NRC To Issue Final Rule for Mitigating Severe Events at U.S. Reactors

The Nuclear Regulatory Commission has directed agency staff to publish a rule based on lessons learned from the March 2011 accident at Japan’s Fukushima Daiichi plant. The rule builds on Orders the NRC issued in March 2012.

The Mitigation of Beyond-Design-Basis Events rule, which will be published in the Federal Register in spring 2019, applies to operating commercial nuclear power plants and power reactor license applicants. The rule’s primary impact lies in requiring U.S. commercial reactors to:

- Maintain resources and procedures to cool a reactor’s core and spent fuel pool, as well as preserve the reactor’s containment, following an event that disables all of a site’s normal and emergency a/c electrical power sources, as well as the site’s ability to safely transfer heat to the environment;
- Maintain equipment that can reliably measure spent fuel pool water levels following a severe event;
- Preserve the resources needed to protect the core, containment and spent fuel pool from external hazards.

Most U.S. nuclear power plants must comply with the rule’s requirements within two years and 30 days of the rule’s publication in the Federal Register. Those plants subject to the NRC’s Containment Venting Order of March 2013 must comply with the rule within three years and 30 days of the rule’s publication.

The rule applies more broadly than either the venting or Mitigation Strategies Order (issued in 2012) or conditions included in new reactor licenses issued since 2012. The rule therefore includes language that ends the Orders and license conditions once the rule’s requirements are in place. The rule also lays out the process for ending the requirements for a plant that has permanently shut down.

The NRC staff responded to public comments on the draft rule by removing, reorganizing, clarifying and enhancing several sections. The rule also resolves five petitions for rulemaking submitted in July 2011, and the rule partially resolves a sixth petition submitted in May 2011.

The NRC and its nuclear power plant licensees will continue post-Fukushima efforts outside of the rulemaking context, including analyses of whether additional safety improvements are necessary in response to updated site-specific seismic and flooding risk assessments.