

## Rulemaking Comments

April 20, 2012 (10:15 am)

**From:** Crews, Ronald  
**Sent:** Friday, April 20, 2012 7:56 AM  
**To:** Rulemaking Comments  
**Subject:** NRC SEEKS PUBLIC COMMENT AT BEGINNING OF PROCESS

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

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Re: Docket ID NRC-2012-0031

In response to the request for public comment and specifically the question:

“What additional accident *scenarios* should be considered for expanding SAMG technical guidelines as a result of the lessons learned in Japan? “

I make the following recommendation:

Instead of addressing *scenarios* or *events* in expanding SAMG technical guidelines address the vulnerabilities produced by large scale disasters using a Critical Safety Function (CSF) approach in much the same way as the Westinghouse Owners Group Function Restoration Procedures use the CSF approach to product the barriers of radiation release to the public. These barriers are:

- Subcriticality
- Core Cooling
- Heatsink
- Pressurized Thermal Shock
- Containment
- Inventory

The approach is to maintain the barriers to the release of radiation and thereby protect the public. Under severe accident conditions, some, or all of these barriers are degraded or lost. However, mitigative actions must still focus on the maintenance and/or restoration of these barriers. It is therefore necessary to develop Extensive Damage Mitigation Guidelines addressing the use of required equipment. ***The equipment must be independent (power supply, cooling, and water supplies), seismically qualified, and located above the maximum probable flood elevation for the plant.*** The equipment must have the capacity to address each of the critical safety functions:

- Subcriticality – the ability to inject borated water into the RCS (pump and borated water source)
- Core Cooling – the ability to makeup water to the RCS at a large volume (greater than 500 gpm, estimated) as well as provide Reactor Coolant Pump Seal Cooling
- Heatsink – the ability to provide water to the Steam Generators and the ability to release steam for cooling the RCS
- Pressurized Thermal Shock – the ability to depressurize the RCS
- Containment – the ability to address the production of H2 inside containment (most directly and simply addressed by H2 ignitors – immediately available and simple to operate)
- Inventory – addressed by the ability to makeup water to the RCS

The number of accident scenarios to be addressed is unlimited, but if the CSFs can be maintained or restored, the public will be protected under any and all potential accident scenarios.

Please consider this approach when considering changes to the onsite emergency response requirements for U.S. reactors.

Thank you,

Ronald E. Crews

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