HOLTEC INTERNATIONAL

Repowering Decommissioned Power Plants

Myron Kaczmarsky, Vice President, Holtec Government Services
Patrick O'Brien, Director, Government Affairs & Communications, Holtec International

June 8, 2023

Holtec International: Corporate Profile

- Established in 1986
- Robust safety program
- Strong and effective quality assurance program
- Impeccable on-time delivery record
- Excellent financial strength
  - ✔ No history of long-term debt
  - ✔ Financially strong with self-financed Research & Development
  - ✔ Equipment delivered: 4.0 Billion USD
  - ✔ Orders booked for future deliveries: 7.0 Billion USD
- Business mix:
  - ✔ 90% Nuclear power & nuclear waste
  - ✔ 5% Fossil power - combined cycle
  - ✔ 5% Renewables - solar, wind, etc.

Krishna P. Singh Technology Campus
Located in Camden, New Jersey, U.S.A

Holtec is a Vertically-Integrated, Innovative Technology Leader with Unique Approaches to Design & Manufacturing

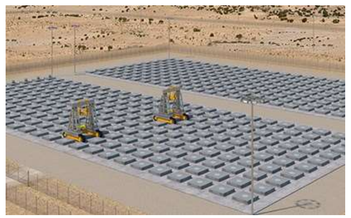
Core Business Activities

- Safe and Secure Used Fuel Storage and Transport Technologies
- Heat Transfer Equipment
- Decommissioning of Retired Nuclear Plants
- Consolidated Interim Storage
- SMR-160: Holtec's Small Modular Reactor

Spent Fuel Storage Equipment

Spent Fuel Transfer at Operating & D&D sites

Plant Ownership & Decommissioning



Consolidated Interim Storage

SMR New Build

Decommissioning: Building a Fleet

- Establish, implement & advance industry decommissioning
- Improve safety, cost and efficiency
- Fleet-based approach
- Qualified and experienced personnel
- Procedures & processes
- By accelerating movement of spent fuel into dry cask storage and deploying state-of-the-art technologies, Holtec is well-equipped to decommission nuclear plants decades sooner than if utility owned

Palisades Energy Center – History of Operation

- **Timeline**
  - 1971 – Palisades begins commercial operations
  - Licensed to operate to 2031 (NRC granted renewals 2007, 2011)
  - 2007 – Entergy purchase of Palisades from Consumers Energy
  - Dec. 2016 – Entergy, Consumers announce early PPA termination, potential 2018 shutdown
  - Sept. 2017 – Entergy announces decision to continue operations under PPA terms, close plant in Spring 2022
  - Aug. 2018 – Entergy, Holtec announce post-shutdown sale of Pilgrim and Palisades
  - December 2021 – NRC approves license transfer to Holtec
  - May 21, 2022 – Palisades ceases operation, commences reactor defueling
  - June 28, 2022 – Post-shutdown license transfer to Holtec
  - July 2022 – Holtec applies to U.S. DOE Civil Nuclear Credit grant program (Denied 4th qtr. 2022)
  - February 2023 – Holtec submits application to U.S. DOE Loan Program Office
  - 2031 – Expiration of Palisades operating license (Renewed in 2007, 2011)
  - 2082 – Deadline to restore Palisades site

HDI – Palisades Energy Center

- **Potential Restart Hurdles**
  - Spent fuel campaign is being developed, 23 casks to be loaded
  - Regulatory strategy to reauthorize full power operations has been docketed with the NRC and the first public meeting occurred in March
  - Power Purchase Agreement negotiations
  - DOE loan application submitted with multiple rounds of RAIs
  - Finding a utility partner to help restart the plant
  - Michigan grant legislation
  - Draft fuel contract
  - Re-staffing and training(220 of 600 remain)
  - Maintenance

Next Steps if DOE Loan Program is Unsuccessful

- Continue the Decommissioning path
- Roughly three years of Fuel work, system abandonment, planning
- Followed by up to a 10 year pause to allow the Nuclear Decommissioning Trust Fund to grow
  - Prompt decommissioning plan will still complete decommissioning 40 years sooner than if Entergy remained owner, based on maximum SAFSTOR option

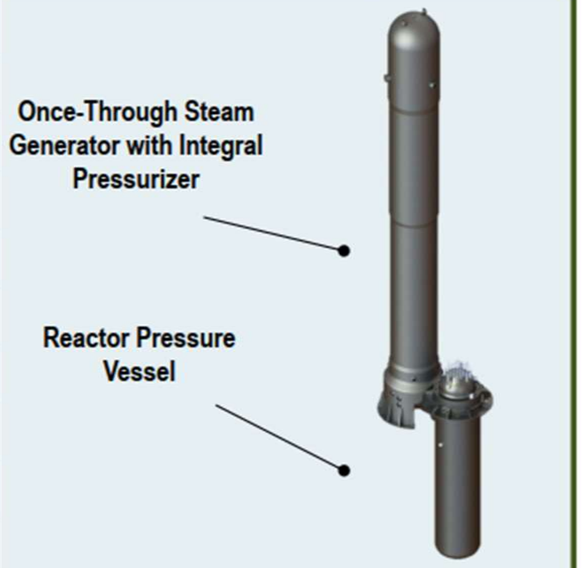
- Development of Holtec Small Modular Reactors SMR-160 on site

SMR–160: Holtec's Small Modular Reactor

- 160 MWe Small Modular Pressurized Water Nuclear Reactor Power Plant
- Unique design does not rely on pumps or motors to remove heat from the nuclear fuel, for all normal and accident scenarios
- "Walk Away Safe"
- Secure
- Environment-friendly
- Economical
- Flexible applications

Parameter	Value
Type	PWR
Thermal Power	525 MWth
Electrical Power	160 MWe (net)
Design Life	80 years
Moderator	Light water
Primary Circulation	Gravity-driven
System Pressure	2250 psia
Fuel Type	17x17 (standard)
Fuel Cycle	2 years
Control	Boron and RCCA

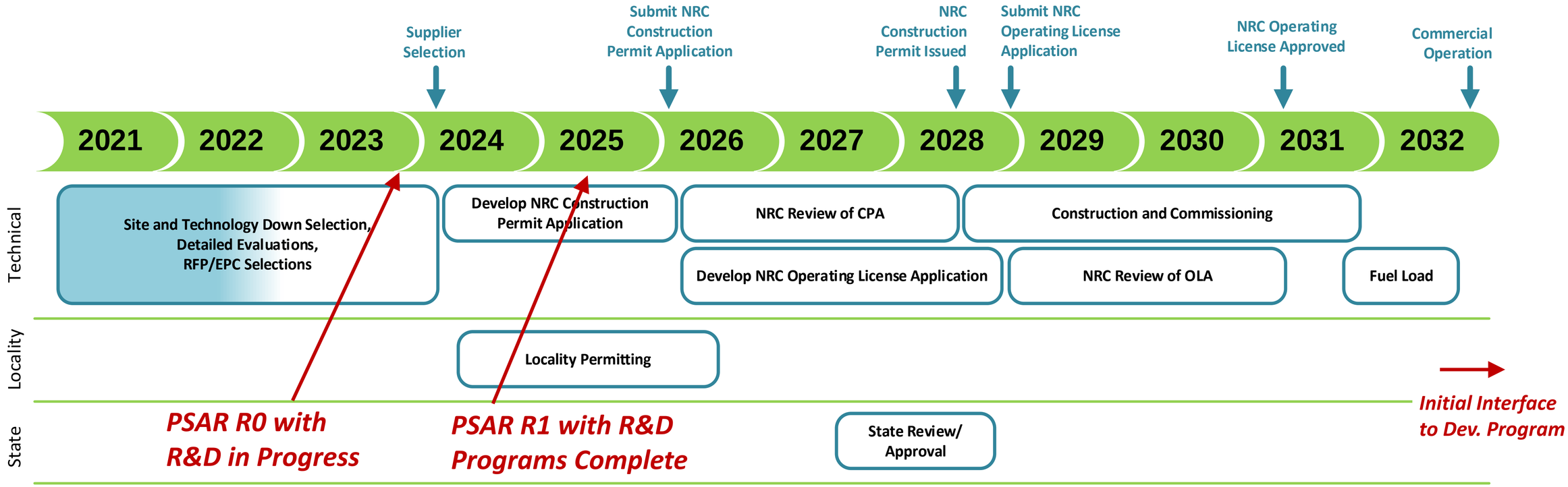
Reactor Coolant System



Holtec's SMR-160, 160 MW Electric Nuclear Reactor

Licensing Activities Structured to Support Client Timelines

- Plan to support Construction Permit Application
  - ✔ Engagement with NRC (pre-app) to clear way for CPA
  - ✔ Work supports of either Part 50 (2-part) or Part 52 (design certification)
  - ✔ "Standard Design" approach allows increased cost certainty and minimum-effort for site specific tailoring
- Typical U.S. client timeline:



Delivering a "Standard Design" for SMR-160

- Standard design deliverables
  - ✔ Licensing basis and PSAR
  - ✔ Design criteria and calculations
  - ✔ Drawings for NI and important BOP
  - ✔ Specifications for equipment
  - ✔ Plant BIM model
  - ✔ Plant engineering simulator
- Key areas of parameter envelope
  - ✔ Environmental & missile hazard
  - ✔ Seismic conditions
  - ✔ Performance guarantee conditions
- Key assumptions
  - ✔ 1-unit site with MCR sized for 4-units
  - ✔ Mechanical configuration
  - ✔ U.S. codes, standards, and regulation
  - ✔ Typical owner scope (e.g., switchyard) and site-specific system arrangements

Plant Parameter	Basis for NI	Basis for BOP
Precipitation	EPRI URD R13, modified snow load	
High Wind	50-yr return ASCE 7-16 by Hazard Category	
Hurricane	RG 1.221, tip of FL	RG 1.221, East Coast
Tornado	RG 1.76, Region I	RG 1.76 Region, II
Temperature (0/1/5%)	EPRI URD R13	
Temperature (Perf.)	July monthly average, for South-Eastern US site	
Frost Depth	State-based depth (conservative)	
Missiles	RG 1.76	N/A to Non-safety
Flood	1 ft below grade	
Subgrade Chemical	Typical for South-Eastern US site	
Earthquake SSE ZPA	0.4g	0.133g
Spectral Shape	RG 1.60, modified substantially to bound	
Subgrade Structural	Soft soil site conditions	
Potable Water	Available from public utility	
Sanitary	Available to discharge to public utility	

Thank You

Krishna P. Singh Technology Campus
1 Holtec Boulevard
Camden, NJ 08104

Tel: (856) 797-0900
www.holtec.com