



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
ADVISORY COMMITTEE ON NUCLEAR WASTE  
WASHINGTON, DC 20555 - 0001

**ACNWR-0263**

June 28, 2007

The Honorable Dale E. Klein  
Chairman  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Dear Chairman Klein:

**SUBJECT: WORKING GROUP MEETING ON 10 CFR 20.1406 MINIMIZATION OF  
CONTAMINATION AND PROPOSED REGULATORY GUIDE 4012**

At its 180<sup>th</sup> meeting on June 19, 2007, the Advisory Committee on Nuclear Waste and Materials (the Committee) held a working group meeting on Draft Regulatory Guide DG-4012, "Minimization of Contamination and Radioactive Waste Generation in Support of Decommissioning," that would provide guidance for Title 10 of the *Code of Federal Regulations* (10 CFR) 20.1406, "Minimization of Contamination." This working group meeting was held in response to SRM-M060111B, "Staff Requirements - Meeting with Advisory Committee on Nuclear Waste," that charged the Committee with reviewing best practices in decommissioning in order to look for ways to improve the design and construction of reactor and materials facilities that would lead to less environmental impact and more efficient decommissioning.

During the working group meeting the Committee heard presentations from industry vendors on the Westinghouse AP1000 and the General Electric Nuclear Economic Simplified Boiling Water Reactor, and additionally from the Nuclear Energy Institute (NEI), and U.S. Nuclear Regulatory Commission (NRC) staff on the proposed guidance. Invited experts<sup>1</sup> who have assisted the Committee in the areas of revised guidance for decommissioning, prevention of legacy sites, and decommissioning lessons learned also participated.

## **DISCUSSION**

10 CFR 20.1406, "Minimization of Contamination," states that:

Applicants for licenses, other than renewals, after August 20, 1997, shall describe in the application how facility design and procedures for operation will minimize, to the extent practicable, contamination of the facility and the environment, facilitate eventual decommissioning, and minimize, to the extent practicable, the generation of radioactive waste.

This regulation applies to all license applications for new facilities submitted after 1997. 10 CFR 20.1406 is currently being revised. The staff feels that it is important to issue guidance as soon as possible for use by applicants for new licenses for nuclear power reactors.

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<sup>1</sup> Eric L. Darois, Radiation Safety and Control Services, Inc. and Eric W. Abelquist, Oak Ridge Institute for Science and Education.

The staff is to be commended for its efforts in capturing decommissioning lessons learned in the proposed guidance. The staff's approach to minimizing contamination stresses three major components: prevention, detection, and correction. Over the past several months, both the NRC and the NEI have been engaged in initiatives to capture and document decommissioning lessons learned so that this information can be incorporated into designs for new reactors.

The Committee learned that vendors have incorporated features to prevent releases and provide early detection of releases into their standard reactor designs. These features include use of construction materials and techniques that provide improved barriers, secondary containment of potential liquid releases, avoidance of underground piping, and incorporation of leak detection systems. These features reflect the proactive approach being taken by these vendors to incorporate decommissioning lessons learned into the design of new facilities.

The NEI representative urged that the guidance provide a clear statement of performance objectives and sufficient information to identify the measures needed to comply with the regulation.

## **RECOMMENDATIONS**

The Committee offers the following recommendations:

1. The Committee recommends that the guidance in its present form apply only to new reactor licensing. The Committee further recommends that the guidance in its present form should not be applied to non-reactor licensees. The Committee recommends that after 10 CFR 20.1406 is revised, the guidance should be revisited regarding its applicability to reactor licensees and other licensees.
2. The Committee believes that since 10 CFR 20.1406 applies to all NRC licensees and all Agreement State licensees, care should be taken to organize the guidance so that what is applicable to each type of licensee is clearly identified. A graded approach should be developed to determine what parts of the guidance would apply to various categories of licensees.
3. The guidance should clearly provide licensees with enough information to determine what steps they need to take to comply with the requirements of 10 CFR 20.1406. Additionally, guidance should be clear enough to avoid confusion or misinterpretation during the license application review or inspection processes.

The Committee appreciates the opportunity to interact with the staff and looks forward to continued interaction as the rulemaking and associated guidance go forward.

Sincerely,

**/RA/**

Michael T. Ryan  
Chairman

Reference:

1. Memorandum dated May 1, 2007, from Jimi T. Yerokun, Chief, Risk Applications and Special Projects Branch, Division of Risk Assessment and Special Projects, Office of Nuclear Regulatory Research, to Cayetano Santos, Chief, Technical Support Branch, Advisory Committee on Reactor Safeguards, Subject: Draft Regulatory Guide DG-4012, "Minimization of Contamination and Radioactive Waste Generation in Support of Decommissioning"

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