

## **OVERVIEW OF STAFF EFFORTS TO ADDRESS COMMISSION DIRECTIONS IN THE STAFF REQUIREMENTS MEMORANDUM SRM ON SECY-98-051**

### **BACKGROUND**

In Staff Requirements Memorandum (SRM) on SECY-98-051, "Guidance in Support of Final Rule on Radiological Criteria for License Termination," dated July 8, 1998, the U.S. Nuclear Regulatory Commission (NRC) directed the staff to develop a Standard Review Plan (SRP) for evaluating information to support the decommissioning of nuclear facilities. In developing the SRP, the Commission directed the staff to: 1) Ensure that the SRP did not undermine the risk-informed, iterative approach in NUREG-1549, "Decision Methods for Dose Assessment to Comply with Radiological Criteria for License Termination"; 2) Maintain a dialogue with the public throughout the development of the SRP; 3) Include guidance on complying with the as low as is reasonably achievable (ALARA) provisions in 10 CFR Part 20, Subpart E, and on the format and content of information submitted to NRC to support license termination; 4) Test the SRP on a complex site; 5) Evaluate and review the conservatism in the DandD Screen Code; 6) Use a probabilistic approach to calculate the total effective dose equivalent to the average member of the critical group; and, 7) Provide the Commission with a time line for developing the SRP.

The time line was provided to the Commission on September 29, 1998. The staff's efforts to address the Commission's remaining directions in the SRM on SECY-98-051 are summarized below.

### **1) THE STAFF'S ITERATIVE APPROACH**

There are several approaches that the staff could have used to develop guidance for reviewing decommissioning plans (DPs) and other information to support the decommissioning of licensed facilities. These ranged from setting general decommissioning goals to developing specific SRPs for each category of licensees and describing the review procedures and information needs for each type of license.

The staff concluded that an effective, flexible, risk-informed approach would be to develop detailed descriptions of the information that would be required to evaluate the proposed decommissioning activities at a very complex site, and tailor the information requested from the licensee to the complexity and safety significance of the decommissioning project. This approach also includes extensive interactions with the licensee prior to the development of the DP to ensure that only essential information is included in the licensee's DP and that the staff's guidance is provided before the DP is written. This approach should focus and simplify the preparation of the DP, as well as the staff's review of the proposed plan.

When a Project Manager is contacted by a licensee and is informed that the licensee intends to decommission its facility, the Project Manager would schedule a meeting with the licensee to discuss the planned decommissioning, and the approach that would be used to evaluate the information submitted to support the decommissioning. This meeting, as with most meetings between NRC and its licensees, would be open to observation by interested stakeholders. The staff and the licensee would review the licensed operations, the types and

quantities of radioactive materials used at the facility, and any other activities (spills, leaks, etc.), that could affect decommissioning operations. The staff and the licensee would also discuss the decommissioning goal envisioned by the licensee (i.e., license termination under unrestricted vs. restricted conditions).

Using the SRP, the staff and the licensee would determine what information would need to be submitted to support the decommissioning. The staff and the licensee would discuss the acceptance criteria, as outlined in the SRP during this meeting (or series of meetings) to ensure that the licensee fully understood the criteria that the staff would use to evaluate the information in the DP. Finally, the staff would prepare a site-specific checklist for evaluating the DP. A generic checklist that would be used to develop this site-specific checklist is included in the SRP. The checklist would be included in the meeting summary that the staff would prepare documenting the meeting. The staff would then use the checklist to perform the acceptance review of the DP when it was received from the licensee.

In this way, the staff, the licensee, and any interested stakeholder, would have a good understanding of the types of information that would be included in the DP, as well as the criteria that the staff would use to evaluate the information submitted to support the decommissioning.

## **2) MAINTAINING A DIALOGUE WITH THE PUBLIC**

To obtain input from the regulated community on issues that needed to be addressed in the SRP, the staff held a series of seven workshops on dose modeling, radiological surveys, demonstrating ALARA, and restricted use/alternate criteria. Workshops were held on December 1-2, 1998; January 21-22, 1999; March 18-19, 1999; June 16-17, 1999; August 18-19, 1999; February 17-18, 2000; and June 7-8, 2000. In addition, as draft SRP sections were completed, they were posted on the NRC Web site for review and comment by interested individuals. Before posting the draft sections on the web site, the staff solicited comments on the draft sections from the NRC Regions, the Offices of the General Counsel, Nuclear Regulatory Research, and Nuclear Reactor Regulation, and other Divisions within the Office of Nuclear Material Safety and Safeguards, through the Decommissioning Management Board. Comments received from the regulated community and others were also posted on the web site.

In addition, on April 15, 2000, the staff presented an overview of the SRP to the Conference of Radiation Control Program Directors (CRCPD) E-24 Committee and described the approach envisioned by the staff in the SRP. The staff received approximately 20 verbal comments from the CRCPD E-24 Committee during the meeting. In response to concerns raised by the E-24 Committee that they were not afforded the opportunity to review the revised SRP, the staff also posted the revised SRP on the Office of State and Tribal Programs Web site for review and comment by interested Agreement States and the E-24 Committee.

The staff also briefed the Advisory Committee on Nuclear Waste (ACNW) several times during the development of the SRP. The staff provided briefings to the ACNW in June, August, and December 1998, and in March and September 1999. The staff also provided the ACNW with the individual SRP sections as they were posted to the web site and requested that it review

and provide comments on the draft SRP. The ACNW provided comments on the available SRP modules in September 1999.

### **3) GUIDANCE ON ALARA AND FORMAT AND CONTENT OF INFORMATION**

To ensure that clear guidance on meeting the ALARA requirement in Subpart E is available to NRC staff, licensees and interested stakeholders, Section 7 and Appendix D of the SRP address the methodology that licensees should use to determine if the potential doses from residual radioactive material at the site are ALARA. Section 7 also states that the licensees that use the screening values established by NRC (see below) would not need to perform additional demonstrations that these levels are ALARA. Rather, these licensees would only remediate their facilities below these levels, using standard good housekeeping practices, and describe the practices to the staff in their DPs.

The SRP provides the staff and the licensees with guidance on the information that should be included in a DP, as well as evaluation and acceptance criteria for reviewing the information. Each section and, depending on the complexity of the information requested, each subsection of the SRP includes the information on: 1) the organization(s) responsible for evaluating the information; 2) guidance on the acceptance review and safety evaluation that is performed for each section of the DP; 3) a description of the purpose of the review, the applicable regulatory requirements and related guidance, and the information that should be included in each section of the DP; 4) the technical basis for determining the acceptability of the licensee's proposed activity or information and a description of the type of conclusion that is required for the review; and 5) suggestions on the style and format of the information.

### **4) TESTING AND MAINTAINING THE SRP**

The staff has tested, and is continuing to test, the dose modeling approach and models at the Sequoyah Fuels and Nuclear Fuel Services facilities and the guidance on restricted use at the Sequoyah Fuels facility. The staff expects that, as the staff and licensees gain experience using this SRP to evaluate information to support the decommissioning of licensed facilities, procedures and criteria may need to be modified and areas for improvement will be identified. The first version or "Rev 0" of the SRP is expected to be released in September 2000. Over the 2-year period from September 2000 to September 2002, the staff will use the SRP to evaluate DPs and information for both simple and complex sites undergoing decommissioning. In September 2002, or sooner if the situation warrants, the staff will reconvene the workshop process, to evaluate and further refine and improve the SRP. This will allow the staff to test the effectiveness of the SRP and approach on all types of facilities. By issuing the SRP as "Rev 0," as opposed to a "Draft for Interim Use" and scheduling a 2-year review of the guidance, the staff and licensees may feel less concerned about finality in using the SRP during the 2-year period. The staff may, on its own initiative, revise or modify the guidance in the SRP based on issues that may be identified in the future. During the 2-year process the staff will post the SRP on the NRC Decommissioning Web site. If changes are made to the SRP during the 2-year period, the staff will update the SRP, and provide a notice of the changes and the reasons the staff believes that the SRP should be modified.

## **5) CONSERVATISM IN THE DandD CODE AND THE PROBABILISTIC APPROACH**

The staff evaluated the conservatism in the DandD Code, including the issues raised in SECY-98-051, and considered them as they developed the dose modeling guidance. Based on this evaluation, Version 2 of the DandD Screen Code will allow a Monte Carlo analysis of potential doses. Currently, a screening version of the code is expected to be available by midsummer with a site-specific version available by the end of the year. The staff is also developing probabilistic distributions for the parameters in the RESRAD Code, which should also be available by midsummer. In addition, on November 18, 1998, and December 7, 1999, (63 FR 64132 and 64 FR 68395, respectively) NRC published screening values for concentrations of radionuclides on building surfaces and in surface soil that correspond to 0.25 milliSieverts per year (25 millirem per year). These values were developed using the DandD Screen Code, modified to reduce the inherent conservatism in a few of the default parameters in the code.