

Safeguards (ACRS) stated that the draft proposed rulemaking for risk-informed revisions to 10 CFR 50.44 will provide more effective and efficient regulation to deal with combustible gases in containments.

The NRC also received feedback on several issues for which comments were specifically requested in the draft rule language. The existing rule provides detailed, prescriptive instructions using American Society of Mechanical Engineers (ASME) references for analyzing the performance of boiling water reactor (BWR) Mark III and pressurized water reactor (PWR) ice condenser containments. In the final rule, the NRC has provided an option for a more performance-based approach, which received positive public comment. Based upon stakeholder input, the final rule eliminates the existing references to ASME standards and other prescriptive requirements. The regulatory guide attached to this paper includes the ASME approach as one in which the intent of the regulations could be satisfied.

One private citizen questioned why the NRC was considering relaxing requirements that provide protection against some of the uncertainties and hazards of nuclear power. A citizen group opposed the changes by contending that eliminating the design-basis accident release, relaxing safety classifications, and relaxing licensee commitments to certain design and qualification criteria only benefits the money interests of the licensees. This group also stated its belief that the NRC's reliance on limited Three Mile Island (TMI) data points was insufficient to relax requirements solely to accommodate industry cost cutting strategies.

The NRC is moving to risk-informed, performance-based regulation that takes into account the benefits and consequences of actions by licensees and the NRC. One of the benefits of risk-informed regulation is that it concentrates resources on areas that are more important and minimizes resource allocation on areas that are shown to be less significant. As part of the basis for deciding the level of importance of various areas, during the 1980s and 1990s, the NRC sponsored a severe accident research program to improve the understanding of core melt phenomena, combustible gas generation, transport, and combustion, and to develop improved models to predict the progression of severe accidents. The results of this research have been incorporated into various studies (e.g., NUREG-1150 and probabilistic risk assessments performed as part of the

Individual Plant Examination (IPE) program) to quantify the risk posed by severe accidents for light water reactors. The result of these studies has been an improved understanding of combustible gas behavior during severe accidents and confirmation that the combustible gas release postulated from a design-basis LOCA was not risk-significant because it would not lead to early containment failure, and that the risk associated with gas combustion was from beyond-design-basis (e.g., severe) accidents.

In making its regulatory decisions, the NRC first considers public safety, then other issues such as public confidence and reducing unnecessary regulatory burden. Based upon the results of significant research into design-basis and beyond design-basis accidents, the NRC has determined that a design-basis combustible gas release is not risk-significant and certain beyond design-basis combustible gas releases are risk-significant. Therefore, the NRC is removing the requirements for combustible gas control systems that mitigate consequences of non-risk-significant design-basis accidents which are also not effective in reducing the risk from combustible gas releases in beyond-design-basis accidents.

The citizen group also contended that because GSI-191, "Assessment of Debris Accumulation on PWR Sump Pump Performance", is not resolved, removing the hydrogen recombiner requirements and relaxing the hydrogen and oxygen monitoring requirements are premature and constitute a dangerous trend towards risk "misinformed" regulation.

The NRC disagrees with the commenter's contention. The NRC's philosophy on all GSIs is to first determine whether the existing situation provides adequate protection of public health and safety, and if there is sufficient margin to allow continued safe operation of the affected plants while seeking a final resolution of the GSI. For GSI-191, the NRC concluded that even though uncertainties remained regarding the debris accumulation issue, adequate protection of public health and safety was maintained. Accordingly, the fact that GSI-191 has not reached final resolution does not present an impediment to the revision to § 50.44.

An industry group requested that the terms "safety-significant" and "industrial" instead of high and low safety/risk significance be used in this rule and regulatory guide. The NRC disagrees. The terms "high and low safety/risk significance" were not included in the proposed rule and are not in the final rule. The term "safety-significant", when used in supporting

documentation, is used to identify systems, structures, and components (SSCs) that contribute to safety. The term does not confer the level of significance on the SSC. Additionally, the term "risk significant" is used to identify those conditions that contribute to risk. Again, no level of significance is assigned by the use of this term. Additionally, the change in terminology requested by the commenter would be inconsistent with the supporting NRC documents and reports. Changing terminology could cause unnecessary confusion on the part of licensees and the public.

B. General Clarifications

One commenter questioned if the draft regulatory guide would become Regulatory Guide 1.7, Revision 3. When the NRC resolves the comments on DG-1117, the guidance will be published as Regulatory Guide 1.7, Revision 3.

A licensee requested that the first sentence of Item 3 of the fourth paragraph of section B of the draft regulatory guide be revised to read: "The following requirements apply to all construction permits or operating licenses under 10 CFR Part 50, and to all design approvals, design certifications, or combined licenses under 10 CFR Part 52, any of which are issued after the effective date of the rule." The NRC agrees that the commenter's request represents a clearer way of expressing the NRC's intent. In addition, the term "manufacturing licenses" has been added to make clear that the revised requirements apply to applicants for manufacturing licensees, which was inadvertently omitted from the proposed rule. These changes have been included in both the regulatory guide and in the final rule.

The licensee also requested that the NRC reword the statement in section 5 of the draft regulatory guide to read: "For future applicants and licensees as defined in Part 50.44(c), the analysis must address an accident that releases hydrogen generated from 100 percent fuel clad-coolant reaction accompanied by hydrogen burning." Another licensee requested that section C.5, "Containment Integrity", should state that it does not apply to currently licensed plants. The NRC disagrees with these requests. Section 5 of DG-1117 was intended to apply to current and future plants. However, the wording was not clear and inadvertently caused some confusion on the applicability of the section. To clarify that section 5 applies to current and future plants, its wording has been revised to more closely reflect the rule intent. This revision removes the following