

Felix M. Killar, Jr.
DIRECTOR, MATERIAL
LICENSEES & NUCLEAR INSURANCE
Tel: (202) 739-8126

September 9, 1999

Mr. Theodore S. Sherr
Chief, Regulatory and International Safeguards Branch
U.S. Nuclear Regulatory Commission
Two White Flint North 8A33
Washington, D.C. 20555

**Reference: Comments on the June, 1999 Draft Version of NUREG-1520
'Standard Review Plan for the Review of a License Application
for a Fuel Cycle Facility': Chapter 10 - Decommissioning**

Dear Mr. Sherr:

The Nuclear Energy Institute (NEI)¹ and its industry members are undertaking detailed reviews of each chapter of the draft Standard Review Plan (SRP) released on June 2, 1999 as part of SECY-99-147. To provide effective guidance on implementation of 10 CFR 70, we believe the SRP should be concisely written and accurately reflect the 'risk-informed, performance-based' regulatory approach incorporated into the Part 70 rule revisions.

Accompanying this letter are NEI's comments on Chapter 10 ('*Decommissioning*') of the draft SRP. The review is presented in two parts: (i) general comments on the sub-chapter, and (ii) specific language (or stylistic) improvements presented on a red-lined version of the draft SRP sub-chapter. In view of the number and complexity of NEI's proposed improvements, a second copy of SRP Chapter 10 has been prepared from which the red-lined text deletions have been removed. This version of draft SRP Chapter 10 will enable you to more clearly understand the improvements which NEI is recommending.

Mr. Theodore S. Sherr

¹ NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

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NEI is pleased that many improvements to the draft SRP developed in public meetings and workshops and proposed by industry have been incorporated into this latest draft of the SRP. The June, 1999 revision is markedly improved over earlier versions issued in 1998 and we compliment the staff for this accomplishment.

We look forward to working with you and your staff to make NUREG-1520 a clear and concise document that will facilitate implementation of the new provisions of 10 CFR Part 70. Please feel free to contact me should you have any questions concerning the proposed improvements in the attachment to this letter.

Sincerely,

Felix M. Killar, Jr.
Director, Material Licensees and Nuclear Insurance

c. Mr. Marvin S. Fertel
Dr. Carl J. Paperiello, Director NMSS

**COMMENTS ON THE JUNE, 1999 DRAFT VERSION OF NUREG-1520
'STANDARD REVIEW PLAN FOR THE REVIEW OF A LICENSE
APPLICATION FOR A FUEL CYCLE FACILITY'**

CHAPTER 10: DECOMMISSIONING

I. General Comments

The June 1999 revision of draft SRP Chapter 10 is a significantly shortened version of the *'revision-in-total'* of this chapter that was posted on the NRC's Webpage on February 5, 1999. While NEI has recommended that every other chapter of the draft SRP be shortened and more clearly focused, we believe that the editing of Chapter 10 has been far too severe. Draft Chapter 10 has been so abbreviated that it provides little guidance to a reviewer in assessing an applicant's decommissioning plans. It will not support the NRC's goals of uniformity in license reviews – one of the principal objectives of drafting a new NUREG-1520!

The NRC has drafted SRP Chapter 10 to incorporate evaluation of both an applicant's Decommissioning Funding Plan (DFP), which is submitted at the time of license application, and the applicant's Decommissioning Plan (DP), which is generally submitted at the termination of a facility's operations. NEI has recommended in previous correspondence to the NRC (November 25, 1998; April 12, 1999) that Chapter 10 apply only to evaluation of the applicant's DFP. Draft Chapter 10 does, in fact, refer a reviewer to an as yet unnumbered, SRP to evaluate a licensee's DP (*'NUREG-xxx: NMSS Decommissioning Program Standard Review Plan'*). We concur that separate SRPs should be used for the DFP and the DP. Even though an applicant may submit a DP to the NRC for approval by means of a license amendment, and even though the NRC wants NUREG-1520 to apply to evaluation of both license amendments and new license applications, NEI strongly recommends that assessment of DFPs and DPs be handled separately. NEI has eliminated all specific references to DPs in Chapter 10. There is, furthermore, no need to incorporate the DP acceptance criteria of the new NMSS NUREG (under preparation) into NUREG-1520.

The two sections constituting the heart of SRP Chapter 10 – *'Areas of Review'* and *'Regulatory Acceptance Criteria'* -- must be restored. Topics that a reviewer should examine and suggested acceptance criteria need to be included in Chapter 10, at least in a skeletal form. Additionally, NEI has returned the *'Regulatory Guidance'* references and rule citations to Chapter 10.

II. Specific Comments

Specific comments are noted on the attached copy of draft SRP Chapter 10.

10.0 DECOMMISSIONING

[Comment: Chapter 10 has been revised to provide the reviewer with guidance in evaluating **only** the applicant's Decommissioning Funding Plan (DFP). Assessment and approval of the applicant's Decommissioning Plan (DP) will be undertaken using the guidance provided in 'NUREG-xxx: NMSS Decommissioning Program Standard Review Plan' which is under preparation.]

10.1 PURPOSE OF REVIEW

The purpose of ~~this the~~ review ~~is to determine with reasonable assurance that the financial assurances provided in of~~ the applicant's Decommissioning Funding Plan (DFP) ~~are adequate to safely decommission the facility in accordance with the requirements of 10 CFR 70.25. plans for decommissioning is to ensure that these plans provide reasonable assurance that the applicant will be able to decommission the facility safely and in accordance with NRC requirements.~~

At the time of the initial license application, and upon license renewal, the applicant/licensee may be required to submit a ~~decommissioning funding plan (DFP)~~. The purpose of NRC ~~evaluation review~~ of the DFP is to determine that the applicant/licensee has considered decommissioning actions which may be needed in the future, has performed a credible site-specific cost estimate for those actions, and has presented NRC with financial assurance to cover the cost of these actions in the future. The DFP, therefore, should contain an overview of the proposed decommissioning actions, the methods used to determine the cost estimate and the financial assurance mechanism. These must be in sufficient detail to allow the reviewer to determine that the decommissioning cost used in the DFP is reasonably accurate.

~~On termination of a facility's license or upon cessation of some or all of its operations the licensee must submit to the NRC for approval a In general, Ddecommissioning Pplans (DP). The DP details the specific decommissioning activities to be performed, describes radiation protection procedures to protect workers and the environmental during decommissioning and updates the cost estimate originally presented in the DFP to undertake the facility decommissioning. Approval of a DP is often obtained through application for a license amendment.~~

~~The guidance provided in this Chapter 10 applies only to evaluation and approval of an applicant's DFP. A licensee's DP is to be assessed using the facility's ISA procedure in accordance with the guidance provided in NUREG-xxx: NMSS Decommissioning Program Standard Review Plan' which is now under development. are submitted through license amendments prior to the initiation of decommissioning activities, for the entire site or some portion of the site. The review for a DP is more rigorous than the review of the DFP. A DP must contain a detailed description of the specific decommissioning activities to be performed and must be sufficient to allow the reviewer to assess the appropriateness of the decommissioning activities, the potential impacts on health and safety of the public, workers, and the environment and the adequacy of the actions to protect health and safety and the environment. The reviewer must ascertain that the applicant understands decommissioning requirements and procedures, and commits to health and safety during decommissioning.~~

10.2 RESPONSIBILITY FOR REVIEW

Primary: Licensing Project Manager

Secondary: Environmental Reviewer
Technical and financial specialists in the Division of Waste Management

Supporting: Fuel facility inspection staff

10.3 AREAS OF REVIEW

The reviewer will evaluate the applicant's ~~DFP decommissioning funding plan or decommissioning plan~~ in accordance with ~~the guidance provided in NUREG-1337 ('Standard Review Plan for the Review of Financial Assurance Mechanisms Required for Decommissioning Under Parts 30, 40, 70 and 72')~~ and Reg. Guide 3.66 ('Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning Under 10 CFR Parts 30, 40, 70 and 72'). ~~"NMSS Decommissioning Program Standard Review Plan" currently under development in the Division of Waste Management.~~

The reviewer will evaluate the applicant's DFP to ensure that:

- (1) the applicant has prepared a preliminary cost estimate for decommissioning
- (2) the applicant commits to periodically review and update this cost estimate when required
- (3) the applicant has certified that financial assurance for decommissioning is funded to the amount of the cost estimate
- (4) the applicant commits to promptly adjust the amount of financial assurance in accordance with any revision to the cost estimate
- (5) the applicant commits to retain records of DFP cost estimates, amounts certified for decommissioning and records of funding mechanism(s) used

Prior to starting the DFP review the reviewer should first review the applicant's proposed Environmental Protection Measures (SRP Chapter 9), and specifically the commitments to waste minimization applicable during decommissioning, and the Radiation Protection Program (SRP Chapter 4) as it applies to radiological decontamination and management of radiological effluents.

10.4 ACCEPTANCE CRITERIA

10.4.1 Regulatory Requirements

Decommissioning funding plans, planning, financial assurance and recordkeeping for decommissioning, ~~recordkeeping for decommissioning, and waste and contamination minimization~~ are required by the following NRC regulations:

- | | |
|---------------------------|--|
| 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 CFR 20.1401 | Radiological Criteria for License Termination |

1406 (Subpart E)

[Comments: (i) waste and contamination minimization are addressed in SRP Chapter 9 as an environmental protection issue, (ii) references to facility decommissioning have been deleted from Chapter 10. Thus the last two rule citations are not needed and should be deleted.]

10.4.2 Regulatory Guidance

Relevant regulatory guidance for evaluating an applicant's DFP include:

Standard Review plan for the Review of Financial Assurance Mechanisms for Decommissioning Under Parts 30, 40, 70 and 72, NUREG-1337 (Rev. 1)

Standard Review Plan for Evaluating Compliance with Decommissioning Requirements for Source, Byproduct and Special Nuclear Material License Applications [Policy and Guidance Directive FC 90-2, April 30, 1991]. This document provides guidance on decommissioning financial assurance reviews, planning and recordkeeping.

Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning Under 10 CFR Parts 30, 40, 70 and 72, Reg. Guide 3.66

~~Relevant regulatory guidance for decommissioning in license applications and amendment requests is included in the "NMSS Decommissioning Program Standard Review Plan" currently under development.~~

10.4.3 Regulatory Acceptance Criteria

An applicant's plans for decommissioning, recordkeeping and financial assurance in a DFP should be acceptable if they fulfill the criteria described in Reg. Guide 3.66 and NUREG-1337. The DFP should provide an estimate of the decommissioning cost for unrestricted or restricted release of the site. It must also include a means for adjusting cost estimates and associated levels periodically over the life of the facility. If submitted during license renewal, the DFP must also compare the estimated cost with the present level of financial assurance for decommissioning and should note how decommissioning financial assurance instruments required under 10 CFR 70.22 will be increased, if necessary. The financial assurance instrument required under 10 CFR 70.22(a)(9) must be funded to the amount of the cost estimate. If there is a deficit in current funding, the DFP must indicate the means for assuring adequate funds to complete decommissioning.

The DFP decommissioning cost estimates should be acceptable if they include an evaluation of the following cost components:

- cost assumptions used, including a contingency factor
- major decommissioning activities and costs
- unit cost factors
- estimated costs of decontamination and removal of equipment and structures
- estimated costs of waste disposal, including applicable disposal site surcharges and transportation costs

- estimated final radiation survey costs
- estimated total costs

10.5 REVIEW PROCEDURES

10.5.1 Acceptance Review

~~Upon acceptance of the application/amendment for review, the The primary reviewer should evaluate will review the application to determine whether the DFP addresses the topics in Section 10.3 'Areas of Review.' If significant deficiencies are identified, the applicant should be requested to submit additional material prior to the start of the evaluation. against NRC requirements and acceptance criteria identified in "NMSS Decommissioning Program SRP". This review will be supplemented as appropriate by detailed review of any contamination and waste minimization plans submitted by the applicant in response to 10 CFR 20.1406. The reviewer will also coordinate with the principal reviewers for environmental protection under SRP 9.0 to confirm review of a new applicant's descriptions of plans for waste minimization, as well as plans for existing licensees to minimize contamination and reduce exposures and effluents as part of radiation protection 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 lead reviewers for these sections for consideration and resolution. Similarly, any decommissioning issues that arise in the environmental review that are most suited for review under SRP 10.0 are conveyed to the primary reviewer for consideration and resolution.~~

~~If the 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 will be transmitted to the applicant with a request for the information in a reasonable amount of time (e.g., 30 to 60 days). Failure of the applicant to provide the information by the requested date, or on an alternative schedule that is mutually agreeable, could be grounds to terminating or suspending the application review.~~

~~In accordance with the FCLB licensing manual, the lead reviewer will coordinate with the Division of Waste Management for appropriate technical assistance reviewing proposed decommissioning plans and financial assurance. The lead reviewer will coordinate the evaluation of the application with reviewers assigned by the Division of Waste Management and will incorporate, as appropriate, RIAs and review findings in licensing correspondence and safety evaluation reports related to decommissioning.~~

10.5.2 Safety Review

~~Much of the information to be reviewed in the DFP is financial or informational in nature and does not require technical analysis. The reviewer should, however, perform a safety analysis against the acceptance criteria in Section 10.4 to ensure that the proposed decommissioning methodology, principal remediation activities and worker and environmental radiation protection programs satisfy the requirements of 10 CFR 70.38(g). The reviewer should also examine detailed information submitted by the applicant used in preparation of decommissioning cost estimates.~~

10.6 EVALUATION FINDINGS

If ~~the staff's review verifies that~~ sufficient information has been provided in the license application to satisfy the acceptance criteria and requirements identified in SRP 10.4, the staff will conclude that the DFP evaluation is complete and satisfactory. The primary reviewer will prepare a Safety Evaluation Report (SER) for the Licensing Project Manager in support of the licensing action. The SER should address each topic reviewed in SRP Chapter 10 and explain why the NRC has reasonable assurance that the DFP part of the license application should be acceptable. License conditions may be imposed where the application is deficient. The SER should include a summary statement of what was evaluated and the bases for the reviewers' conclusions.

The staff can document its evaluation review as follows:

The NRC staff has ~~evaluated reviewed~~ the applicant/licensee's DFP and plans for financial assurance for decommissioning in accordance with SRP ~~Chapter 10-0~~ Based upon this evaluation review, the NRC staff has determined that the applicant's plans for ~~decommissioning and~~ decommissioning financial assurance provide reasonable assurance of protection for members of the public and the environment and comply with NCR's regulations.

10.7 REFERENCES

Code of Federal Regulations, Title 10, Part 70, Domestic Licensing of Special Nuclear Material, U.S. Government Printing Office, Washington, DC.

~~Orlando, D. A., et al. 1997. *NMSS Handbook for Decommissioning Fuel Cycle and Materials Licensees*, U.S. Nuclear Regulatory Commission, NUREG/BR-0241. [Comment: this reference is no longer cited in Chapter 10. Delete.]~~

~~*U.S. Nuclear Regulatory Commission, 1993, Standard Review Plan for the Review of Financial Assurance Mechanisms for Decommissioning Under Parts 30, 40, 70 and 72, NUREG-1337 (Rev. 1)*~~

~~*U.S. Nuclear Regulatory Commission, 1991, Standard Review Plan for Evaluating Compliance with Decommissioning Requirements for Source, Byproduct and Special Nuclear Material License Applications [Policy and Guidance Directive FC 90-2]*~~

~~*U.S. Nuclear Regulatory Commission, 1990, Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning Under 10 CFR Parts 30, 40, 70 and 72, Reg. Guide 3.66*~~

*U.S. Nuclear Regulatory Commission, date to be determined, *NMSS Decommissioning Program Standard Review Plan*, NUREG-XXX,*

**PROPOSED REVISION OF SRP (NUREG-1520) CHAPTER 10
INCORPORATING RECOMMENDATIONS
OF THE
NUCLEAR ENERGY INSTITUTE
(SEPTEMBER 1999)**

10.0 DECOMMISSIONING FUNDING PLAN

10.1 PURPOSE OF REVIEW

The purpose of this review is to determine with reasonable assurance that the financial assurances provided in the applicant's Decommissioning Funding Plan (DFP) are adequate to safely decommission the facility in accordance with the requirements of 10 CFR 70.25.

At the time of the initial license application, and upon license renewal, the applicant/licensee may be required to submit a DFP. The purpose of NRC evaluation of the DFP is to determine that the applicant/licensee has considered decommissioning actions which may be needed in the future, has performed a credible site-specific cost estimate for those actions, and has presented NRC with financial assurance to cover the cost of these actions in the future. The DFP, therefore, should contain an overview of the proposed decommissioning actions, the methods used to determine the cost estimate and the financial assurance mechanism. These must be in sufficient detail to allow the reviewer to determine that the decommissioning cost used in the DFP is reasonably accurate.

On termination of a facility's license or upon cessation of some or all of its operations the licensee must submit for NRC approval a Decommissioning Plan (DP). The DP details the specific decommissioning activities to be performed, describes radiation protection procedures to protect workers and the environment during decommissioning and updates the cost estimate originally presented in the DFP to undertake the facility decommissioning. Approval of a DP is often obtained through application for a license amendment.

The guidance provided in this Chapter 10 applies only to evaluation and approval of an applicant's DFP. A licensee's DP is to be assessed using the facility's ISA procedure in accordance with the guidance provided in '*NUREG-xxx: NMSS Decommissioning Program Standard Review Plan*', which is now under development.

10.2 RESPONSIBILITY FOR REVIEW

Primary: Licensing Project Manager

Secondary: Environmental Reviewer
Technical and financial specialists in the Division of Waste Management

Supporting: Fuel facility inspection staff

10.3 AREAS OF REVIEW

The reviewer will evaluate the applicant's DFP in accordance with the guidance provided in NUREG-1337 ('*Standard Review Plan for the Review of Financial Assurance Mechanisms Required for Decommissioning Under Parts 30, 40, 70 and 72*') and Reg. Guide 3.66 ('*Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning Under 10 CFR Parts 30, 40, 70 and 72*').

The reviewer will evaluate the applicant's DFP to ensure that:

- (6) the applicant has prepared a preliminary cost estimate for decommissioning
- (7) the applicant commits to periodically review and update this cost estimate when required
- (8) the applicant has certified that financial assurance for decommissioning is funded to the amount of the cost estimate
- (9) the applicant commits to promptly adjust the amount of financial assurance in accordance with any revision to the cost estimate
- (10) the applicant commits to retain records of DFP cost estimates, amounts certified for decommissioning and records of funding mechanism(s) used

Prior to starting the DFP review the reviewer should first review the applicant's proposed Environmental Protection Measures (SRP Chapter 9), and specifically the commitments to waste minimization applicable during decommissioning, and the Radiation Protection Program (SRP Chapter 4) as it applies to radiological decontamination and management of radiological effluents.

10.4 ACCEPTANCE CRITERIA

10.4.1 Regulatory Requirements

Decommissioning funding plans, planning, financial assurance and recordkeeping are required by the following NRC regulations:

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| 10 CFR 70.22(a)(9) | Decommissioning Funding Plan |
| 10 CFR 70.25 | Financial Assurance and Recordkeeping for Decommissioning |

10.4.2 Regulatory Guidance

Relevant regulatory guidance for evaluating an applicant's DFP include:

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Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning Under 10 CFR Parts 30, 40, 70 and 72, Reg. Guide 3.66

10.4.3 Regulatory Acceptance Criteria

An applicant's plans for decommissioning, recordkeeping and financial assurance in a DFP should be acceptable if they fulfill the criteria described in Reg. Guide 3.66 and NUREG-1337. The DFP should provide an estimate of the decommissioning cost for unrestricted or restricted release of the site. It must also include a means for adjusting cost estimates and associated levels periodically over the life of the facility. If submitted during license renewal, the DFP must also compare the estimated cost with the present level of financial assurance for decommissioning and should note how decommissioning financial assurance instruments required under 10 CFR 70.22 will be increased, if necessary. The financial assurance instrument required under 10 CFR 70.22(a)(9) must be funded to the amount of the cost estimate. If there is a deficit in current funding, the DFP must indicate the means for assuring adequate funds to complete decommissioning.

The DFP decommissioning cost estimates should be acceptable if they include an evaluation of the following cost components:

- cost assumptions used, including a contingency factor
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- unit cost factors
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- estimated final radiation survey costs
- estimated total costs

10.5 REVIEW PROCEDURES

10.5.1 Acceptance Review

The primary reviewer should evaluate the application to determine whether the DFP addresses the topics in Section 10.3 'Areas of Review.' If significant deficiencies are identified, the applicant should be requested to submit additional material prior to the start of the evaluation.

10.5.2 Safety Review

Much of the information to be reviewed in the DFP is financial or informational in nature and does not require technical analysis. The reviewer should, however, perform a safety analysis against the acceptance criteria in Section 10.4 to ensure that the proposed decommissioning methodology, principal remediation activities and worker and environmental radiation protection programs satisfy the requirements of 10 CFR 70.38(g). The reviewer should also examine detailed information submitted by the applicant used in preparation of decommissioning cost estimates.

10.6 EVALUATION FINDINGS

If sufficient information has been provided in the license application to satisfy the acceptance criteria and requirements identified in SRP 10.4, the staff will conclude that the DFP evaluation is complete and satisfactory. The primary reviewer will prepare a Safety Evaluation Report (SER) for the Licensing Project Manager in support of the licensing action. The SER should address each topic reviewed in SRP Chapter 10 and explain why the NRC has reasonable assurance that the DFP part of the license application should be acceptable. License conditions may be imposed where the application is deficient. The SER should include a summary statement of what was evaluated and the bases for the reviewers' conclusions.

The staff can document its evaluation as follows:

The NRC staff has evaluated the applicant/licensee's DFP and plans for financial assurance for decommissioning in accordance with SRP Chapter 10. Based upon this evaluation, the NRC staff has determined that the applicant's plans for decommissioning financial assurance provide reasonable assurance of protection for members of the public and the environment and comply with NRC's regulations.

10.7 REFERENCES

Code of Federal Regulations, Title 10, Part 70, Domestic Licensing of Special Nuclear Material, U.S. Government Printing Office, Washington, DC.

U.S. Nuclear Regulatory Commission, 1993, Standard Review Plan for the Review of Financial Assurance Mechanisms for Decommissioning Under Parts 30, 40, 70 and 72, NUREG-1337 (Rev. 1)

U.S. Nuclear Regulatory Commission, 1991, Standard Review Plan for Evaluating Compliance with Decommissioning Requirements for Source, Byproduct and Special Nuclear Material License Applications [Policy and Guidance Directive FC 90-2]

U.S. Nuclear Regulatory Commission, 1990, Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning Under 10 CFR Parts 30, 40, 70 and 72, Reg. Guide 3.66

U.S. Nuclear Regulatory Commission, date to be determined, NMSS Decommissioning Program Standard Review Plan, NUREG-XXX,