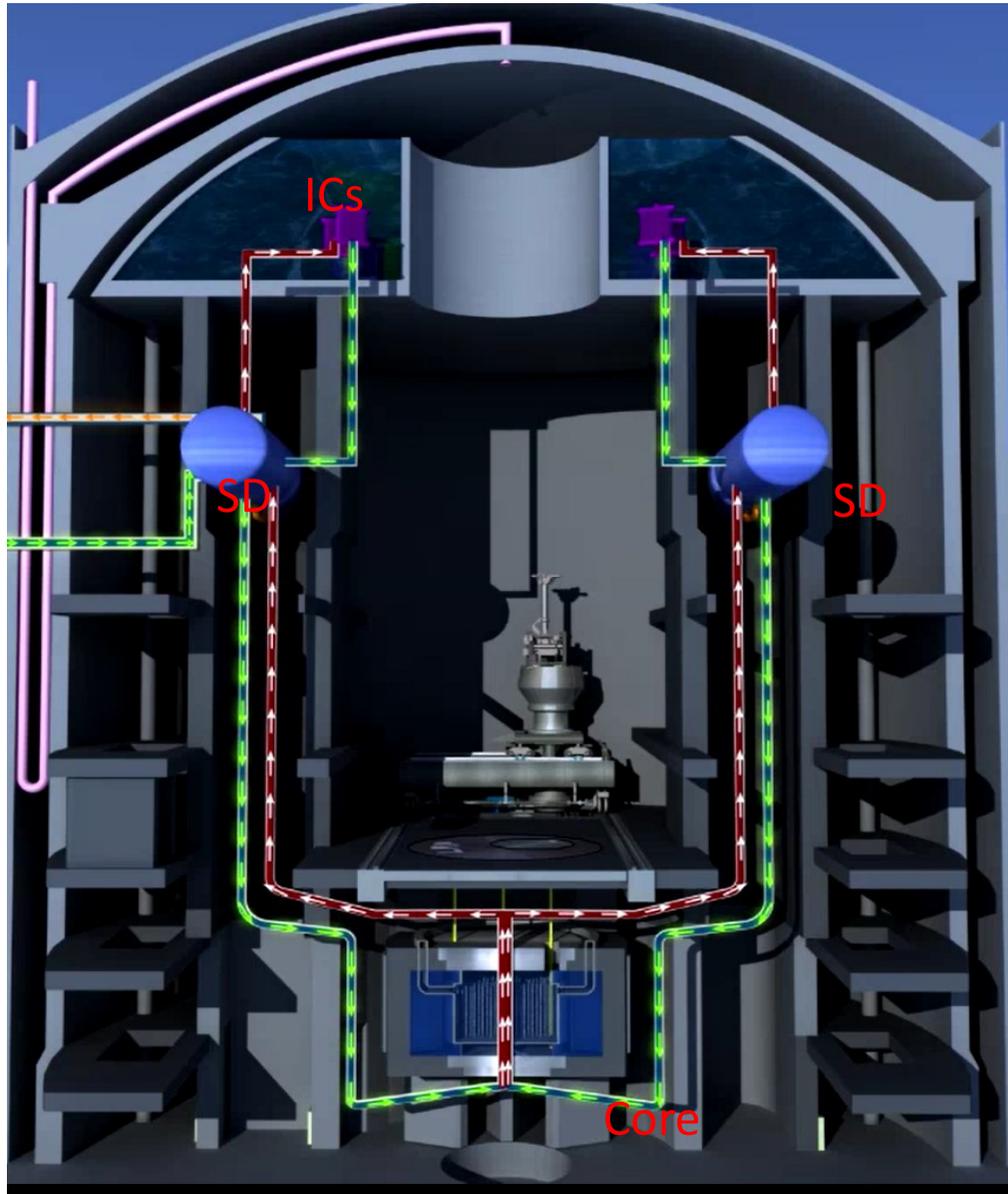
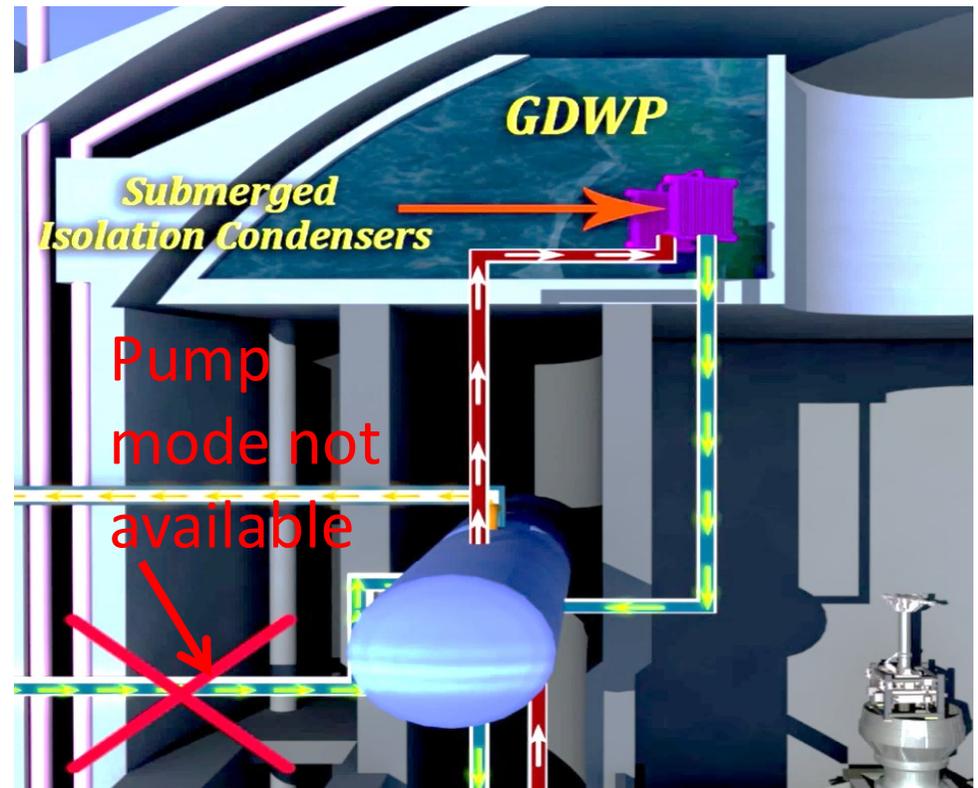


# Technology Development for passive mode of heat removal



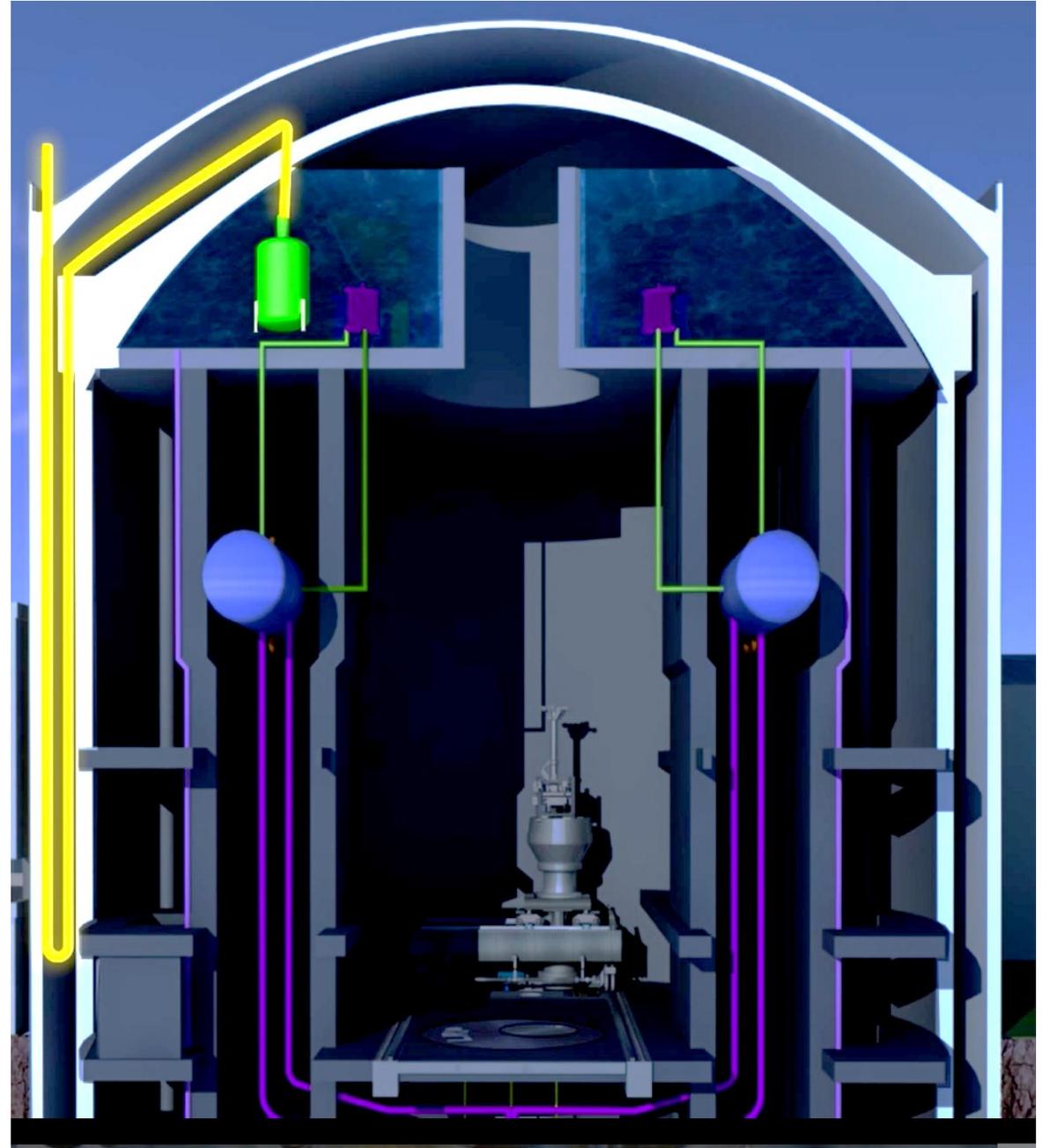
Heat Removal by Thermo syphon



- ❖ Natural circulation during normal operation at 100% full power
- ❖ Isolation condensers are capable of removing decay heat for more than 7 days in case of Fukushima type accident.
- ❖ These are submerged in a large pool of water called GDWP.

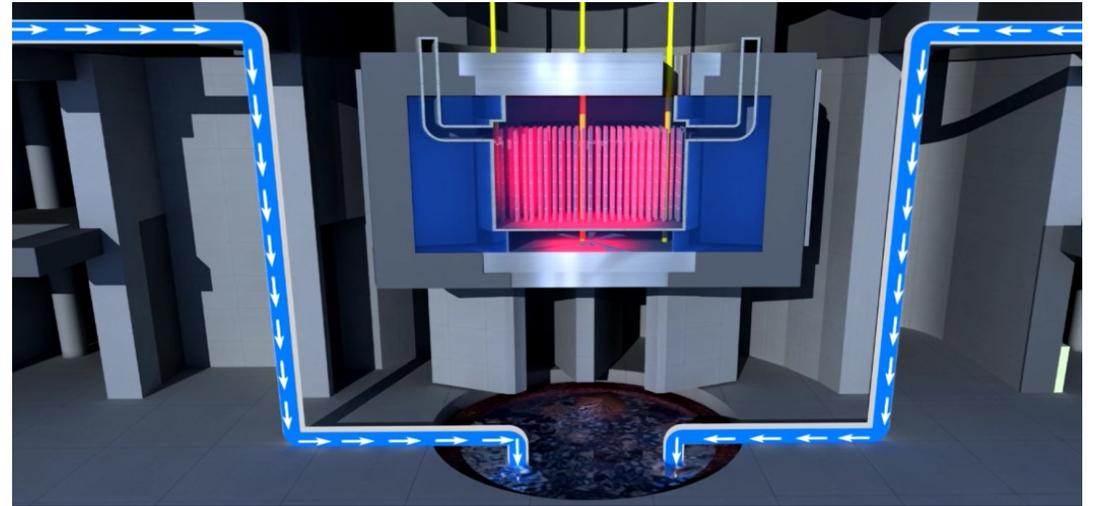
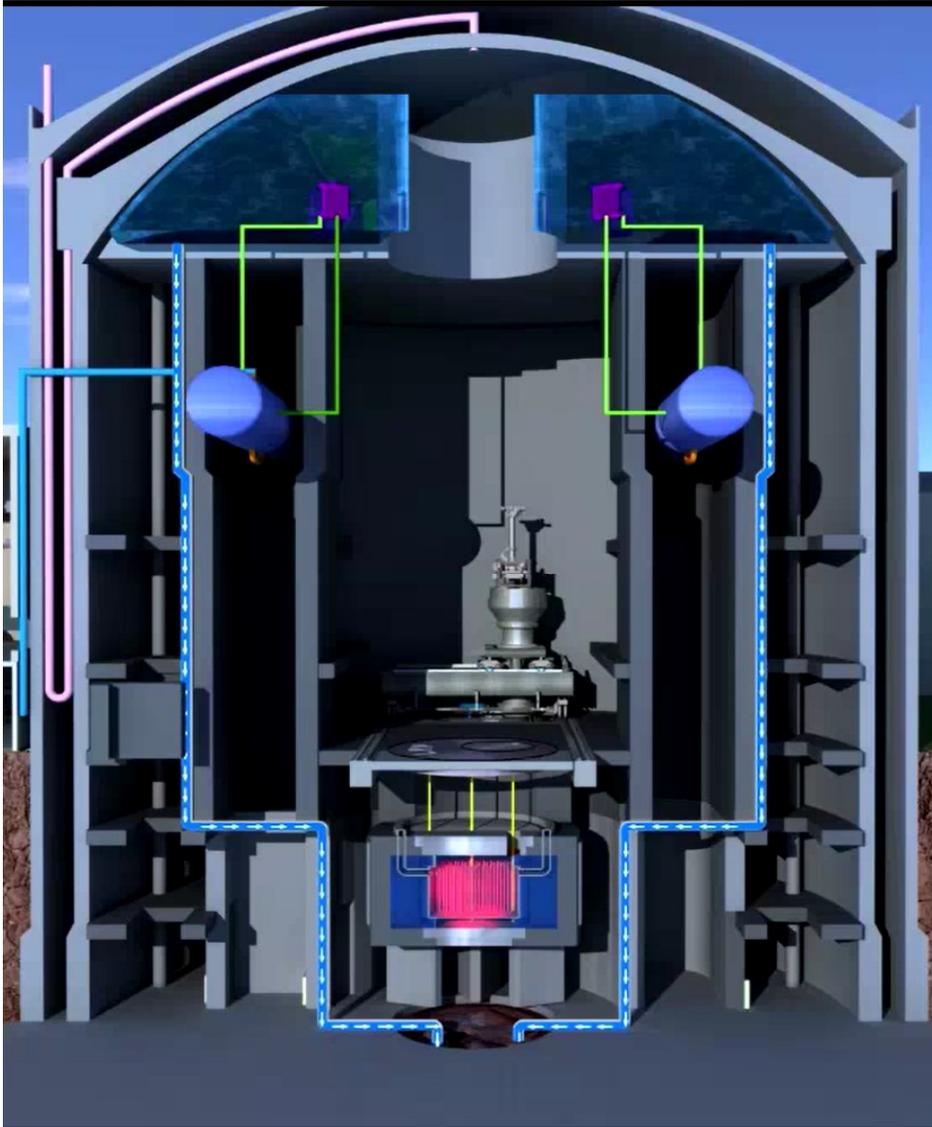
# Passive decay heat removal using ICs

- ❖ Passive Containment Isolation System (PCIS) operates passively for isolating the containment from atmosphere during LOCA.
- ❖ Natural forces are utilised for the fluid movement to form a loop seal in the PCIS
- ❖ It ensures passive isolation of containment and hence no radioactivity release.



Passive containment Isolation System during LOCA

# Passive decay heat removal using ICs

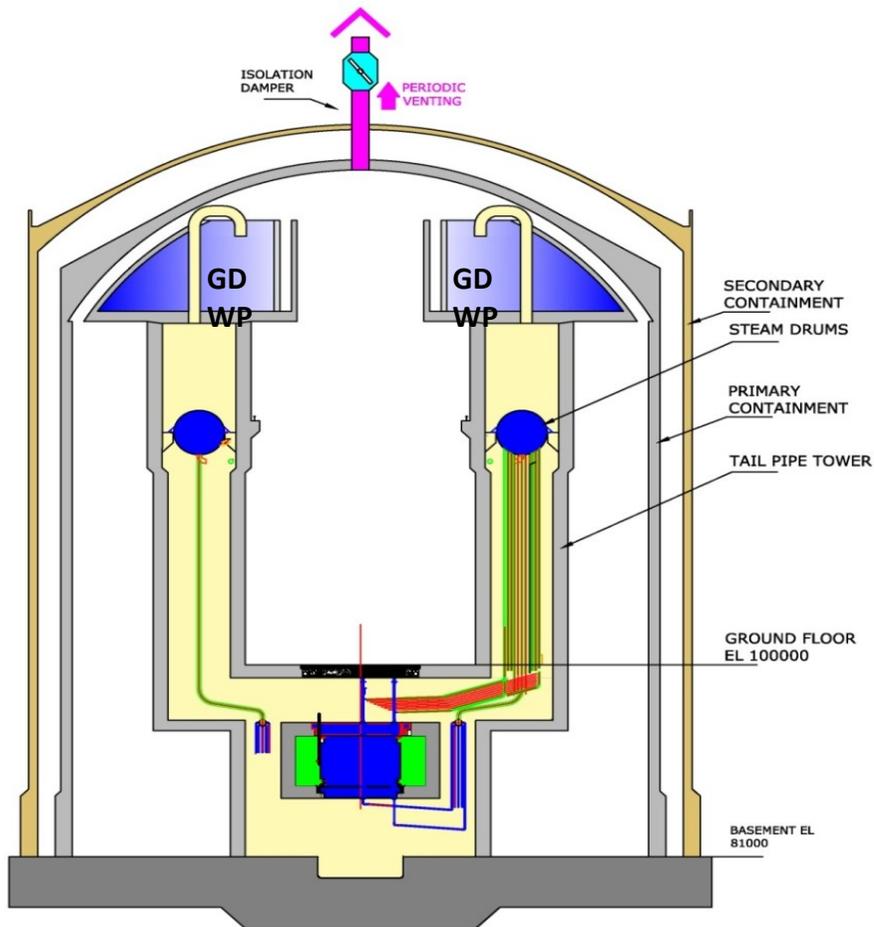


- ❖ During unforeseen event of core melt core catcher contained the molten core.
- ❖ Long term cooling of core catcher is ensure passively using GDWP water

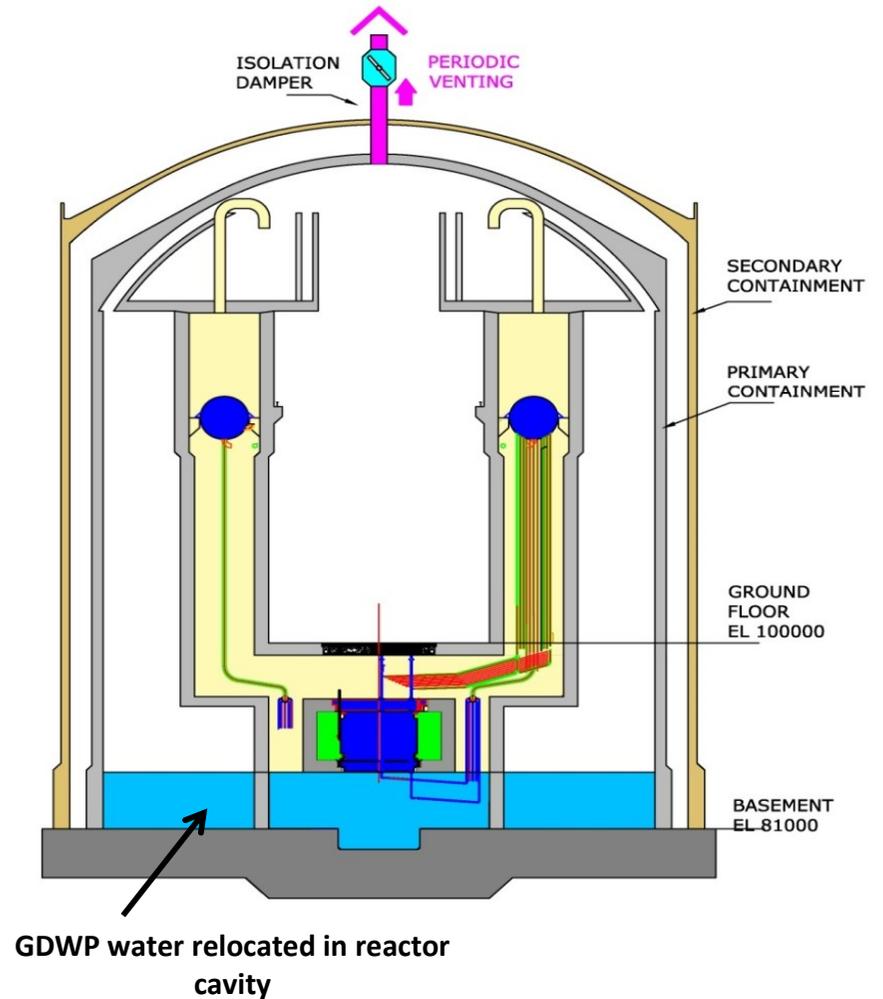
Passive mode of Core Catcher Cooling

# Passive mode of heat removal during extreme events

❖ Decay heat removal during prolonged SBO using ICs (more than 7 days).



❖ Decay heat removal by submerged feeders during strong seismic event.



Extreme Events demonstration