



Safety Features of the NuScale Design

In designing the NuScale Power Module™ and power plant, NuScale has achieved a paradigm shift in the level of safety of a nuclear power plant facility. It is a revolutionary solution to one of the biggest technical challenges for the current fleet of nuclear energy facilities.

NuScale's innovative and comprehensive safety features are incorporated to provide stable long-term nuclear core cooling under all conditions, including severe accidents. These safety features include:

NuScale has achieved a breakthrough in the safety of a nuclear power plant, using simple passive systems to provide stable long-term, nuclear core cooling under all conditions, including severe accidents.

design

The Triple Crown For Nuclear Plant Safety™

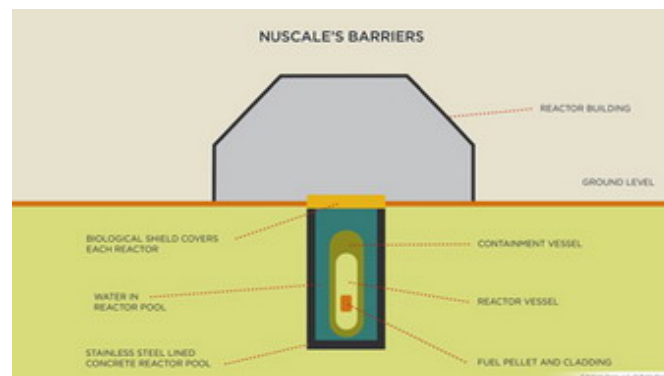
safely shuts down and self-cools, indefinitely with no operator action, no AC or DC power, and no additional water.

High-pressure containment vessel, redundant passive decay heat removal, and containment heat removal systems.

The integrated design of the NuScale Power Module, encompassing the reactor, steam generators, and pressurizer, and its use of natural circulation eliminates the need for large primary piping and reactor coolant pumps.

A small nuclear fuel inventory, since each 50 MWe (gross) NuScale Power Module houses approximately 5% of the nuclear fuel of a conventional 1,000 MWe nuclear reactor.

Containment vessel submerged in an ultimate heat sink for core cooling in a below grade reactor pool structure housed in a Seismic Category 1 reactor building.



Protection Against Extreme Events 

Triple Crown for Nuclear Plant Safety™

NuScale has developed a safety system that does not require DC batteries to place the

Reactor Buildings & Barriers

The reactor building is a Seismic Category 1 reinforced concrete structure designed to withstand the effects of aircraft impact, environmental conditions, natural phenomena,

plant in a safe cool-down condition following an extreme event.

Reactor Modules

Each NuScale Power Module incorporates simple, redundant, diverse, and independent safety features.

Protection Against Extreme Events

NuScale's Power Module and power plant are designed to protect the environment against extreme events.

postulated design basis accidents, and design basis threats.

Spent Fuel Pool

The spent fuel pool provides storage space for up to 15 years of accumulated spent fuel assemblies, plus temporary storage for new fuel assemblies.

Rightsizing the EPZ

The NuScale SMR design allows for an EPZ that is significantly smaller than conventional nuclear plants.



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