

August 10, 2007

Dr. Michael T. Ryan, Chairman  
Advisory Committee on Nuclear Waste and Materials  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

SUBJECT: NRC OFFICE OF NUCLEAR REGULATORY RESEARCH LONG-TERM  
RESEARCH: FISCAL YEAR 2009 ACTIVITIES

Dear Dr. Ryan:

Thank you for your letter to Chairman Klein dated June 27, 2007, which provided the views of the Advisory Committee on Nuclear Waste and Materials (ACNW&M or the Committee) on the draft Fiscal Year (FY) 2009 Long-Term Regulatory Research Plan. This effort, led by the Office of Nuclear Regulatory Research (RES), reflects the long-term research planning basis for the entire agency. As we move forward in this endeavor, we will benefit from the comments conveyed in your letter, as well as the feedback received during our briefing of the Committee on May 17, 2007.

I would like to address the four items in the Recommendations section of your letter: (1) waste classification issues; (2) real-time inspection and monitoring; (3) information technology (IT) and data management; and (4) long-term research planning.

In its first recommendation, the Committee encourages the staff to consider the adequacy of the current waste classification system to address issues that may arise for wastes generated as part of the U.S. Department of Energy's (DOE) Global Nuclear Energy Partnership (GNEP). The Committee also recommended that the staff begin research on technologies for the management and disposition of wastes and effluents potentially produced through spent fuel recycling. The staff agrees that the new processes and facilities associated with GNEP may generate unique waste streams that could potentially challenge the current waste classification system. However, we believe that analysis of the adequacy of the current classification system to address the wastes should not be initiated until DOE has better defined the specific technologies it intends to use in the reprocessing and recycling facilities, including the waste streams produced. The Secretary of Energy will announce the direction for GNEP in June 2008. The staff will continue to follow DOE's progress on GNEP and initiate work on the classification issues after DOE has clearly defined its plans and Congress has appropriated GNEP funds to NRC. At that time, the staff also will examine the use of Title 10 of the *Code of Federal Regulations* (10 CFR), Part 61.58, "Alternative Requirements for Waste Classification and Characteristics." The staff will consult with the Office of the General Counsel because the Alternative Waste Classification provision has never before been used by the Commission. Similarly, the staff will undertake specific research on technologies for the management and disposition of GNEP wastes once DOE better identifies the waste streams and effluents. As such, the staff appreciates the Committee's insight and will address these issues in future updates of the Long-Term Research Plan.

The second recommendation made by the Committee encourages work in the area of real-time inspection and monitoring techniques, and recommends that future work focus on both precursor, as well as compliance, monitoring. The staff plans to work in concert with the nuclear industry to identify sensors and monitoring techniques that have current commercial viability and fill a critical inspection or monitoring need. The need could include precursor monitoring, in cases where this monitoring is necessary for fulfilling regulatory requirements.

The Committee's third recommendation deals with advancement of the utilization of IT and data management within the agency. While the staff agrees that this is an important area for agencywide attention, it generally falls outside the scope (as currently defined) of the plan. Because particular aspects of this type of work may fall within the scope, the staff will consider the Committee's recommendation for future updates. In addition, as the interplay between IT and regulatory decisionmaking evolves, the scope of long-term research planning may encompass more IT and data management.

In its final recommendation, the Committee charged the staff to consider a longer timeframe. As the Committee pointed out, the draft plan only provides specific details for FY 2009. In the final version of the report, to be issued later this year, the staff plans to provide additional details on activities that have a high likelihood of receiving agency resources. As the report evolves in future years, it may be possible to take a longer-term view of the planning horizon.

Regarding the Committee's comments on quantitative risk assessment and Integrated Safety Assessments (ISAs), the staff will address these concerns, as appropriate, once DOE has better defined the specific technologies it intends to use for the reprocessing and recycling facilities associated with GNEP.

The staff looks forward to future discussions with the Committee on these and other topics. Thank you again for your valuable input on this matter.

Sincerely,

***/RA William F. Kane Acting for/***

Luis A. Reyes  
Executive Director  
for Operations

cc: Chairman Klein  
Commissioner McGaffigan  
Commissioner Jaczko  
Commissioner Lyons  
SECY

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