

QUESTION 2. Safety of U.S. reactors compared to Fukushima

- **Is the next generation of reactor designs beyond Gen III+, like small modular and high temperature gas reactors, even safer? What would make them safer?**

The Nuclear Regulatory Commission's Advanced Reactor Policy Statement (73 FR 60612) sets an overall Commission expectation "that advanced reactors will provide enhanced margins of safety and/or use simplified, inherent, passive, or other innovative means to accomplish their safety and security functions." The Policy Statement describes attributes of such designs, including "Designs that minimize the potential for severe accidents and their consequences by providing sufficient inherent safety, reliability, redundancy, diversity, and independence in safety systems, with an emphasis on minimizing the potential for accidents over minimizing the consequences of such accidents."

Recently-proposed reactor designs claim to fulfill these expectations by providing simpler systems with increased passive cooling capabilities. However, since formal applications with detailed design information are not expected to be submitted to the NRC until at least the end of calendar year 2012 for review, it is premature to make definitive statements about these designs. While promising, the designers' claims must be verified through detailed review by the NRC staff, that will include full consideration of lessons learned and insights from the Japanese earthquake and tsunami.