

## 10. DECOMMISSIONING

### 10.1 Purpose of Review

The purpose of the review of the applicant's decommissioning plans is to determine with reasonable assurance that the applicant will be able to decommission the facility safely and in accordance with the requirements of the U.S. Nuclear Regulatory Commission (NRC).

At the time of the initial application and at license renewal, the applicant or licensee should discuss its conceptual approach for meeting the decommissioning requirements in Title 10, Part 20, of the *Code of Federal Regulations* (10 CFR Part 20), Subpart E. The applicant or licensee should discuss their plans for minimizing contamination.

At the time of the initial license application and again at license renewal, the applicant or licensee may be required to submit a decommissioning funding plan (DFP) ((10 CFR 70.25(b)). The purpose of the NRC's evaluation of the DFP is to determine whether the applicant or licensee has done the following:

- considered decommissioning activities that may be needed in the future
- performed a credible site-specific cost estimate for those activities
- presented the NRC with financial assurance to cover the cost of those activities in the future

Therefore, the DFP should contain the following:

- an overview of the proposed decommissioning activities
- the methods used to determine the cost estimate
- the financial assurance mechanism

This overview must contain sufficient detail to enable the reviewer to determine whether the decommissioning cost estimate is reasonably accurate.

In the application, the applicant or licensee should discuss its plans for meeting the decommissioning recordkeeping requirements in 10 CFR 25 (g). Under the regulations, a licensee must keep records important for decommissioning. These records include records of spills or unusual occurrences involving the spread of contamination; as-built drawings and modifications to structures and equipment in restricted areas; a list of areas designated or formerly designated as restricted areas; and records pertaining to the financial assurance requirements.

If required by 10 CFR 70.38(g), the licensee must also submit, for NRC approval a decommissioning plan (DP) before beginning its decommissioning actions. The DP must

detail the specific decommissioning activities to be performed and describe the radiation protection procedures that will be used to protect workers, the public, and the environment during decommissioning.

This information must be sufficient for the reviewer to assess the appropriateness of the decommissioning activities and the adequacy of the procedures to protect the health and safety of workers, the public, and the environment. It must also update the cost estimate originally presented in the DFP to undertake the facility decommissioning. Approval of a DP is generally obtained through application for a license amendment. The reviewer must determine that the applicant understands the decommissioning requirements and procedures and commits to the protection of the health and safety of workers, the public, and the environment during decommissioning.

## **10.2 Responsibility for Review**

Primary: Health Physics Reviewer

Secondary: Environmental Reviewer  
Technical and Financial Specialists in the Division of Waste Management

Supporting: Fuel Facility Inspection Staff

## **10.3 Areas of Review**

Before beginning to review the DFP or DP, the reviewer should first evaluate the applicant's proposed environmental protection measures (see SRP Chapter 9) and, specifically, the commitments to minimize waste associated with decommissioning, as well as the radiation protection program (see SRP Chapter 4) as it applies to radiological decontamination and management of radiological effluents.

The staff review should cover the following areas:

- Conceptual Decontamination and Decontamination Plan—including decommissioning program and steps, management and organization, health and safety, radiological decommissioning criteria, waste management, security and nuclear material control, recordkeeping, decontamination process and minimization of contamination.
- Decommissioning Costs and Financial Assurance—the decommissioning cost information should be consistent with the recommendations in NUREG-1757.

The reviewer will evaluate the applicant's DFP and/or DP in accordance with NUREG-1757, the "Consolidated Decommissioning Guidance", issued September 2006".

## **10.4 Acceptance Criteria**

### **10.4.1 Regulatory Requirements**

The following NRC regulations require planning, financial assurance, and recordkeeping for decommissioning, as well as procedures and activities to minimize waste and contamination:

- 10 CFR 20.1401-1406, "Radiological Criteria for License Termination"
- 10 CFR 30.35, "Financial Assurance and Recordkeeping for Decommissioning"
- 10 CFR 30.36, "Expiration and Termination of Licensees and Decommissioning of Sites and Separate Buildings or Outdoor Areas"
- 10 CFR 40.14, "Specific Exemptions"
- 10 CFR 40.36, "Financial Assurance and Recordkeeping for Decommissioning"
- 10 CFR 40.42, "Expiration and Termination of Licensees and Decommissioning of Sites and Separate Buildings or Outdoor Areas"
- 10 CFR 70.17, "Specific Exceptions"
- 10 CFR 70.22(a)(9), "Decommissioning Funding Plan"
- 10 CFR 70.25, "Financial Assurance and Recordkeeping for Decommissioning"
- 10 CFR 70.38, "Expiration and Termination of Licenses and Decommissioning of Sites and Separate Buildings or Outdoor Areas"

### **10.4.2 Regulatory Guidance**

The following regulatory guidance is relevant to decommissioning of fuel cycle facilities:

- NUREG-1757, "Consolidated Decommissioning Guidance", September 2006

## **10.5 Review Procedures**

The primary reviewer will evaluate the application against the NRC requirements and acceptance criteria identified in NUREG-1757. This review will be supplemented (as appropriate) by a detailed review of any contamination and waste minimization plans submitted by the applicant in response to 10 CFR 20.1406, "Minimization of Contamination." The reviewer will also coordinate with the principal reviewers for environmental protection listed in Chapter 9 to confirm the review of a new applicant's plans to minimize waste, as well as plans for existing licensees to minimize contamination and reduce exposures and effluents as part of the radiation protection program established under 10 CFR Part 20. The purpose of this coordination is to

ensure that any issues that are relevant to the environmental review are properly conveyed to the primary reviewer for consideration and resolution as part of the review discussed in Chapter 9. Similarly, any decommissioning issues that arise in the environmental review that are best suited for review using guidance in this chapter are conveyed to the primary reviewer for consideration and resolution.

If the decommissioning review identifies the need for the applicant to submit information that has not already been included in the application, the reviewer will document these additional information needs in a request for additional information (RAI). The RAI transmitted to the applicant will specify a reasonable amount of time (e.g., 30 to 60 days) for the applicant to reply. Failure of the applicant to provide the requested information by the specified date, or on an alternative schedule that is mutually agreeable, could be grounds for terminating or suspending the application review.

The primary reviewer should coordinate with the Division of Waste Management and Environmental Protection to obtain appropriate technical assistance in reviewing proposed DPs and financial assurance measures. The primary reviewer will coordinate with reviewers assigned by the Division of Waste Management and Environmental Protection to incorporate, as appropriate, RAIs and review findings in licensing correspondence and safety evaluation reports (SERs) related to decommissioning.

The reviewer should perform a safety review using the acceptance criteria in NUREG-1757 to ensure that the proposed decommissioning methodology, principal remediation activities, and worker and environmental radiation protection programs are acceptable.

## **10.6 Evaluation Findings**

If the applicant provides sufficient information to satisfy the acceptance criteria and requirements identified in Section 10.4, the staff will conclude that the DFP or DP evaluation is complete and satisfactory. The primary reviewer will prepare an SER for the Licensing Project Manager, in support of the licensing action. This SER should address each topic area reviewed, and including an explanation of the bases for the reviewers' conclusions, why the NRC has reasonable assurance that the DFP or DP should be considered acceptable. The SER may also include license conditions where the application is deficient. The SER should include a summary statement of what was evaluated. As an example, the staff might document its evaluation in an SER in the following manner:

The NRC staff has evaluated the applicant's/licensee's plans and financial assurance for decommissioning in accordance with the "Consolidated Decommissioning Guidance," NUREG-1757. On the basis of this evaluation, the NRC staff has determined that the applicants/licensees plans and financial assurance for decommissioning comply with the NRC's regulations, and provide reasonable assurance of protection for workers, the public, and the environment.

## **10.7 References**

*U.S. Code of Federal Regulations*, Chapter I, Title 10, "Energy," Part 20, "Standards for Protection Against Radiation."

*U.S. Code of Federal Regulations*, Chapter I, Title 10, "Energy," Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material"

*U.S. Code of Federal Regulations*, Chapter I, Title 10, "Energy," Part 40, "Domestic Licensing of Source Material"

*U.S. Code of Federal Regulations*, Chapter I, Title 10, "Energy," Part 70, "Domestic Licensing of Special Nuclear Material."

U.S. Nuclear Regulatory Commission, "Consolidated Decommissioning Guidance", September 2006.