[7590-01-P]

U.S. NUCLEAR REGULATORY COMMISSION

Workshop on Regulatory Structure for New Plant Licensing:

Technology-Neutral Framework and Options for Non-Light-Water Reactor

Containment Functional Performance Requirements and Criteria

AGENCY: Nuclear Regulatory Commission

ACTION: Notice of public workshop

SUMMARY: The Nuclear Regulatory Commission has requested the staff to develop Regulatory Structure for New Plant Licensing: Technology-Neutral Framework and Options for Non-Light-Water Reactor (Non-LWR) Containment Functional Performance Requirements and Criteria. The purpose of the public workshop/meeting is to discuss and solicit comments on the draft regulatory framework for future reactors and options for non-LWR containment functional performance requirements and criteria.

DATE: July 27, 2004, 8:30 a.m. - 4:30 p.m.

July 28, 2004, 8:30 a.m. - 12:00 p.m.

ADDRESS: Nuclear Regulatory Commission Auditorium, 11545 Rockville Pike, Rockville, MD 20852.

FOR FURTHER INFORMATION CONTACT: Margaret T. Bennett, Office of Nuclear Regulatory Research, Mail Stop: T-10 F13A, U.S. Nuclear Regulatory Commission, Washington D.C. 20555-0001, (301)415-7252, email: mtb1@nrc.gov.

SUPPLEMENTARY INFORMATION: This notice serves as initial notification of a public workshop to provide for the exchange of information with all stakeholders regarding the staff's efforts to develop a technology-neutral framework for future plant licensing and options for

containment functional performance requirements and criteria for future non-light water reactors. The meeting will focus on the current work being performed by the NRC staff. A preliminary agenda is attached.

WORKSHOP MEETING INFORMATION:

The staff intends to conduct a workshop to provide for an exchange of information related to the staff's initial efforts to develop a Regulatory Structure for New Plant Licensing: Technology-Neutral Framework and options for containment functional performance requirements and criteria for future non-light water reactors. Persons other than NRC staff and NRC contractors interested in making a presentation at the workshop should notify Margaret T. Bennett, Office of Nuclear Regulatory Research, Mail Stop: T-10 G8, U.S. Nuclear Regulatory Commission, Washington D.C. 20555-0001, (301)415-7252, email: mtb1@nrc.gov.

REGISTRATION: There is no registration fee for the workshop; however, so that adequate space, materials, etc., for the workshop can be arranged, please provide notification of attendance to Margaret T. Bennett, Office of Nuclear Regulatory Research, Mail Stop: T-10 F13A, U.S. Nuclear Regulatory Commission, Washington D.C. 20555-0001, (301)415-7252, email: mtb1@nrc.gov.

BACKGROUND:

As noted in the Advanced Reactor Research Plan, a risk-informed regulatory structure that can be applied to license and regulate future reactors, regardless of their technology, could enhance the effectiveness, efficiency, and predictability (i.e., stability) of new plant licensing. As such this new process, if implemented, could be available for future reactors based on a number of considerations, including the following:

- While the NRC has over 30 years of experience of licensing and regulating nuclear power plants, this experience (e.g., regulations, regulatory guidance, policies and practices) has been focused on current light water-cooled reactors (LWRs) and may have limited applicability to future reactors that may be distinctly different from current LWR issues.
- The regulatory structure for current LWRs has evolved over five decades, and the bulk of this evolution occurred without the benefit of insights from probabilistic risk assessments (PRAs) and severe accident research. It is expected that future applicants will rely on PRA and PRA insights as an integral part of their license applications. In addition, it is further expected that the regulations licensing these future reactors will be risk-informed. Both deterministic and probabilistic results and insights will be used in the development of these regulations governing these reactors. Consequently, a structured approach for a regulatory structure for future reactors that provides guidance about how to use PRA results and insights will help ensure the safety of these reactors by focusing the regulations on where the risk is most likely while maintaining basic safety principles, such as defense-in-depth and safety margins.

  The development of this structure will help to ensure that a structured and systematic approach is used during the development of the regulations that will govern the design construction and operation of future reactors.

The possibility of using alternatives to the traditional "essentially leak-tight" containment structures for non-LWRs has been the subject of Commission policy review, beginning with SECY-93-092, "Issues Pertaining to the Advanced Reactor (PRISM, MHTGR, and PIUS) and CANDU 3 Designs and Their Relationship to Current Regulatory Requirements," dated April 8, 1993. More recently, in SECY-02-0139, "Plan for Resolving Policy Issues Related to Licensing Non-Light Water Reactor Designs," dated July 22, 2002, the staff informed the

Commission of its plan to develop policy options for the design and safety performance of the containment structure and related systems for non-LWRs.

In SECY-03-0047, "Policy Issues Related to Licensing Non-Light-Water Reactor Designs," dated March 28, 2003, staff discussed the policy issue of the conditions, if any, that would be acceptable for licensing a plant without a pressure-retaining containment building. In SECY-03-0047, the staff recommended to the Commission that (1) functional performance requirements be approved for use in establishing the acceptability of either a pressure retaining, low leakage containment or a non-pressure retaining building for future non-LWR reactor designs and, if approved, (2) the staff develop the functional performance requirements using the guidance contained in the July 30, 1993, Commission Staff Requirements Memorandum (SRM) for SECY-93-092 and the Commission's guidance on the other issues in SECY-03-0047. In the June 26, 2003, SRM for SECY-03-0047, the Commission requested the staff to submit options and recommendations to the Commission on functional performance requirements and criteria for the containment of non-LWRs.

Options for containment functional performance requirements and criteria for future non-LWRs are under development by the staff. The final options and recommendations are due in December 2004. Public workshops on this subject were previously held on November 19, 2003, and January 14, 2004. The NRC staff is including in the July 27-28, 2004 workshop, presentations and solicitation of feedback from the public on options and recommendations. Key considerations for discussion include:

- Are the identified containment functional performance requirements being considered appropriate?
- Are the options for containment performance criteria reasonable?
- Are there other or alternative options for containment functional performance requirements and criteria which should be considered?

– What is the role of containment in relation to defense-in-depth?

– What metrics and considerations should be used to evaluate the options, including specific advantages and disadvantages?

PRELIMINARY WORKSHOP AGENDA**:**

July 27, 2004

TIME	**TOPIC**
8:30 - 8:40	Introduction and Overview for Technology-Neutral Framework
8:40 - 9:00	Proposed Scope
9:00 - 9:20	Framework Roadmap
9:20 - 9:40	Safety Fundamentals
9:40 - 10:10	Public Health and Safety Objectives
10:10 -10:25	**BREAK**
10:25 - 11:00	Risk Objectives
11:00 - 11:45	Design, Construction, and Operation Objectives
11:45 - 1:00	**LUNCH**
1:00 - 1:30	Treatment of Uncertainties
1:30 - 2:00	Development of Requirements
2:00 - 4:00	Open Discussion
4:00 - 4:30	Wrap-up

July 28, 2004

8:30 - 8:40	Introduction and Purpose for Non-LWR Containment Functional Performance Requirements and Criteria
8:40 - 9:20	Stakeholder Presentations

9:20 - 9:45	NRC Staff Presentation: Background, Scope, Approach, Evaluation Metrics and Considerations
9:45 - 10:00	**BREAK**

PRELIMINARY WORKSHOP AGENDA (Cont.)**:**

TIME	**TOPIC**
10:00 - 11:15	Preliminary Options for Non-LWR Containment Functional Performance Requirements and Criteria
11:15 - 11:45	Open Discussion
11:45 - Noon	Wrap-up

Dated at Rockville, Maryland, this ~~30 day of June 2004~~.

For the Nuclear Regulatory Commission

/RA/ by Farouk Eltawila
Farouk Eltawila, Director
Division of Systems Analysis and Regulatory Effectiveness
Office of Nuclear Regulatory Research