

Commission intends for future non-water-cooled reactor designers to address. First, such an accident would have relatively low probability of occurrence, based upon the PRA, but would not be so small that the accident would be deemed incredible. Second, a "significant" beyond design-basis accident involving combustible gas would have serious offsite consequences for the public, involving the potential for death or significant acute or chronic health effects to the general public and/or significant radioactive contamination of offsite property which could result in permanent or long-term commitment of property to nuclear use. Such accidents would typically call for activation of offsite emergency preparedness measures in order to mitigate the adverse effects on public health and safety.

The NRC is currently preparing a Draft Regulatory Guide DG-1122 for public comment, in which the terms, "significant sequences" and "significant contributors" are expected to be addressed. In addition, as part of the proposed rulemaking for risk-informing 10 CFR § 50.46 the Commission has instructed the NRC staff to develop suitable metrics for determining the appropriate risk cutoff for defining the maximum LOCA size. The metrics are to take into account the uncertainties inherent in development of PRAs. The NRC expects that these regulatory activities will ultimately result in more detailed examples of the "significant beyond design-basis" concept to assist a potential applicant in developing the design for a future non-water-cooled reactor (and water-cooled reactor designs which are significantly different in concept from current light-water-cooled reactors), and to guide the NRC's review of an application involving such a design.

G. Clarification and Relocation of High Point Vent Requirements From 10 CFR 50.44 to 10 CFR 50.46a

The final rule removes the current requirements for high point vents from § 50.44 and transfers them to a new § 50.46a. The NRC is relocating these requirements because high point vents are relevant to emergency core cooling system (ECCS) performance during severe accidents, and the final § 50.44 does not address ECCS performance. The requirement to install high point vents was adopted in the 1981 amendment to § 50.44. This requirement permitted venting of noncondensable gases that may interfere with the natural circulation pattern in the reactor coolant system. This process is regarded as an important safety feature in accident

sequences that credit natural circulation of the reactor coolant system. In other sequences, the pockets of noncondensable gases may interfere with pump operation. The high point vents could be instrumental for terminating a core damage accident if ECCS operation is restored. Under these circumstances, venting noncondensable gases from the vessel allows emergency core cooling flow to reach the damaged reactor core and thus, prevents further accident progression.

The final rule amends the language in § 50.44(c)(3)(iii) by deleting the statement, "the use of these vents during and following an accident must not aggravate the challenge to the containment or the course of the accident." For certain severe accident sequences, the use of reactor coolant system high point vents is intended to reduce the amount of core damage by providing an opportunity to restore reactor core cooling. Although the release of noncondensable and combustible gases from the reactor coolant system will, in the short term, "aggravate" the challenge to containment, the use of these vents will positively affect the overall course of the accident. The release of any combustible gases from the reactor coolant system has been considered in the containment design and mitigative features that are required for combustible gas control. Any reactor coolant system venting is highly unlikely to affect containment integrity; however, such venting will reduce the likelihood of further core damage. Because overall plant safety is increased by venting through high point vents, the final rule does not include this statement in § 50.46a.

H. Elimination of Post-Accident Inerting

The final rule no longer provides an option to use post-accident inerting as a means of combustible gas control. Although post-accident inerting systems were permitted as a possible alternative for mitigating combustible gas concerns after the accident at Three Mile Island, Unit 2, no licensee has implemented such a system to date. Concerns with a post-accident inerting system include increase in containment pressure with use, limitations on emergency response personnel access, and cost. Sections 50.44(c)(3)(iv)(D) and 50.34(f)(ix)(D) of the former rule were adopted to address these concerns. On November 14, 2001, draft rule language was made available to elicit comment from interested stakeholders. The draft rule language recommended eliminating the option to use post-accident inerting as a means of combustible gas control and asked stakeholders if there was a need to

retain these requirements. Stakeholder feedback supported elimination of the post-accident inerting option and indicated that licensees do not intend to convert existing plants to use post-accident inerting. Because there is no need for the regulations to support an approach that is unlikely to be used, the NRC has decided to eliminate post-accident inerting requirements in the final rule.

IV. Comments and Resolution on Proposed Rule and Draft Regulatory Guide

The 60-day comment period for the proposed rule closed on October 16, 2002. The NRC received 14 letters, from 14 commenters, containing approximately 43 comments on the proposed rule and draft regulatory guide. Seven of the commenters were licensees, two were vendors, two were representatives of utility groups (the Nuclear Energy Institute and the Nuclear Utility Group on Equipment Qualification), two were private citizens, and one was a citizen group, Nuclear Information and Resource Service. All comments were considered in formulating the final rule. Copies of the letters are available for public inspection and copying for a fee at the Commission's Public Document Room, located at 11555 Rockville Pike, Room O-1 F23, Rockville, Maryland 20852.

Documents created or received at the NRC after October 16, 2002, are also available electronically at the NRC's Public Electronic Reading Room on the Internet at <http://www.nrc.gov/reading-rm.html>. From this site, the public can gain entry into the NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents. These same documents also may be viewed and downloaded electronically via the interactive rulemaking Web site established by NRC for this rulemaking at <http://ruleforum.llnl.gov>.

The following sections set forth the resolution of the public comments.

A. General Comments

Many commenters expressed strong support for the rule to improve the regulations in § 50.44 and "commend[ed] the NRC for developing a rule based on risk-informed and performance-based insights that would eliminate unnecessary regulatory requirements." One industry commenter indicated that this rule will enhance public health and safety because it increases the reliability of the hydrogen and oxygen monitoring systems. The Advisory Committee on Reactor