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Anthony R. Pietrangelo
DIRECTOR, RISK AND
PERFORMANCE BASED REGULATION
NUCLEAR GENERATION

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Secretary
U.S. Nuclear Regulatory Commission
Mail Stop O-16C1
Washington, DC 20555-0001

OFFICE OF THE SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

ATTENTION: Rulemakings and Adjudications Staff

SUBJECT NEI¹ comments on the draft §50.44 (*ref. 66 Fed Reg. 57001, dated November 14, 2001*)

The NRC recently released draft rule language for 10 CFR 50.44, *Standards for combustible gas control system in light-water-cooled power reactors*. We commend the NRC for this action to increase stakeholder involvement. It will contribute to a more efficient rulemaking process and ultimately to a clear and effective rule. The proposals, if implemented, would be a significant improvement on the existing regulation. We urge the staff to expeditiously move this initiative forward to the proposed rulemaking stage.

As a general comment, the rule should reflect the general regulatory transition towards a risk-informed, performance-based regime. In such a regime the language of the rule should focus on the specific requirement and not on implementation details.

The Enclosure provides our specific comments on:

- Post-Accident inerting
- Oxygen and Hydrogen monitors,
- FSAR Analyses
- High-Point vents
- New plant requirements

¹ NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including regulatory aspects of generic operational and technical issues. NEI members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

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SECY-02

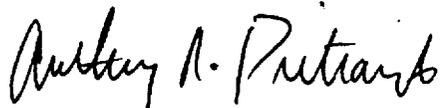
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In the requirements for new plants, the rule should reflect that new plants might not be light-water reactors.

A number of our comments are directed at the guidance for the proposed amendment to §50.44. It may be beneficial to have a public meeting or workshop to discuss implementation guidance to ensure a better understanding of the draft rule when it is published. Such an action would reduce the potential for misunderstandings and would assist in the development of revised guidance for the amended §50.44. The issuance of the Notice of Proposed Rulemaking should not be contingent on the date of the public meeting or workshop.

If you have any questions on our comments, please contact Adrian Heymer (202-739-8094, aph@nei.org) or me, at 202-739-8081).

Sincerely,

A handwritten signature in black ink that reads "Anthony R. Pietrangelo". The signature is written in a cursive, slightly slanted style.

Anthony R. Pietrangelo

**Specific Industry Comments on
Preliminary NRC 10 CFR 50.44 November 14, 2001 Proposals**

We support the NRC proposals on improving 10 CFR 50.44 with the following qualifications.

Post-Accident Inerting: We agree that the paragraph on post-accident inerting should be deleted.

Oxygen Monitors

We note that the proposed rule adds a requirement for oxygen monitoring for plants with inerted containments paragraph (c)(5)(A). The current rule only requires hydrogen monitors. The proposals include a definition of the term "inerted atmosphere." In addition, the proposed paragraph (c)(2)(A) that requires all boiling water reactors with Mark I or Mark II containments to have an inerted atmosphere is almost identical to the requirements in the existing §50.44 regulation. No reason is given in the amplifying statements on the need for adding the oxygen monitor requirement. If the requirement for oxygen monitors is retained, the Statements of Consideration for the proposed rule should explain the need for the inclusion of oxygen monitors in the regulations.

Whether or not oxygen monitors are included in the new rule, the guidance should permit BWR Mark I and Mark II plants to retain the current post-accident monitoring (PAM) requirements for both oxygen and hydrogen monitors provided one type of monitor is PAM Category 2 or higher. There appears to be no immediate benefit in requiring plants to upgrade oxygen monitors if the hydrogen monitors already are Category 2 or better. Having either the hydrogen monitors or the oxygen monitors classified as a PAM Category 2 or higher provides sufficient assurance that monitoring of combustible gases can be accomplished.

We do not understand the need to continue to include oxygen monitors in the Technical Specifications for boiling water reactors. These monitors can be down graded to Category 2 equipment. As such, we question the need to have a Technical Specification on this equipment. If the oxygen monitors are removed from the Technical Specifications to a licensee-controlled document, they will still be required to satisfy the requirements of 10 CFR 50.65 that include the management of plant risk and reliability monitoring to provide reasonable assurance that the equipment would satisfy its intended function. As a result, the risk to public health and safety is monitored and managed.

Additional justification for the removal of the oxygen monitors from Technical Specifications will be provided in the Boiling Water Reactors Owners' Group (BWROG) Technical Specification traveler (TSTF traveler) on changing Technical Specifications for oxygen monitors in BWRs. This traveler is in response to NRC verbal requests for additional information on the BWROG Hydrogen Recombiner licensing topical report (NEDO-33003) submittal to the NRC on June 22, 2001. One of the objectives of this topical report was to improve the focus of the regulations and to effect further the advances towards a risk-informed set of Technical Specifications. The traveler will include an evaluation that demonstrates that the oxygen monitors do not meet the requirements of 10CFR50.36(c)(2)(ii). This should not delay the issuance of the Notice of Proposed Rulemaking on 10 CFR 50.44. The incorporation of this comment will enhance safety by continuing the progression towards a risk-informed set of Technical Specifications that are better focused on the safety-significant activities, equipment and limits.

Hydrogen Monitors

We agree that hydrogen monitors are necessary and support the NRC proposals described in the rule. We believe that hydrogen concentration in containment can provide backup information for specific severe accident sequences. We support the statements made in the amplification to paragraph (c.5), on design and qualification criteria for hydrogen monitors that would be included in implementing guidance.

We strongly recommend that the term "accident management" used in paragraph (c)(5)(B) be changed to, "emergency response determinations." This better reflects the purpose of the monitors and will avoid potential misinterpretation.

Emergency response programs provide guidance to licensees on the actions to take based on indications and input from a wide range of plant indicators and equipment status. Information from hydrogen monitors is included in this group of equipment and indicators. Hydrogen monitoring is not, and should not be the sole indicator for any emergency response action. The existing guidance on emergency response does not provide for actions based solely on one set of indicators: in this case the information from the hydrogen monitors.

We agree that the supporting Statement of Considerations and the associated regulatory implementation guide would provide amplification on equipment qualification and installation. Such guidance should emphasize that licensees may retain the existing equipment or replace existing equipment with new commercial grade equipment. In either case, the licensee should have the regulatory flexibility provided in the supporting documentation for the proposed amendment to §50.44 to use equipment qualified to the Regulatory Guide 1.97 version, consistent with the licensee commitments.

FSAR Analyses, Paragraph (c)(6):

We do not understand the need for §50.44 to include a statement on what is required to be included in a FSAR. Other specific and existing regulations relate to the content and update of the FSAR. The amplifying statements to this proposed paragraph acknowledge that these analyses are already included in the FSAR. The existing regulations appear to be sufficient. No reason is provided for the need for the added specificity in §50.44. If the decision is made to retain the new requirement on FSAR analyses, the Statements of Consideration should justify why such an addition is necessary.

Paragraph (c)(6)(E), offers two options. We believe that the preferred option is to remain with the existing requirement, i.e., Option 2, without the need for the amplifying statements that start with the second sentence, "Containment structural integrity..." We believe that in a performance-based regime, such amplifying statements belong in the implementation guidance.

High-Point Vents: We support the intent of the proposals to move the high-point vent requirements to §50.46. If high-point vent requirement is going to be moved, the opportunity should be taken to remove any ambiguity and potential misinterpretation from the rule. As such, we believe that the proposed paragraph (5), "The use of these vents during and following an accident must not aggravate the challenge to the containment of the course of the accident," should be deleted. One reason for the vents is to effect a change in the progression of the accident.

New plant requirements

The new paragraph on plants licensed after the effective date of the rule should reflect the high probability that not all new plants will be light-water reactors, and that some designs will not have containments, or have containments that are not of the shape and structure of light-water reactor containments.

We suggest that the proposed paragraph (d) be deleted and replaced by two separate paragraphs: One paragraph for light water reactor designs, and the other for non-light-water reactor designs

For new light-water reactor designs, the requirements should be the same as for existing plants with the clarification on the fuel-clad coolant reaction for new plants that was discussed during the approval of the recent ALWR design certifications. Specific references to ASME codes should be part of implementation guidance and not the regulation.

For non-light water reactor designs the rule language should reflect the need to prevent uncontrolled combustion from combustible gases to the extent that would

impose an additional risk to the protection of public health and safety. We suggest the following language:

“Where necessary and practical, non-light-water reactor designs shall limit the production of combustible gases during normal, abnormal, or accident scenarios. If the design results in the production of combustible gases during normal abnormal, or any design basis accident events, measures shall be taken to control the combustion hazard, or the effects of the combustion to prevent an uncontrolled release of radionuclides from a nuclear power plant to the extent that such a release would endanger public health and safety.”

The regulatory guide would provide amplification on what level of radionuclide release would pose a threat to public health and safety. Such guidance would be consistent with the NRC Safety Goals Policy.