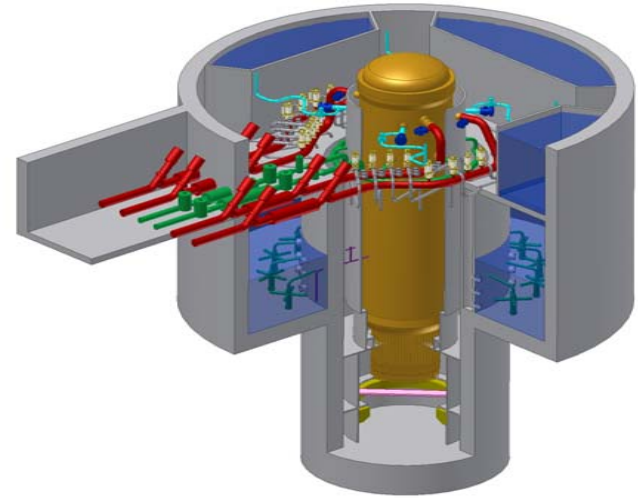
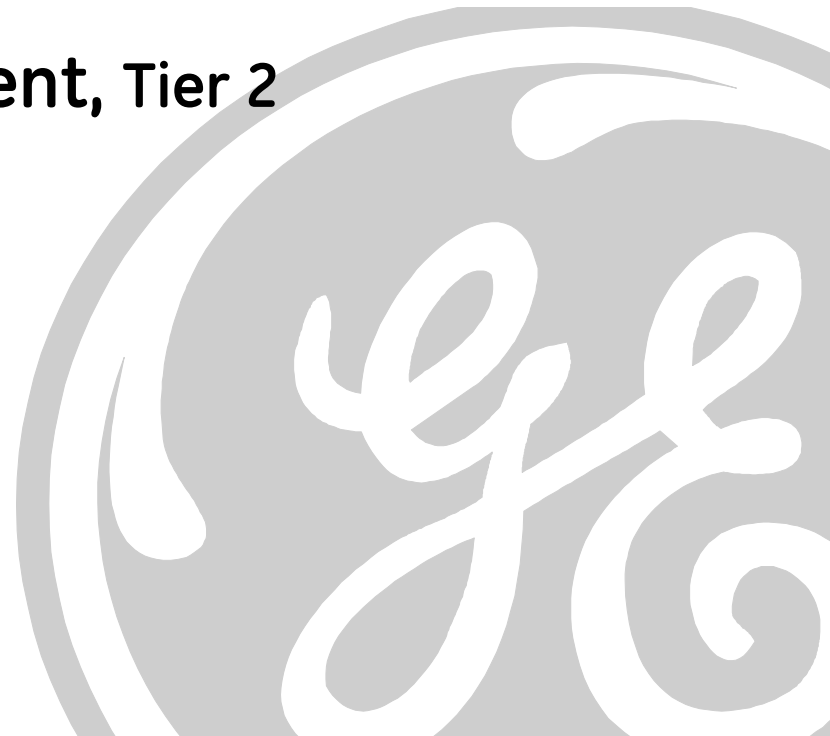


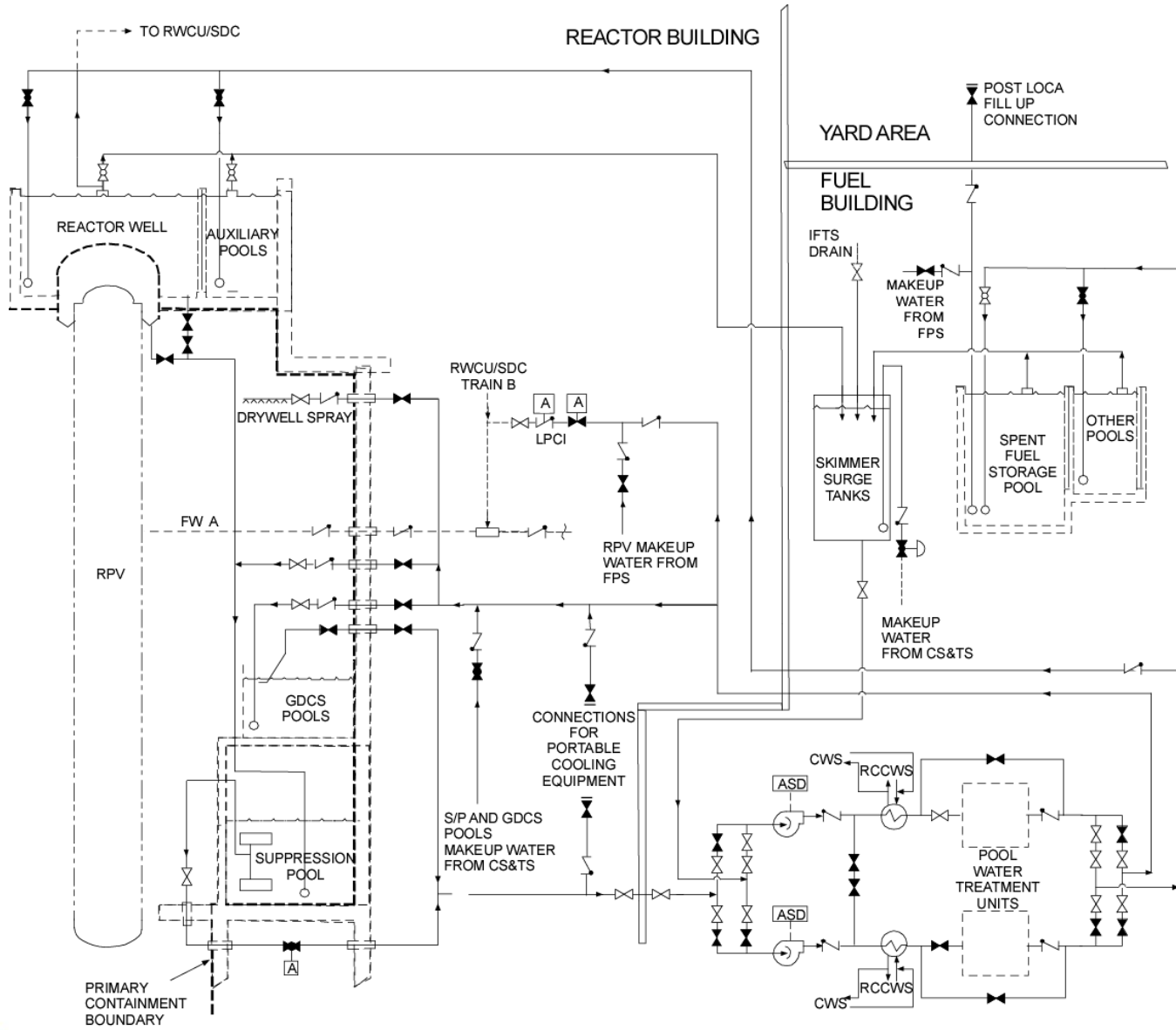
Presentation to  
Nuclear Regulatory Commission



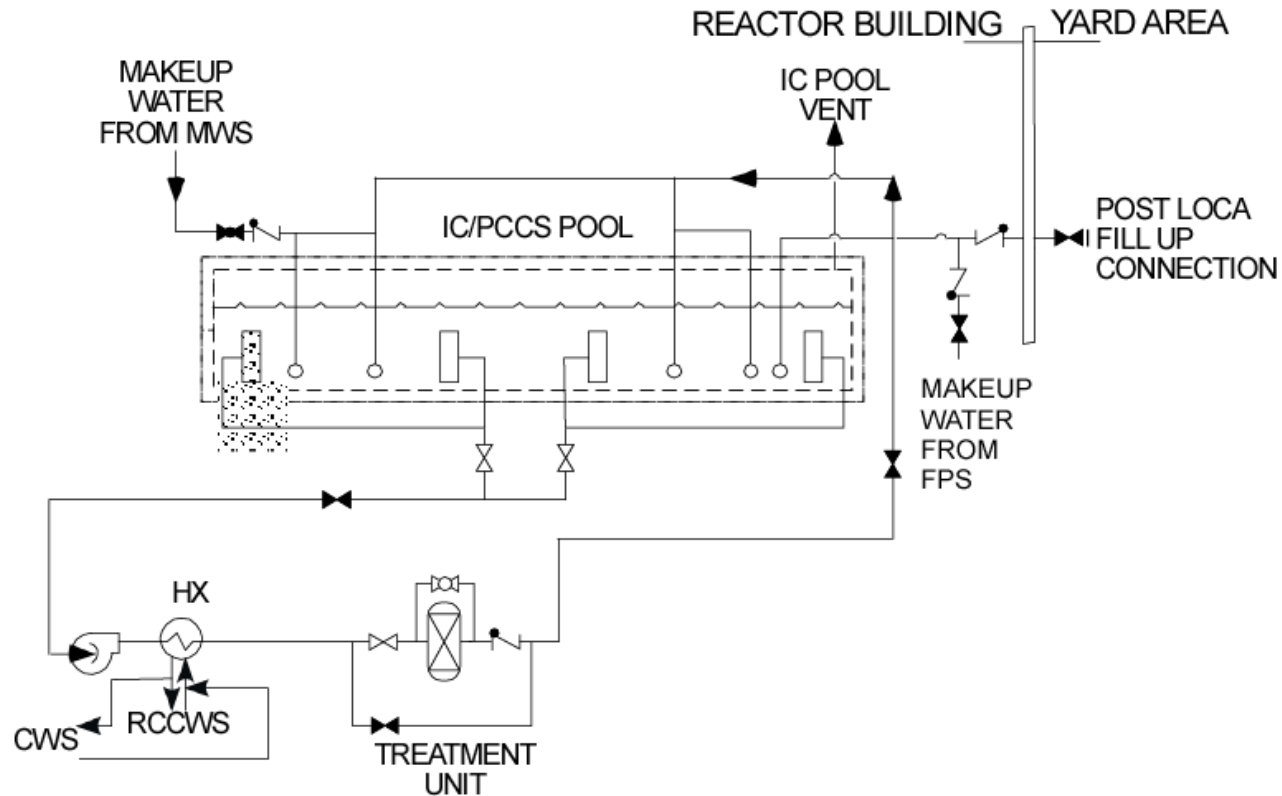
**Summary**  
**ESBWR Design Control Document, Tier 2**  
**Chapter 9**  
**Auxiliary Systems - FAPCS**

September 28, 2005





# Fuel and Auxiliary Pool Cooling



# Pools Serviced by FAPCS

<b>Pools Serviced by FAPCS C/C Subsystem</b>	<b>Location</b>
Fuel Pools	Fuel Building
- Spent Fuel Pool	
- Lower Fuel Transfer Pool	
- Cask Pool	
- Cask Head Shelf Pool	
Auxiliary Pools	Reactor Building
- Steam Dryer and Separator Storage Pool	
- Reactor Well	
- Buffer Pool	
- Upper Fuel Transfer Pool	
GDCS Pools (3)	Containment
Suppression Pool	Containment
<b>Pools Serviced by IC/PCCS Pool C/C Subsystem</b>	
IC/PCCS Pools	Reactor Building
Expansion (Outer) Pool	

# FAPCS Operating Modes

## Normal Operating Modes

- Spent Fuel Pool Cleaning and Cleanup
- IC/PCCS Pool Cooling and Cleanup
- GDCS Pool Cooling and Cleanup
- Suppression Pool Cooling and Cleanup

## Available Accident Operating Modes

- Low Pressure Coolant Injection
- Alternate Shutdown Cooling
- Drywell Spray

\*FAPCS piping can also be used to provide makeup water to IC/PCCS pools and Spent Fuel Pool from offsite emergency water supply or Fire Protection system following a DBA



# FAPCS - Available Post Accident Operating Modes

FAPCS may be operated in the following modes for post-accident recovery following an accident:

- Spent Fuel Pool Cooling
- Low Pressure Coolant Injection (LPCI)
- Suppression Pool Cooling (SPC)
- Drywell Spray
- Alternate Shutdown Cooling (ASDC)

FAPCS piping can also be used to provide makeup water to IC/PCCS pools and Spent Fuel Pool from offsite emergency water supply or Fire Protection system following a DBA