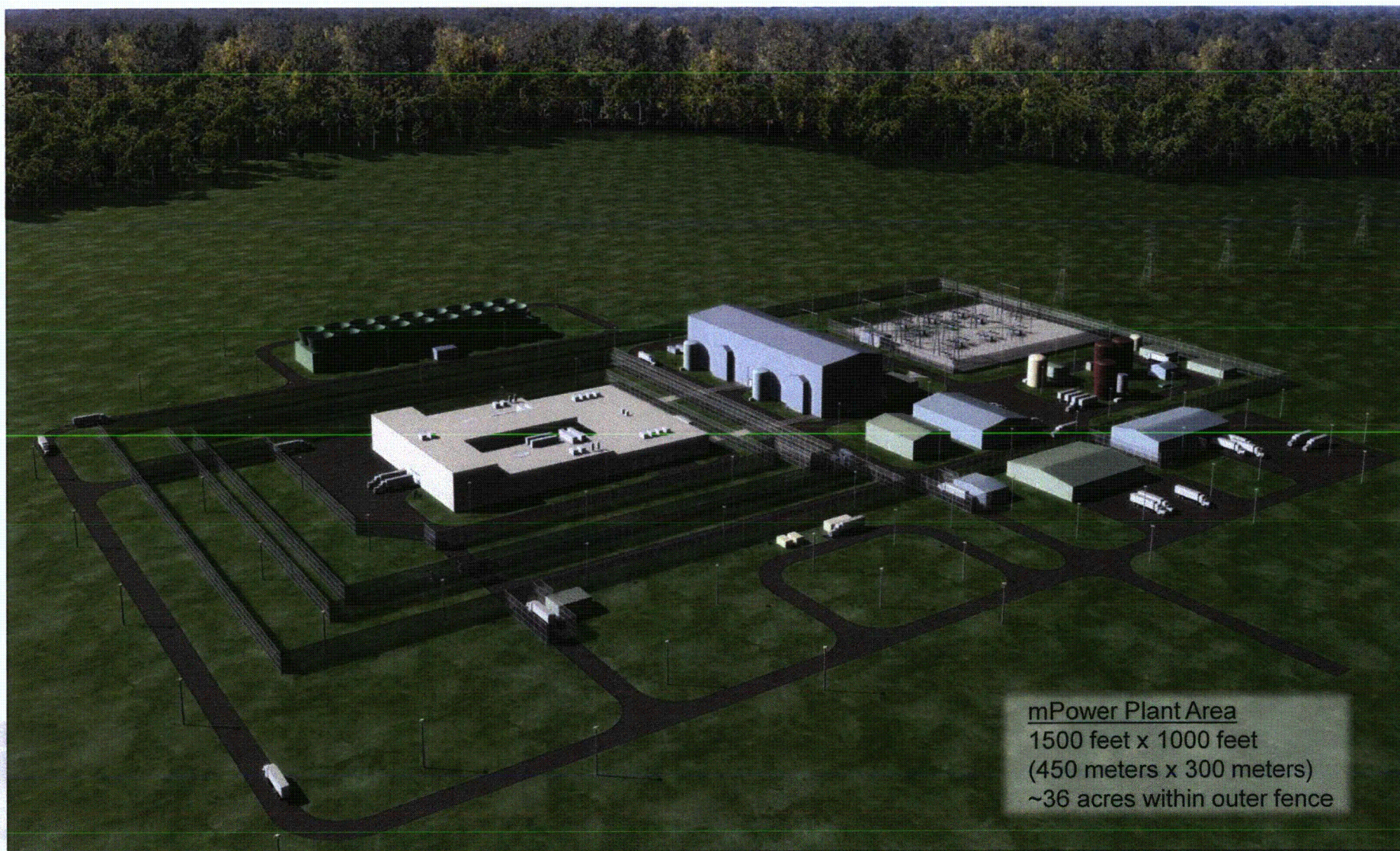


Integral PWR Small Modular Reactor



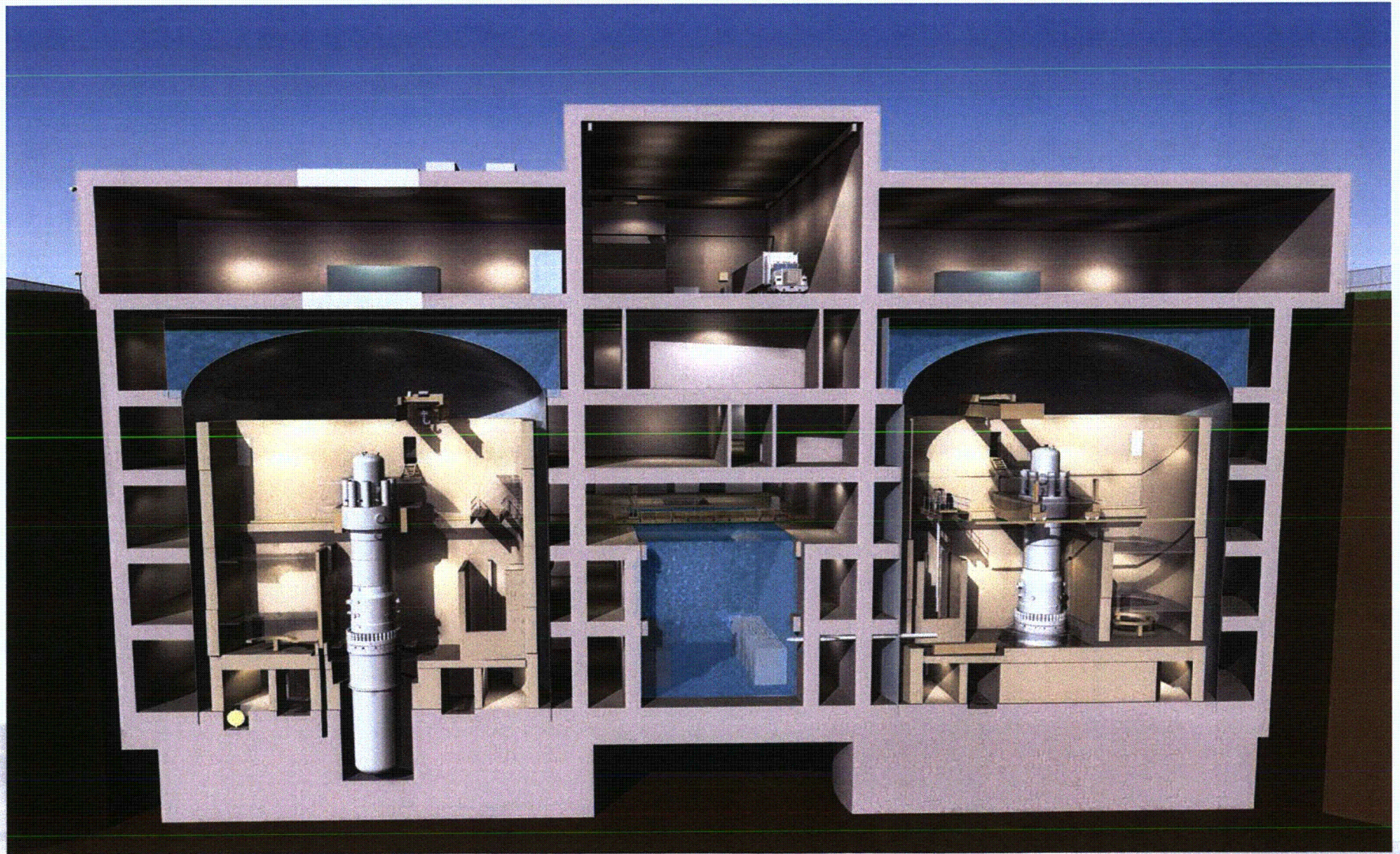
Proven technology, better architecture

Generation mPower 2-Unit Plant

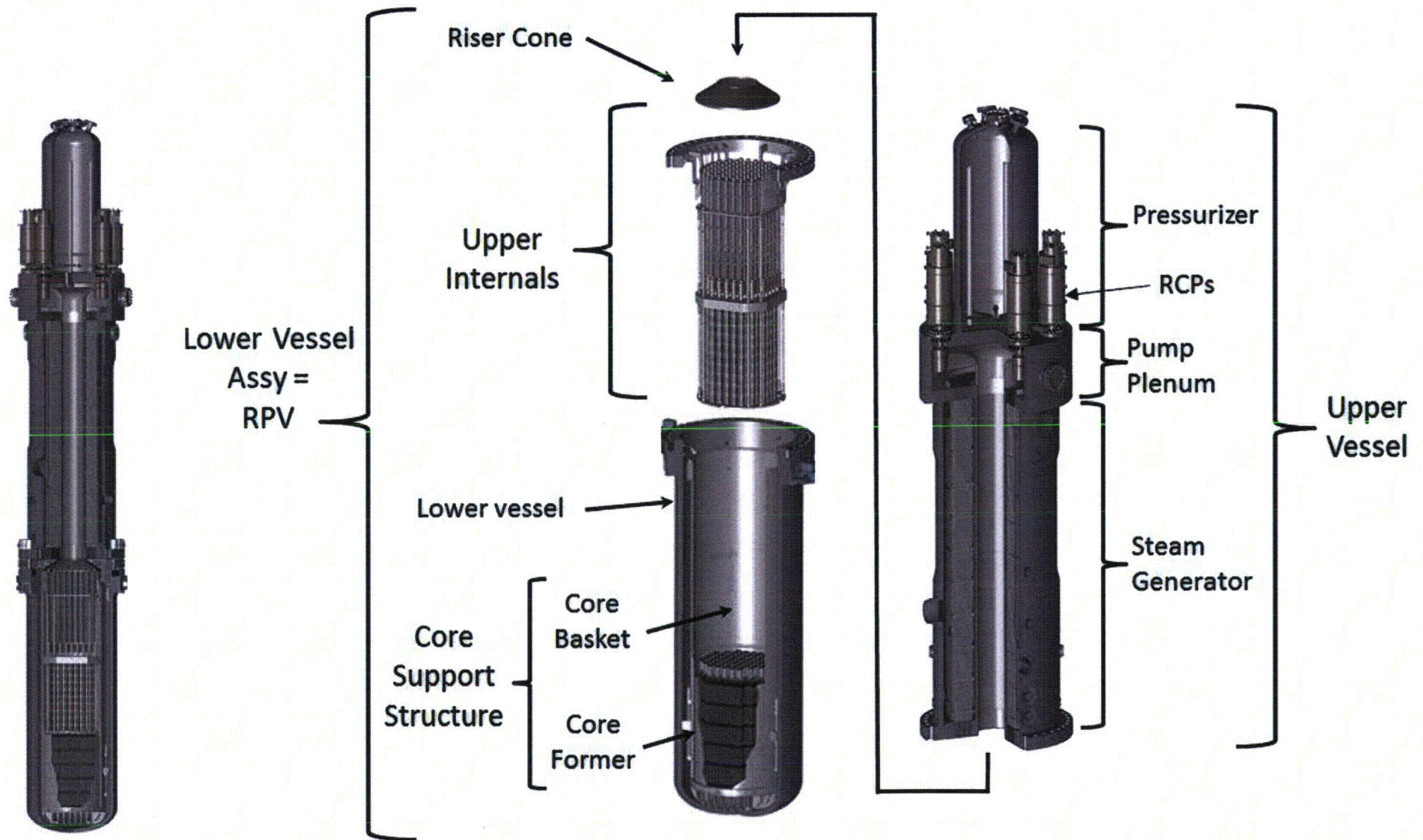


mPower Plant Area
1500 feet x 1000 feet
(450 meters x 300 meters)
~36 acres within outer fence

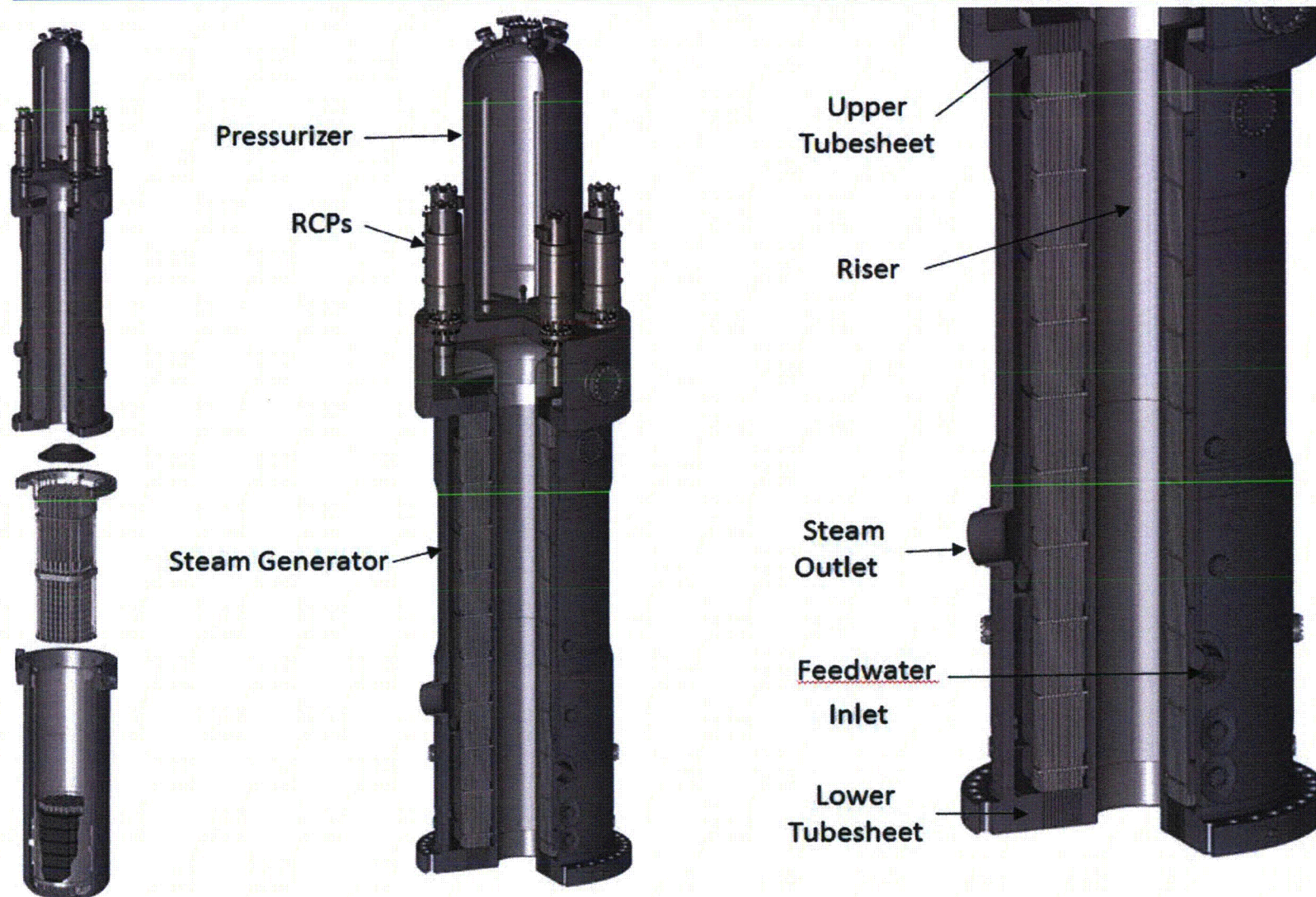
Cross Section of RSB



Reactor Component Breakdown



Steam Generator



Unique “Defense in Depth” and Safety Strategies

Design prevents core uncover during all credible events

- Diverse non-safety systems provide first defense beyond normal operations
 - Auxiliary Condenser System (CNX) – Provides HP Decay Heat Removal during LOFW and SBO events
 - Rx Coolant Inventory and Purification System (RCI) – Provides HP and Low Pressure Decay Heat Removal during LOFW events and Inventory Control during small breaks
- Simple passive safety systems protect from low probability, design basis and beyond-design-basis events
 - Emergency Core Cooling System (ECC) – Provides safety related RCS Depressurization, Decay Heat Removal, Core Cooling Injection, and Long Term Core Cooling
- Integral design eliminates many Design Basis Events and postulated accidents
- Inherent features protect reactor and containment for “non-credible” events