www.holtec.com
www.smrllc.com

SMR-300
Design Overview

May 2024

Holtec International
Krishna P. Singh Technology Campus
One Holtec Boulevard
Camden, NJ 08104, USA

[Not Export Controlled]

Agenda

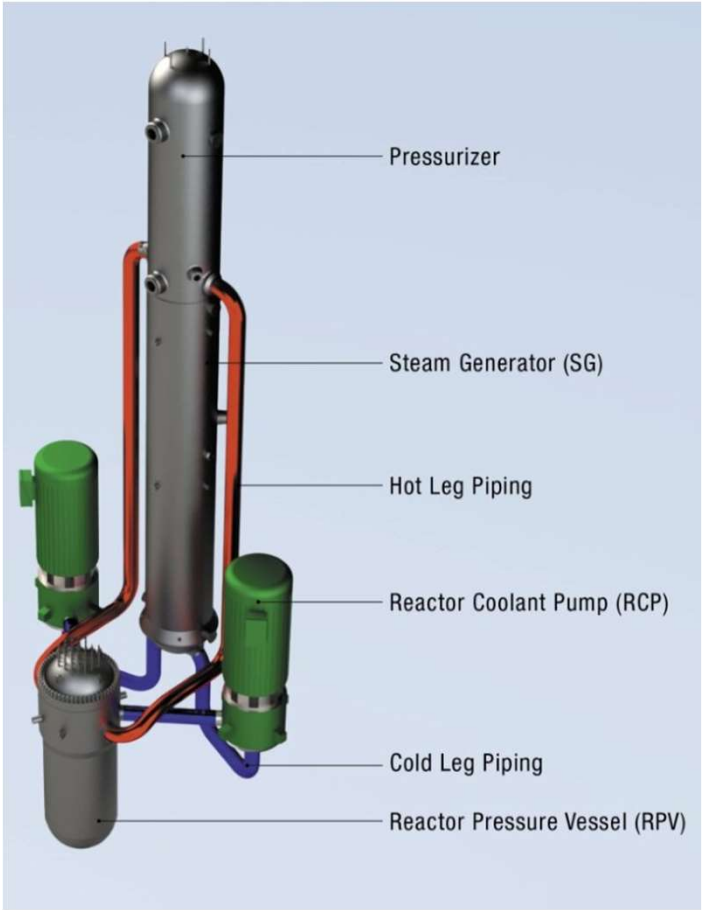
Time	Topic	Speaker
9:30-9:45	SMR-300 at Palisades	J. Hawkins
9:45-10:00	Public Comments	
10:00-10:25	Core Design	L. Zaidan, R. Rosas
10:25-10:50	RCS and ESF Systems Design	C. Lietwiler
10:50-11:00	Auxiliary Systems & Balance of Plant Design	E. Scully, R. Trotta
11:00-11:20	Staff Q&A	
11:20-11:30	Break	
11:30-11:45	Plant Layout, Structures & Modularity	A. Bommareddi
11:45-12:00	I&C and Electrical Design	P. Essner
12:00-12:20	Safety Analyses	C. Lietwiler, S. McCloskey
12:20-12:30	Licensing and Timelines	A. Brenner
12:30-1:00	Staff Q&A, Closing	

SMR-300 at Palisades

Justin Hawkins

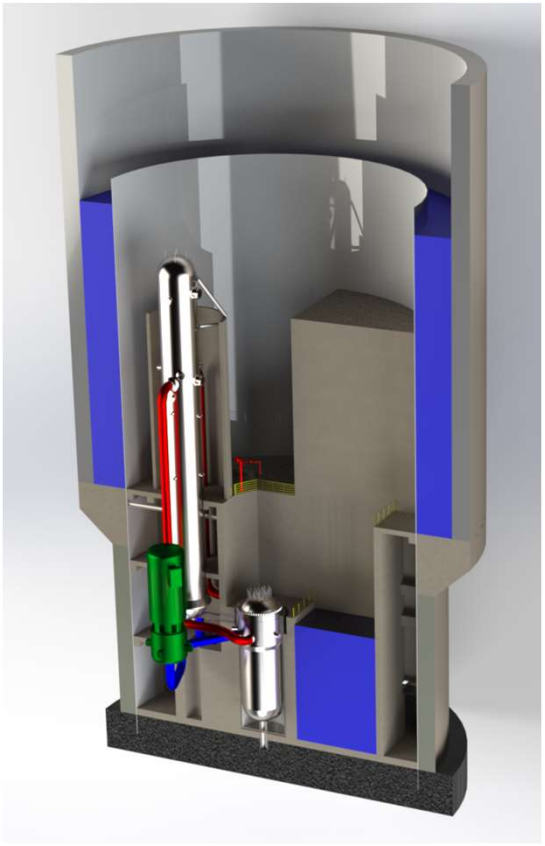
SMR-300 Design Evolution

- Light water PWR
- Power output: 1050 MWt, ~300MWe
- Design lifetime: 80 years
- Forced circulation
  (2 RCPs, 2 hot legs, and 2 cold legs)
- Once-through steam generator
- Traditional PWR fuel system

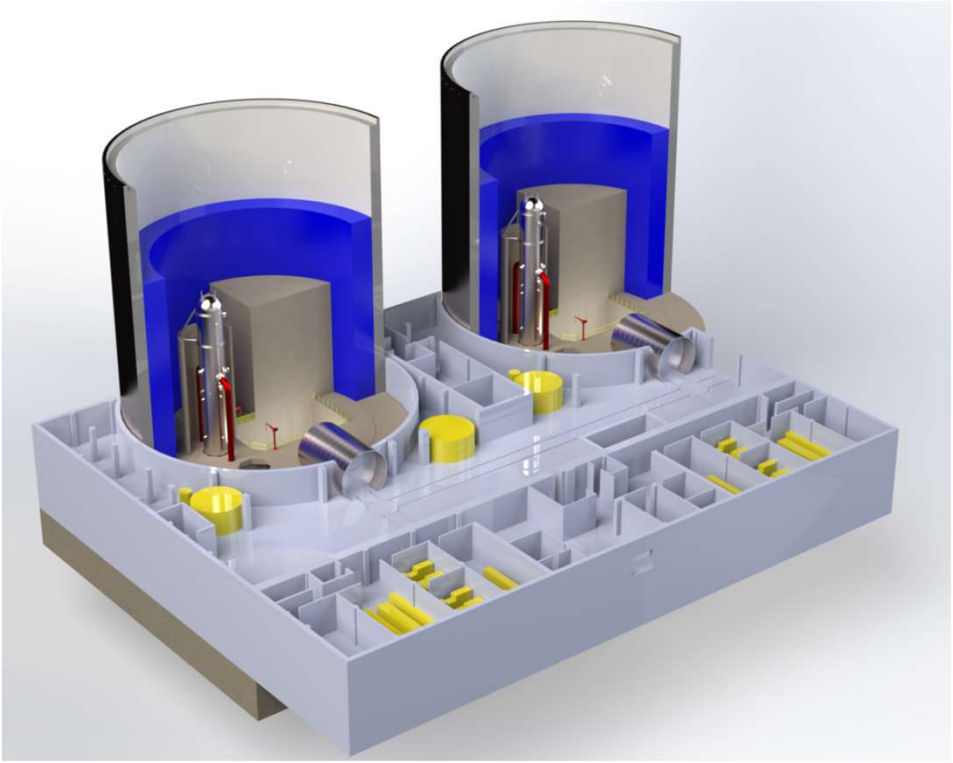


SMR-300 Design Evolution

- Upgrades:
  - Increased power output: 160 MWe → ~300MWe
  - Removed FOAK forging connecting RPV and SG
  - Natural circulation → Forced circulation (Maintain natural circulation for DHR)
  - Reduced reactor length; reduced steam generator volume
  - Increased integral pressurizer volume for operational control



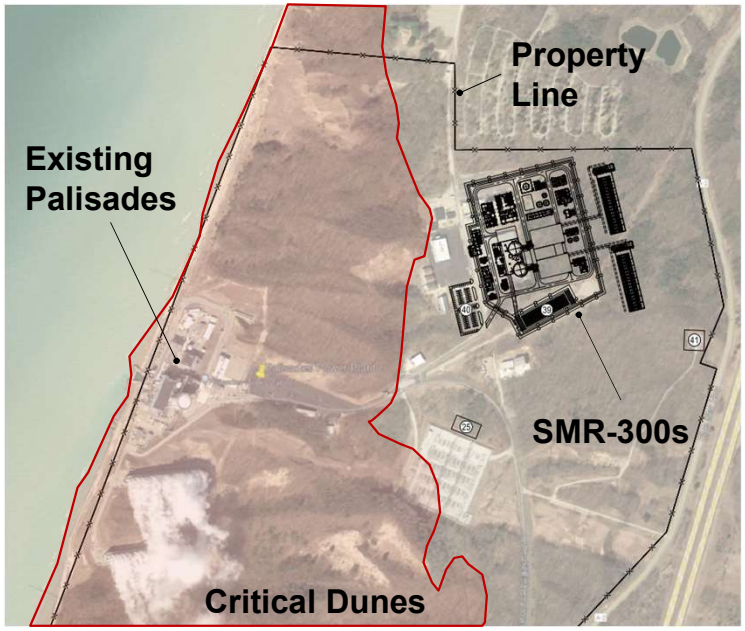
SMR-300 Design Evolution

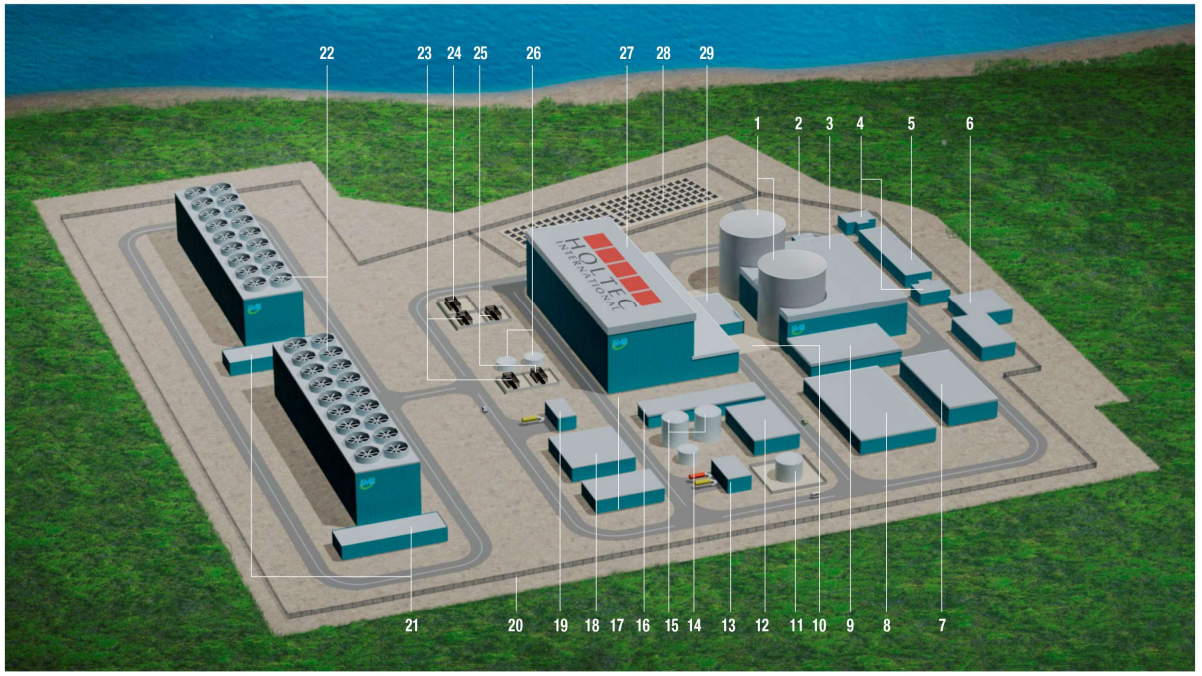


- Benefits:
  - Maintained all passive safety systems
  - More proven off-the-shelf technology
  - Broader application of PWR fleet operating experience
  - Less FOAK testing (CRDM, CHF)

Why Palisades?

- State and Local Support
- Demand for Energy

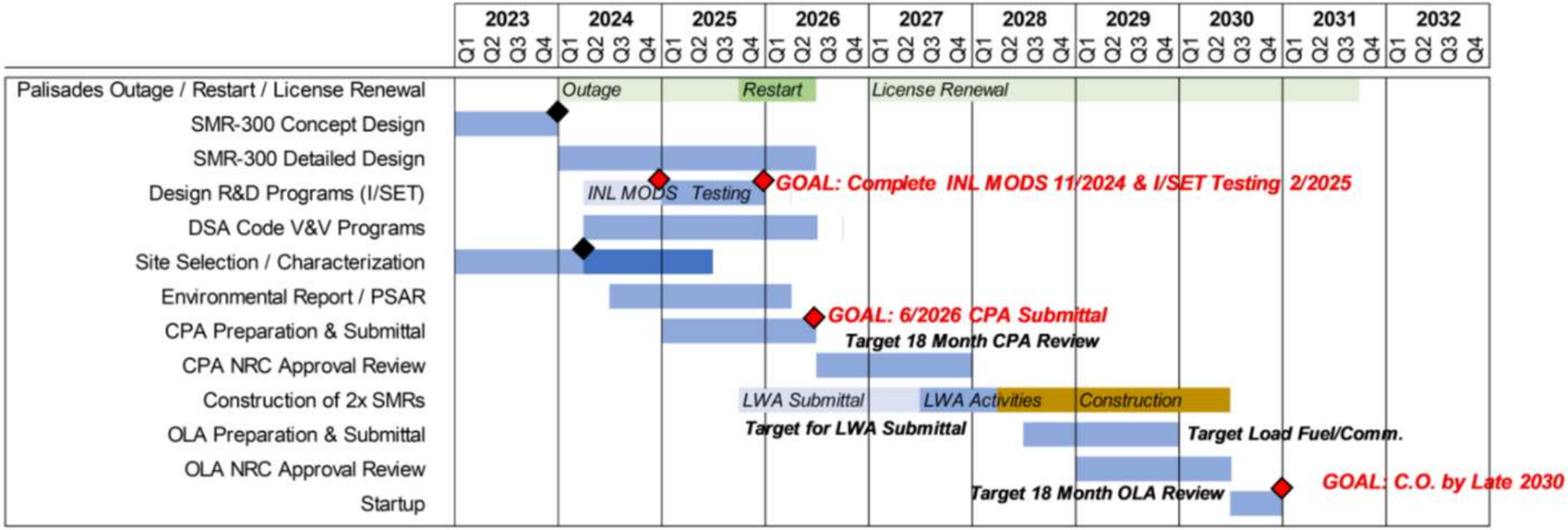




1. CONTAINMENT ENCLOSURE STRUCTURE
2. AIR COMPRESSOR HOUSE
3. REACTOR AUXILIARY BUILDING
4. COOLING TOWER FOR SERVICE WATER
5. SERVICE WATER PUMP BUILDING
6. SECURITY FACILITY
7. ANNEX BUILDING
8. WATER/WASTE WATER TREATMENT BUILDING
9. RADIOACTIVE WASTE BUILDING
10. INTERMEDIATE BUILDING
11. DIESEL FUEL OIL STORAGE TANK
12. PROTECTED AREA INTERIOR WAREHOUSE
13. FUEL OIL PUMP SHELTER
14. POTABLE WATER STORAGE TANK
15. DEMINERALIZED WATER STORAGE TANK
16. WATER PUMP BUILDING
17. DIESEL GENERATOR BUILDING
18. AUXILIARY BOILER BUILDING
19. SERVICE GAS SHELTER
20. SECURITY FENCE
21. CIRCULATING WATER PUMP HOUSE
22. COOLING TOWER FOR CIRCULATING WATER
23. MAIN STEP-UP TRANSFORMER
24. STATION SERVICE TRANSFORMER
25. UNIT AUXILIARY TRANSFORMER
26. CONDENSATE STORAGE TANK
27. TURBINE BUILDING
28. UMAX INDEPENDENT SPENT FUEL STORAGE INSTALLATION
29. ELECTRICAL BUILDING FOR NUCLEAR ISLAND

SMR-300 Milestones

- Commence Testing (I/SET) at INL – **Early 2025**
- Construction Permit Application (CPA) submittal – **June 2026**
- Commence Construction – **End of 2027** [subject to potential LWA in advance of the CPA]



Public Comments