

relative speed and position between the cloud and the people. The cloud and an evacuee might overtake one another one or more times before the evacuee would reach his or her destination. In the model, the radial position of an evacuating person, while stationary or in transit, is compared to the front and the back of the cloud as a function of time to determine a realistic period of exposure to airborne radionuclides. The model calculates the time periods during which people are exposed to radionuclides on the ground while they are stationary and while they are evacuating. Because radionuclides would be deposited continually from the cloud as it passed a given location, a person who is under the cloud would be exposed to ground contamination less concentrated than if the cloud had completely passed. To account for this, at least in part, the revised model assumes that persons are (a) exposed to the total ground contamination concentration which is calculated to exist after complete passage of the cloud after they are completely passed by the cloud, (b) exposed to one half the calculated concentration when anywhere under the cloud; and (c) not exposed when they are in front of the cloud. The model provides for use of different values of the shielding protection factors for exposure due to airborne radioactivity and contaminated ground. Breathing rates for stationary and moving evacuees during delay and transit periods are specifically included.

It is realistic to expect that authorities would evacuate persons at distances from the site where exposures above the threshold for causing acute fatality could occur, regardless of the EPZ distance. Figure F-1 illustrates the reduction in acute fatalities that can occur by extending evacuation to distances up to 48 km (30 mi) from the San Onofre site. (The evacuation distance used in the Reactor Safety Study¹ was 40 km (25 mi).) Also illustrated in Figure F-1 is a more pessimistic case for which no early evacuation is assumed. For this case, all persons within 16 km (10 mi) of the plant are assumed to be exposed for the first 24 hours following an accident and are then relocated. Compared to the pessimistic scenario, evacuation of a 48 km (30-mi) zone shows a reduction in acute fatalities of a factor of 10 at 10^{-8} probability.

The model has the same provision for calculation of the economic cost associated with implementation of evacuation as in the original RSS model. For this purpose, the model assumes that for atmospheric releases lasting three hours or less, all people living within a circular area of 8-km (5 mi) radius centered at the reactor plus all people within a 45-degree angular sector within the plume exposure pathway EPZ and centered on the downwind direction will be evacuated and temporarily relocated. However, for releases exceeding three hours, the cost of evacuation is based on the assumption that all people within the plume exposure pathway EPZ would be evacuated and temporarily relocated. For either of these situations, the cost of evacuation and relocation is assumed to be \$125 (1980 dollars) per person which includes cost of food, and temporary sheltering for a period of one week.

REFERENCES

1. "Reactor Safety Study," WASH-1400, USNRC Report NUREG-75/014, October 1975.*
2. "Overview of the Reactor Safety Study Consequences Model," USNRC Report NUREG-0340, October 1977.*
3. "A Model of Public Evacuation for Atmospheric Radiological Releases," SAND 78-0092, June 1978.**

*Available from the NRC/GPO Sales Program, Washington, DC 20555, and the National Technical Information Service, Springfield, VA 22161.

**Available for inspection and copying for a fee in the NRC Public Document Room, 1717 H St. N.W., Washington, DC 20555.

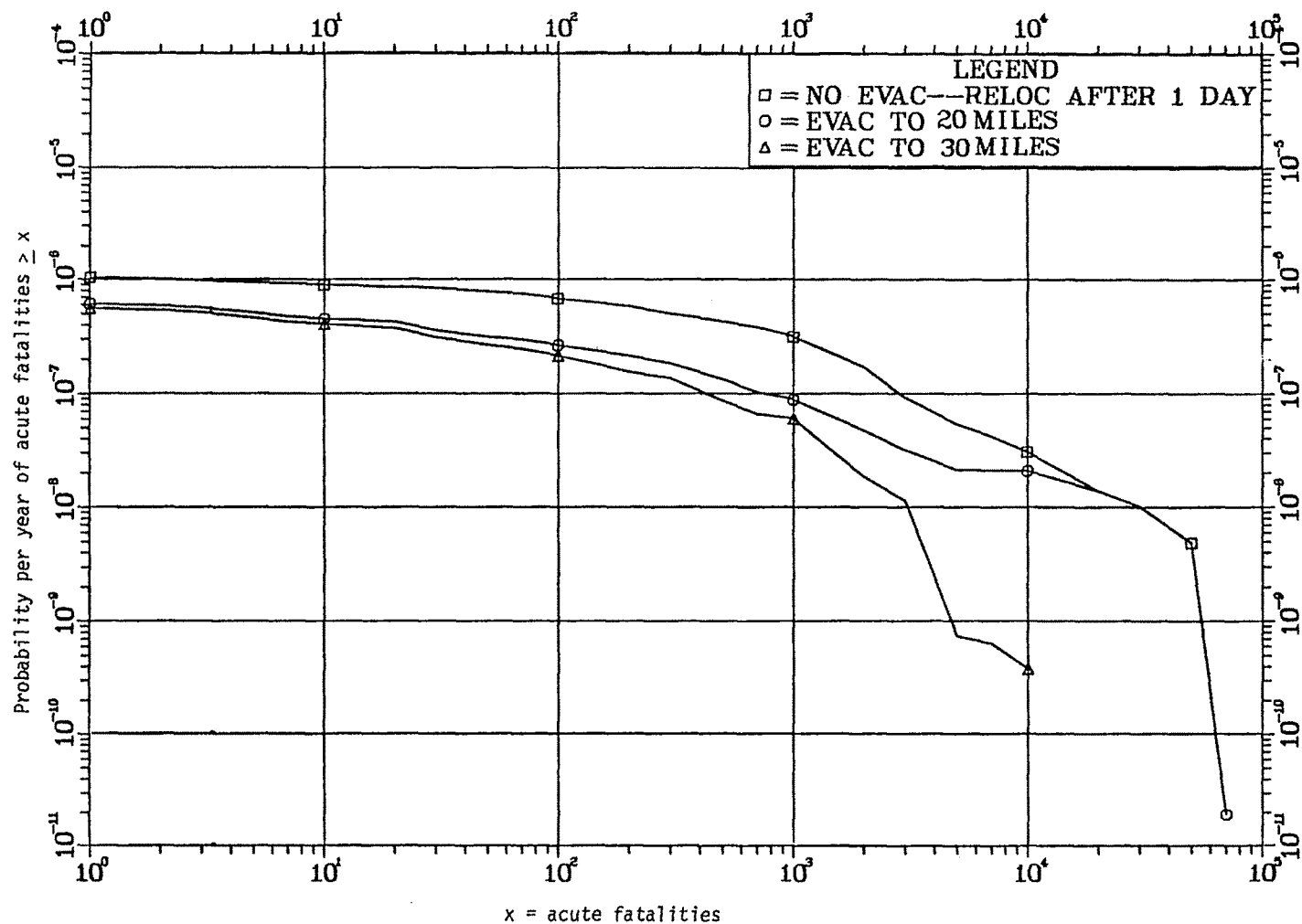
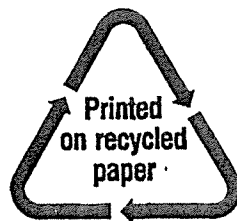


Figure F-1. Probability distribution of acute fatalities. (See Section 7.1.4.6 for discussion of uncertainties in risk estimates.)
 (To change miles to kilometers, multiply by 1.6.)

NRC FORM 335 (7-77)		U.S. NUCLEAR REGULATORY COMMISSION BIBLIOGRAPHIC DATA SHEET		1. REPORT NUMBER (Assigned by DDC) NUREG-0490	
4. TITLE AND SUBTITLE (Add Volume No., if appropriate) Final Environmental Statement related to operation of San Onofre Nuclear Generating Station, Units 2 and 3				2. (Leave blank)	
7. AUTHOR(S)				3. RECIPIENT'S ACCESSION NO.	
9. PERFORMING ORGANIZATION NAME AND MAILING ADDRESS (Include Zip Code) U.S. Nuclear Regulatory Commission Office of Nuclear Reactor Regulation Washington, D.C. 20555				5. DATE REPORT COMPLETED MONTH YEAR April 1981	
12. SPONSORING ORGANIZATION NAME AND MAILING ADDRESS (Include Zip Code) Same as 9. above				DATE REPORT ISSUED MONTH YEAR April 1981	
13. TYPE OF REPORT Final Environmental Statement				6. (Leave blank)	
15. SUPPLEMENTARY NOTES Pertains to Docket Nos. 50-361/362				8. (Leave blank)	
16. ABSTRACT (200 words or less) A Final Environmental Statement related to the operation of San Onofre Nuclear Generating Station, Units 2 and 3 by Southern California Edison Company, et al (Docket Nos. 50-361/362), located in San Diego, California, has been prepared by the Office of Nuclear Reactor Regulation of the Nuclear Regulatory Commission. The statement reports on the staff's review of the impact of operation of the plant. Also included are comments of state and federal government agencies on the Draft Environmental Statement and its Supplement for this project and staff responses to these comments. The NRC staff has concluded, based on a weighing of environmental, technical and other factors, that operating licenses could be granted.				10. PROJECT/TASK/WORK UNIT NO.	
17. KEY WORDS AND DOCUMENT ANALYSIS				11. CONTRACT NO.	
17a. DESCRIPTORS				14. (Leave blank)	
17b. IDENTIFIERS/OPEN-ENDED TERMS					
18. AVAILABILITY STATEMENT Unlimited				19. SECURITY CLASS (This report) Unclassified	
20. SECURITY CLASS (This page) Unclassified				21. NO. OF PAGES	
22. PRICE \$				23. PRICE	



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EXHIBIT 31

provides matching funds for cooperative agreements that generally do not exceed \$50,000.

MLI. For FY 1996, \$709,000 was available for this program. This program will provide funds for cooperative agreements that generally do not exceed \$30,000. Cost sharing is encouraged.

Application Forms

IMS mails application forms and program information in General Operating Support, Conservation Project Support and Professional Services Program application packets to museums and other institutions on its mailing list. Applicants may obtain application packets by writing or telephoning the Institute of Museum Services, 1100 Pennsylvania Avenue, NW., Room 609, Washington, DC 20506, (202) 606-8539. Deaf and hearing impaired individuals may call the TTY Line, (202) 606-8636.

To receive an application for the Conservation Assessment Program contact the National Institute for Conservation, 3299 K Street, NW., Suite 403, Washington, DC 20007 (202) 625-1495.

To receive an application for the Museum Assessment Programs contact the American Association of Museums, 1225 Eye Street, NW., Washington, DC 20005 (202) 289-1818. After November 18, 1996, contact 1575 Eye Street, NW., Washington, DC 20005 (202) 289-1818.

(Catalog of Federal Domestic Assistance No. 45.301 Institute of Museum Services)

Dated: September 13, 1996.

Diane B. Frankel,

Director, Institute of Museum Services.

[FR Doc. 96-24681 Filed 9-25-96; 8:45 am]

BILLING CODE 7036-01-M

NATIONAL FOUNDATION FOR THE ARTS AND THE HUMANITIES

President's Committee on the Arts and the Humanities: Meeting XXXVII

Pursuant to Section 10(a)(2) of the Federal Advisory Committee Act (Public Law 92-463), as amended, notice is hereby given that a meeting of the President's Committee on the Arts and the Humanities will be held on October 4, 1996 from 9:30 a.m. to 3:00 p.m. This meeting will be held at the National Gallery of Art, West Building on 6th Street and Constitution Avenue NW., Washington, DC. The meeting will be located in the Lecture Hall, which is to the right through the Galleries. Visitors should use the 6th Street Entrance.

This meeting will be open to the public on a space available basis and

will begin with an opening statement by the Chairman. The Executive Director will provide an update on Committee activities and a briefing discussion will be held regarding the report requested by the President. Following a lunch break, the Committee will discuss recommendations to be included in the report.

The President's Committee on the Arts and the Humanities was created by Executive Order in 1982 to advise the President, the two Endowments, and the IMS on measures to encourage private sector support for the nation's cultural institutions and to promote public understanding of the arts and the humanities.

If, in the course of discussion, it becomes necessary for the Committee to discuss non-public commercial or financial information of intrinsic value, the Committee will go into closed session pursuant to subsection (c)(4) of the Government in the Sunshine Act, 5 U.S.C. 552b.

Any interested persons may attend as observers, on a space available basis, but seating is limited in meeting rooms and the staff of the National Gallery will need to know in advance who will be attending. Therefore, for this meeting, individuals wishing to attend are required to notify the staff of the President's Committee in advance at (202) 682-5409 or write to the Committee at 1100 Pennsylvania Avenue NW., Suite 526, Washington, DC 20506.

Dated: September 18, 1996.

Kathy Plowitz-Worden,

Panel Coordinator, Panel Operations, National Endowment for the Arts.

[FR Doc. 96-24682 Filed 9-25-96; 8:45 am]

BILLING CODE 7537-01-M

NUCLEAR REGULATORY COMMISSION

[Docket Nos. 50-361 and 50-362]

Southern California Edison; San Onofre Nuclear Generating Station, Units 2 and 3; Environmental Assessment and Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendments to Facility Operating License Nos. NPF-10 and NPF-15, issued to Southern California Edison (the licensee) for the San Onofre Nuclear Generating Station (SONGS), Units 2 and 3, located in San Diego County, California.

Environmental Assessment

Identification of the Proposed Action

By letter dated December 6, 1995, the licensee proposed to change the technical specifications (TSs) to allow an increase in fuel enrichment (Uranium 235) up to 4.8 weight percent. The present TS permit a maximum enrichment of 4.1 weight percent.

Need for Proposed Action

The licensee intends to load fuel into the core during Cycle 9 and subsequent refueling outages which does not currently meet the TSs. By increasing the fuel enrichment, the licensee will implement the fuel strategies developed for SONGS Units 2 and 3.

Environmental Impact of the Proposed Action

The Commission has completed its evaluation of the proposed revision to the TSs and concludes that storage and use of fuel enriched with U-235 up to 4.8 weight percent at SONGS Units 2 and 3 is acceptable. The safety considerations associated with higher enrichments have been evaluated by the NRC staff and the staff has concluded that such changes would not adversely affect plant safety. The proposed changes have no adverse effect on the probability of any accident. As a result, there is no increase in individual or cumulative radiation exposure.

The environmental impacts of transportation resulting from the use of higher enrichment and extended irradiation are discussed in the staff assessment entitled "NRC Assessment of the Environmental Effects of Transportation Resulting from Extended Fuel Enrichment and Irradiation." This assessment was published in the **Federal Register** on August 11, 1988 (53 FR 30355) as corrected on August 24, 1988 (53 FR 32322) in connection with the Shearon Harris Nuclear Power Plant, Unit I: Environmental Assessment and Finding of No Significant Impact. As indicated therein, the environmental cost contribution of an increase in fuel enrichment of up to 5 weight percent U-235 and irradiation limits of up to 60 Gigawatt Days per Metric Ton (GWD/MT) are either unchanged, or may in fact be reduced from those summarized in Table S-4 as set forth in 10 CFR 51.52(c). These findings are applicable to the proposed amendment for SONGS Units 2 and 3. Accordingly, the Commission concludes that this proposed action would result in no significant radiological environmental impact.

With regard to potential nonradiological impacts, the proposed

changes involve systems located within the restricted area as defined in 10 CFR Part 20. It does not affect nonradiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant nonradiological environmental impacts associated with the proposed amendment.

The Notice of Consideration of Issuance of Amendment to Facility Operating License, Proposed No Significant Hazards Consideration Determination, and Opportunity for a Hearing in connection with this action was published in the **Federal Register** on April 10, 1996 (61 FR 15997).

Alternative to the Proposed Action

Since the Commission concluded that there are no significant environmental effects that would result from the proposed action, any alternative with equal or greater environmental impacts need not be evaluated.

The principal alternative would be to deny the requested amendment. This would not reduce environmental impacts of plant operation and would result in reduced operational flexibility.

Alternative Use of Resources

This action does not involve the use of any resources not previously considered in the Final Environmental Statement for SONGS Units 2 and 3, dated April 1981 (NUREG-0490).

Agencies and Persons Contacted

In accordance with its stated policy, on September 19, 1996, the Commission consulted with the California State official, Mr. Steve Hsu of the State Department of Health Services, regarding the environmental impact of the proposed action. The State official had no comments.

Finding of No Significant Impact

Based upon the environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to this action, see the application for license amendment dated December 6, 1995. Copies are available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC 20555, and at the temporary local public document room located at the Science Library, University of California, Irvine, California 92713.

Dated at Rockville, Maryland, this 19th day of September 1996.

For the Nuclear Regulatory Commission.

Mel B. Fields,

*Project Manager, Project Directorate IV-2
Division of Reactor Projects III/IV, Office of
Nuclear Reactor Regulation.*

[FR Doc. 96-24694 Filed 9-25-96; 8:45 am]

BILLING CODE 7590-01-P

Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves; Issued

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of issuance.

SUMMARY: The Nuclear Regulatory Commission (NRC) has issued Generic Letter 96-05 to all holders of operating licenses (except those licenses that have been amended to possession-only status) or construction permits for nuclear power reactors, to (1) discuss the periodic verification of the capability of safety-related motor-operated valves to perform their safety functions consistent with the current licensing basis of nuclear power plants, (2) request that each addressee of this generic letter establish a program, or ensure the effectiveness of its current program, to verify on a periodic basis that safety-related MOVs continue to be capable of performing their safety functions within the current licensing basis of the facility, and (3) require addressees to provide to the NRC a written response relating to implementation of the requested action. This generic letter is available in the NRC Public Document Room under accession number 9609100488.

DATES: The generic letter was issued on September 18, 1996.

ADDRESSEES: Not applicable.

FOR FURTHER INFORMATION CONTACT: Thomas G. Scarbrough, at (301) 415-2794.

SUPPLEMENTARY INFORMATION: NRC regulations require that components that are important to the safe operation of a nuclear power plant, including motor-operated valves (MOVs), be treated in a manner that provides assurance of their performance. Appendix A, "General Design Criteria for Nuclear Power Plants," and Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Part 50 of Title 10 of the Code of Federal Regulations (10 CFR Part 50) include broad-based requirements in this regard. In 10 CFR 50.55a(f), the NRC requires licensees to comply with Section XI of the American Society of Mechanical

Engineers Boiler and Pressure Vessel Code (ASME Code).

Nuclear power plant operating experience, valve performance problems and MOV research have revealed that the focus of the ASME Code on stroke time and leak-rate testing for MOVs was not sufficient for ensuring the long-term capability of MOVs to perform their design-basis safety functions in light of the design of the valves and the conditions under which they must function. For this reason, on June 28, 1989, the NRC staff issued Generic Letter (GL) 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance." In GL 89-10, the staff requested that certain actions be taken to ensure the capability of MOVs in safety-related systems to perform their intended functions. The staff issued seven supplements to GL 89-10 that provided additional guidance and information.

GL 89-10 and its supplements provide only limited guidance regarding periodic verification and the measures appropriate to assure preservation of design-basis capability. This generic letter provides more complete guidance regarding periodic verification of safety-related MOVs and supersedes GL 89-10 and its supplements with regard to MOV periodic verification. Although this guidance could have been provided in a supplement to GL 89-10, the staff has prepared this new generic letter to allow closure of the staff review of GL 89-10 programs as promptly as possible.

Dated at Rockville, Maryland, this 18th day of September 1996.

For the Nuclear Regulatory Commission.

Thomas T. Martin,

*Director, Division of Reactor Program
Management Office of Nuclear Reactor
Regulation.*

[FR Doc. 96-24695 Filed 9-25-96; 8:45 am]

BILLING CODE 7590-01-P

OFFICE OF MANAGEMENT AND BUDGET

1996 List of Designated Federal Entities and Federal Entities

AGENCY: Office of Management and Budget.

ACTION: Notice.

SUMMARY: This notice provides a list of Designated Federal Entities and Federal Entities, as required by the Inspector General Act of 1978 (IG Act), as subsequently amended.

FOR FURTHER INFORMATION CONTACT: Suzanne Murrin (telephone: 202-395-1040), Office of Federal Financial

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in the proceeding on the petitioner's interest. The petition must also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend the petition without requesting leave of the Board up to 15 days prior to the first prehearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above.

Not later than 15 days prior to the first prehearing conference scheduled in the proceeding, a petitioner shall file a supplement to the petition to intervene that must include a list of the contentions that the petitioner seeks to have litigated in the hearing. Each contention must consist of a specific statement of the issue of law or fact to be raised or controverted. In addition, the petitioner shall provide a brief explanation of the bases of the contention and a concise statement of the alleged facts or expert opinion that support the contention and on which the petitioner intends to rely in proving the contention at the hearing. The petitioner must also provide references to those specific sources and documents of which the petitioner is aware and on which the petitioner intends to rely to establish those facts or expert opinion. The petitioner must provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact. Contentions shall be limited to matters within the scope of the amendments under consideration. The contention must be one that, if proven, would entitle the petitioner to relief. A petitioner who fails to file such a supplement that satisfies these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing, including the opportunity to present evidence and cross-examine witnesses.

Requests for a hearing and petitions for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemakings and Adjudications Staff, or may be delivered to the Commission's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland, by the above date. A copy of the petition

should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to Mary O'Reilly, Attorney, FirstEnergy Legal Department, FirstEnergy Corporation, 76 S. Main Street, Akron, OH 44308, attorney for the licensee.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for a hearing will not be entertained absent a determination by the Commission, the presiding officer, or the presiding Atomic Safety and Licensing Board that the petition and/or request should be granted based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

If a request for a hearing is received, the Commission's staff may issue the amendments after it completes its technical review and prior to the completion of any required hearing if it publishes a further notice for public comment of its proposed finding of no significant hazards consideration in accordance with 10 CFR 50.91 and 50.92.

For further details with respect to this action, see the application for amendments dated January 18, 2001 (ADAMS Accession No. ML010230096), as supplemented by letters dated February 20 (ADAMS Accession No. ML010540305) and April 12, 2001 (ADAMS Accession No. ML011130105), which are available for public inspection at the Commission's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland, and accessible electronically through the ADAMS Public Electronic Reading Room link at the NRC Web site (<http://www.nrc.gov>). If there are problems accessing the document located in ADAMS, contact the PDB Reference staff at 1-800-397-4209 or 301-415-4737, or send an e-mail to pdr@nrc.gov.

Dated at Rockville, Maryland, this 31st day of May 2001.

For the Nuclear Regulatory Commission.

Lawrence J. Burkhardt,

Project Manager, Section 1, Project Directorate I, Division of Licensing Project Management, Office of Nuclear Reactor Regulation.

[FR Doc. 01-15371 Filed 6-18-01; 8:45 am]

BILLING CODE 7590-01-P

NUCLEAR REGULATORY COMMISSION

[Docket Nos. 50-361 and 50-362]

Southern California Edison; San Onofre Nuclear Generating Station, Unit Nos. 2 and 3; Environmental Assessment and Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an amendment to Facility Operating Licenses Nos. NPF-10 and NPF-15, issued to Southern California Edison Company (SCE or the licensee), for operation of the San Onofre Nuclear Generating Station (SONGS), Units Nos. 2 and 3, located in San Diego County, California.

Environmental Assessment

Identification of Proposed Action

The proposed action would amend the facility license and the technical specifications for SONGS Units 2 and 3, to allow SCE to increase the maximum reactor core power level for each unit from 3390 megawatts thermal (MWt) to 3448 MWt, which is an increase of 1.42 percent of rated core thermal power for SONGS Units 2 and 3.

The proposed action is in accordance with the licensee's application for amendment dated April 3, 2001, and supplemented April 23, May 11, May 25, and May 31, 2001.

The Need for the Proposed Action

The proposed action would permit an increase in the licensed core thermal power from 3390 MWt to 3448 MWt and is needed to allow an increase in the net electrical output of SONGS Units 2 and 3 and, thus, provide additional electrical power to service domestic and commercial areas of the licensee's grid.

Environmental Impacts of the Proposed Action

In support of its request for the proposed power uprate, SCE evaluated the radiological effects of the proposed action, and specifically evaluated its radioactive waste management systems including system/component activity inventories and activity releases associated with the liquid, gaseous, and solid waste management systems, as well as the process and effluent radiological monitoring and sampling systems. In addition, SCE evaluated the non-radiological effects of the proposed action. Based on its review of the licensee's evaluation of the environmental impacts, the NRC staff concludes that the proposed increase in power would not result in a significant

environmental impact as discussed below.

Radiological Environmental Assessment

Radioactive Waste (Radwaste) Management

SCE has evaluated the system/component activity inventories and activity releases associated with the liquid, gaseous, and solid waste management systems, as well as the process and effluent radiological monitoring and sampling systems. SONGS radwaste management and radiation protection analyses are based on the Units 2 and 3 Cycle 1 core activity inventory profile with one percent fuel cladding defects. The licensee has determined that the activity inventories of Cycle 1 core isotopes (primarily some iodine and noble gas isotopes) are greater than the core activity inventories associated with 102 percent of current licensed power, i.e., 3458 MWt. The licensee has also evaluated the dose contributions of iodine, noble gas, and particulate core isotopes for the power uprate conditions. Based on its evaluation, the licensee determined that the core and system activity profiles of record bound (i.e., are equal to, or more severe than) the core and system activity source terms at the proposed uprated power level. Therefore, the licensee has concluded that its operation of the radwaste systems at SONGS Units 2 and 3 will not be impacted by operation at uprated power conditions and the effluents discharged would continue to meet the requirements of 10 CFR part 20 and 10 CFR part 50, Appendix I. Based on the above, the staff has determined that the proposed power uprate will not appreciably affect the ability to process liquid or gaseous radioactive effluents and there are no significant environmental effects from radiological releases.

Dose Consideration

SCE evaluated the effects of power uprate on the radiation sources within the plant and radiation levels during normal and post-accident conditions. Based on its evaluation, the licensee determined that SONGS Units 2 and 3 dose contributions and the activity inventories of Cycle 1 core isotopes (primarily some iodine and noble gas isotopes) are greater than the dose consequences and core activity inventories associated with the 102 percent of the current licensed power, i.e., 3458 MWt, and therefore bound the proposed uprated power level. Further occupational doses for normal operations will be maintained within

acceptable limits by the site's as-low-as-reasonably-achievable program, which is required by 10 CFR 20.1101(b).

Therefore, the NRC staff concludes that the radiological doses would remain below the 10 CFR part 100 guidelines and all radiological safety margins are maintained.

Summary

The proposed power uprate will not significantly increase the probability or consequences of accidents, will not involve any new radiological release pathways, will not result in a significant increase in occupational or public radiation exposure, and will not result in significant additional fuel cycle environmental impacts. Accordingly, the NRC staff concludes that there are no significant radiological environmental impacts associated with the proposed action.

Non-Radiological Environmental Assessment

The licensee reviewed the non-radiological environmental impacts of the requested power uprate based on information submitted in the Environmental Report, Operating License Stage, the NRC Final Environmental Statement (FES) related to the operation of San Onofre Nuclear Station, Units 2 and 3, (NUREG-0490, dated April 1981), and the requirements of the Environmental Protection Plan. Based on this review, the licensee concluded that the proposed power uprate would have no significant effect on the non-radiological elements of concern and the plant will be operated in an environmentally acceptable manner as established by the FES. In addition, the licensee states that existing Federal, State, and local regulatory permits presently in effect accommodate the power uprate without modification.

The SONGS units are cooled by once-through cooling water systems, withdrawing cooling water from the Pacific Ocean and discharging it to the ocean through separate underwater diffusers on the ocean bottom. The licensee determined that the differential temperature developed by the cooling system will increase by approximately 0.3°F, increasing the calculated differential to approximately 19.2 °F. The limit on differential temperature allowed by the California Regional Water Quality Control Board, San Diego Region, is 25 °F and includes an allowance of 0.4 °F for increases in thermal power level. The licensee also evaluated other environmental discharges and determined that the small increase in reactor power will not

have significant impact on the environment.

SONGS operates in compliance with a National Pollution Discharge Elimination System (NPDES) Permit, which requires all effluents to be closely monitored to assure compliance with the permit levels. Effluent increases due to the power uprate of SONGS Units 2 and 3 are not expected. With regard to potential non-radiological impacts, the proposed action would not change the method of operation at SONGS or the methods of handling effluents. No changes to land use would result and the proposed action does not involve any historic sites. Therefore, no new or different types of non-radiological environmental impacts are expected. Accordingly, the NRC staff concludes that there are no significant non-radiological environmental impacts associated with the proposed action.

Alternatives to the Proposed Action

As an alternative to the proposed action, the NRC staff considered denial of the proposed action (i.e., the "no-action" alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources

This action does not involve the use of any resources not previously considered in the FES for SONGS Units 2 and 3 dated March 1973.

Agencies and Persons Consulted

In accordance with its stated policy, on June 7, 2001, the NRC staff consulted with the California State official, Mr. Steve Hsu, of the Radiologic Health Branch of the State Department of Health Services, regarding the environmental impact of the proposed action. The State official had no comments.

Finding of No Significant Impact

On the basis of the environmental assessment, the NRC staff concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated April 3, 2001, and the supplements dated April 23, May 11, May 25, and May 31, 2001, which may be examined, and/or copied for a fee, at the NRC's Public Document Room, located at One White Flint North, 11555

Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the ADAMS Public Library component on the NRC Web site, <http://www.nrc.gov>, (the Electronic Reading Room). If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC Public Document Room (PDR) Reference staff at 1-800-397-4209, or 301-415-4737, or by e-mail to pdr@nrc.gov.

Dated at Rockville, Maryland this 13th day of June 2001.

For the Nuclear Regulatory Commission.

Joseph E. Donoghue,

Senior Project Manager, Project Directorate IV, Section 2, Division of Licensing Project Management, Office of Nuclear Reactor Regulation.

[FR Doc. 01-15370 Filed 6-18-01; 8:45 am]

BILLING CODE 7590-01-P

NUCLEAR REGULATORY COMMISSION

Discrimination Task Group; Notice of Meetings

In August 2000, the NRC announced the formation of a Discrimination Task Group, which is evaluating the NRC processes used in the handling of discrimination allegations and violations of employee protection standards (Applicable regulations include 10 CFR 30.7, 10 CFR 40.7, 10 CFR 50.7, 10 CFR 60.9, 10 CFR 61.9, 10 CFR 70.7, 10 CFR 76.7, 10 CFR 72.10, 10 CFR 150.20). The group is a management-level review group which is evaluating the Commission's handling of discrimination cases.

The group has developed draft recommendations for changes to the regulatory requirements, the enforcement policy or other agency guidelines as appropriate. The draft recommendations have been released for public comment and can be obtained via the Office of Enforcement web site at <http://www.nrc.gov/OE/>. Following a public comment period on the draft that expires on August 17, 2001, the Task Group will develop a Commission Paper outlining the final recommendations for NRC offices to consider in making changes to their processes.

The Task Group is holding several public stakeholder meetings in various areas of the country to solicit comment on the draft recommendations for changes in the Agency's handling of discrimination issues.

—A public meeting will be held in Chattanooga, TN, on June 25, 2001, at the USNRC Technical Training

Center, Osborne Office Center, 5746 Marlin Road, Chattanooga TN 37411 This will be an evening meeting from 7 p.m. to 9 p.m.

—A public meeting will be held, on July 11, 2001, at the USNRC Region III offices located 801 Warrenville Road, Lisle, IL 60532. This will be an evening meeting from 7 p.m. to 9 p.m.

—A public meeting will be held, on July 12, 2001, in Paducah, KY, at the Paducah Community College Engineering Building, Crouse Hall Main Lecture Hall, 4810 Alben Barkely Drive, Paducah, KY. This will be an evening meeting from 7 p.m. to 9 p.m.

—A public meeting will be held on August 9, 2001, at the San Luis Obispo Public Library, Library Conference Room, 995 Palm Street, San Luis Obispo CA. This will be an evening meeting from 7 p.m. to 9 p.m.

—A public meeting will be held on August 14, 2001, at the Waterford Town Hall, 15 Rope Ferry Road, Waterford, CT This will be an evening meeting from 7 p.m. to 9 p.m.

—A public meeting will be held on August 16, 2001, at the USNRC offices in the TWFN Auditorium, located at 11555 Rockville Pike, Rockville, Maryland. The meeting will start at 9:30 a.m.

These meetings are open to the members of the public. Oral or written views regarding the NRC's draft recommendations for improving processes for handling employee protection issues may be presented by the members of the public, including members of the nuclear industry. Persons desiring to make prepared oral presentations or statements should notify Mr. Barry Westreich (Telephone 301/415-3456, e-mail BCW@nrc.gov) five days prior to the meeting date, if possible, so that appropriate arrangements can be made to allow necessary time during the meeting for such a presentation or statements. Use of still, motion picture, and television cameras as well as audio recording devices will be permitted during these meetings.

Further information regarding topics of discussion, whether the meeting has been canceled, rescheduled, or relocated; may be obtained via the Office of Enforcement web site at <http://www.nrc.gov/OE/> or by contacting Mr. Barry Westreich between 8 a.m. and 4:30 p.m. EDT.

For those unable to attend one of the public meetings on this issue, comments on the draft report can be submitted via the Office of Enforcement web site at <http://www.nrc.gov/OE/> and may also be

submitted in writing addressed to Barry Westreich, Office of Enforcement, U.S. Nuclear Regulatory Commission 11555 Rockville Pike, Rockville, MD, 20852.

This meeting will not be transcribed but, if needed, a meeting report will be available electronically for public inspection on the Office of Enforcement web site at <http://www.nrc.gov/OE/> and in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room). The Task Group Charter and other pertinent documents related to Task Group Activities will also be periodically posted and updated on the Office of Enforcement web site.

Dated at Rockville, Maryland this 11th day of June 2001.

For the Nuclear Regulatory Commission.

Frank Congel,

Director, Office of Enforcement.

[FR Doc. 01-15372 Filed 6-18-01; 8:45 am]

BILLING CODE 7590-01-P

NUCLEAR REGULATORY COMMISSION

Public Workshop on Future Licensing Activities

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of public workshop.

SUMMARY: The Nuclear Regulatory Commission (NRC) has scheduled a public workshop to inform the public of the current and proposed activities of the NRC staff regarding future applications and to solicit public concerns and feedback on identified issues and challenges.

DATES: July 25, 2001, from 9 a.m.–8 p.m.; July 26, 2001, from 9 a.m.–1 p.m.

ADDRESSES: The workshop will be held in the NRC's Auditorium at Two White Flint North, 11545 Rockville Pike, Rockville, Maryland 20852-2738.

FOR FURTHER INFORMATION CONTACT:

Contact Eric Benner, Mail Stop O-12D1, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Members of the public may pre-register for this meeting by contacting Eric Benner at (800) 368-5642, ext. 1171, or by Internet at ejb1@nrc.gov by July 20, 2001.

The NRC maintains an Agencywide Documents Access and Management System (ADAMS) which provides text and image files of NRC's public documents. These documents may be accessed through the NRC's Public

EXHIBIT 33

NUCLEAR REGULATORY COMMISSION

[Docket Nos. 50-361, 50-362, and 72-41; NRC-2015-0023]

Southern California Edison Company

San Onofre Nuclear Generating Station, Units 2 and 3

AGENCY: Nuclear Regulatory Commission.

ACTION: Draft environmental assessment and finding of no significant impact; request for comment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing for public comment a draft environmental assessment (EA) and finding of no significant impact (FONSI) related to a request to amend Facility Operating License Nos. NPF-10 and NPF-15 and Docket No. 72-41, issued to the Southern California Edison Company (SCE or “the licensee”), for operation of the San Onofre Nuclear Generating Station, Units 2 and 3 (hereinafter “SONGS” or “the facility”), including the general-license Independent Spent Fuel Storage Installation (ISFSI), located in San Diego County, California. The requested amendment would permit licensee security personnel to use certain firearms and ammunition feeding devices not previously permitted, notwithstanding State, local and certain Federal firearms laws or regulations that otherwise prohibit such actions.

DATES: Submit comments by **December 10, 2015**. Comments received after this date will be considered if it is practical to do so, but the Commission is able to ensure consideration only for comments received before this date. Any potential party as defined in § 2.4 of title 10 of the

Code of Federal Regulations (10 CFR), who believes access to sensitive unclassified non-safeguards information (SUNSI) is necessary to respond to this notice must request document access by **November 20, 2015**.

ADDRESSES: You may submit comments by any of the following methods (unless this document describes a different method for submitting comments on a specific subject):

- **Federal Rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2015-0023**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual in the FOR FURTHER INFORMATION CONTACT section of this document.

- **Mail comments to:** Cindy Bladey, Office of Administration, Mail Stop: OWFN-12-H08, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

For additional direction on obtaining information and submitting comments, see “Obtaining Information and Submitting Comments” in the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Marlayna Vaaler, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-3178, Marlayna.Vaaler@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Obtaining Information and Submitting Comments

A. Obtaining Information

Please refer to Docket ID **NRC-2015-0023** when contacting the NRC about the availability of information for this action. You may obtain publicly-available information related to this action by any of the following methods:

- **Federal Rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2015-0023**.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**
You may obtain publicly-available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The ADAMS accession number for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in the SUPPLEMENTARY INFORMATION section. The applications for amendments for SONGS, dated August 28, 2013, as supplemented by a letter dated February 10, 2015, contain SUNSI and are being withheld from public disclosure.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

B. Submitting Comments

Please include Docket ID **NRC-2015-0023** in your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC posts all comment submissions at <http://www.regulations.gov> as well as entering the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment submissions into ADAMS.

II. Introduction

The NRC is considering a request to amend Facility Operating License Nos. NPF-10 and NPF-15 and Docket No. 72-41, issued to SCE for the operation of SONGS, Units 2 and 3, including the general-license ISFSI, located in San Diego County, California, in accordance with 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit." Therefore, as required by 10 CFR 51.21, "Criteria for and identification of licensing and regulatory actions requiring environmental assessments," and 10 CFR 51.33, "Draft finding of no significant impact; distribution," the NRC has prepared a draft EA documenting its finding. The requested amendment would permit licensee security personnel to use certain firearms and ammunition feeding devices not previously permitted, notwithstanding State, local, and certain Federal firearms laws or regulations that otherwise prohibit such actions.

III. Draft Environmental Assessment and Finding of No Significant Impact

Identification of the Proposed Action:

The proposed action would permit security personnel at SONGS during the performance of their official duties, to transfer, receive, possess, transport, import, and use certain firearms and large capacity ammunition feeding devices not previously permitted to be owned or

possessed, notwithstanding State, local, and certain Federal firearms laws, or regulations that otherwise prohibit such actions.

The proposed action is in accordance with the SONGS application dated August 28, 2013 (ADAMS Accession No. ML13242A277), as supplemented by letters dated December 31, 2013 (ADAMS Accession No. ML14007A496), May 15, 2014 (ADAMS Accession No. ML14139A424), and February 10, 2015 (ADAMS Accession No. ML15044A047).

The Need for the Proposed Action:

The proposed action would allow the transfer, receipt, possession, transportation, importation, and use of those firearms and devices needed in the performance of official duties required for the protection of SONGS and associated special nuclear materials, consistent with the SONGS NRC-approved security plan.

Environmental Impacts of the Proposed Action:

The NRC has completed its evaluation of the proposed action and concludes that the proposed action would only allow the use of those firearms and devices necessary to protect SONGS and associated special nuclear materials, consistent with the SONGS NRC-approved security plan. Therefore, the proposed action would not significantly increase the probability or consequences of any accidents. In addition, the proposed action would not change the types or the amounts of any effluents that may be released offsite. There would also be no significant increase in occupational or public radiation exposure. Therefore, there would be no significant radiological environmental impacts associated with the proposed action.

The proposed action would not impact land, air, or water resources, including biota. In addition, the proposed action would not result in any socioeconomic or environmental justice impacts or impacts to historic and cultural resources. Therefore, there would also be no significant non-radiological environmental impacts associated with the proposed action.

Accordingly, the NRC concludes that the issuance of the requested amendment would not result in significant environmental impacts.

The NRC will publish in the *Federal Register* a copy of the final EA as part of the final FONSI.

Environmental Impacts of the Alternatives to the Proposed Action:

As an alternative to the proposed action, the NRC staff considered denying the proposed action (i.e., the “no-action” alternative). Denial of the license amendment request would result in no change to current environmental conditions at SONGS.

Alternative Use of Resources:

The proposed action would not involve the use of any resources.

Agencies and Persons Consulted:

The staff did not consult with any Federal agency or California state agencies regarding the environmental impact of the proposed action.

IV. Finding of No Significant Impact

The licensee has requested a license amendment to permit licensee security personnel, in the performance of their official duties, to transfer, receive, possess, transport, import, and use certain firearms and large capacity ammunition feeding devices not previously permitted to be owned or possessed, notwithstanding State, local, and certain Federal firearms laws or regulations that would otherwise prohibit such actions.

On the basis of the information presented in this environmental assessment, the NRC concludes that the proposed action would not cause any significant environmental impact and would not have a significant effect on the quality of the human environment. In addition, the NRC has determined that an environmental impact statement is not necessary for the evaluation of this proposed action.

Other than the licensee's letter dated August 28, 2013, there are no other environmental documents associated with this review. This document is available for public inspection as indicated above.

Dated at Rockville, Maryland, this 3rd day of November, 2015.

For the Nuclear Regulatory Commission.

/RA/

Bruce A. Watson, CHP, Chief
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety and Safeguards

EXHIBIT 34

Consolidated Decommissioning Guidance

Financial Assurance, Recordkeeping, and Timeliness

Final Report

AVAILABILITY OF REFERENCE MATERIALS IN NRC PUBLICATIONS

NRC Reference Material

As of November 1999, you may electronically access NUREG-series publications and other NRC records at NRC's Public Electronic Reading Room at <http://www.nrc.gov/reading-rm.html>.

Publicly released records include, to name a few, NUREG-series publications; *Federal Register* notices; applicant, licensee, and vendor documents and correspondence; NRC correspondence and internal memoranda; bulletins and information notices; inspection and investigative reports; licensee event reports; and Commission papers and their attachments.

NRC publications in the NUREG series, NRC regulations, and *Title 10, Energy*, in the Code of *Federal Regulations* may also be purchased from one of these two sources.

1. The Superintendent of Documents
U.S. Government Printing Office
Mail Stop SSOP
Washington, DC 20402-0001
Internet: bookstore.gpo.gov
Telephone: 202-512-1800
Fax: 202-512-2250
2. The National Technical Information Service
Springfield, VA 22161-0002
www.ntis.gov
1-800-553-6847 or, locally, 703-605-6000

A single copy of each NRC draft report for comment is available free, to the extent of supply, upon written request as follows:

Address: U.S. Nuclear Regulatory Commission
Office of Administration
Publications Branch
Washington, DC 20555-0001

E-mail: DISTRIBUTION.SERVICES@NRC.GOV

Facsimile: 301-415-2289

Some publications in the NUREG series that are posted at NRC's Web site address <http://www.nrc.gov/reading-rm/doc-collections/nuregs> are updated periodically and may differ from the last printed version. Although references to material found on a Web site bear the date the material was accessed, the material available on the date cited may subsequently be removed from the site.

Non-NRC Reference Material

Documents available from public and special technical libraries include all open literature items, such as books, journal articles, and transactions, *Federal Register* notices, Federal and State legislation, and congressional reports. Such documents as theses, dissertations, foreign reports and translations, and non-NRC conference proceedings may be purchased from their sponsoring organization.

Copies of industry codes and standards used in a substantive manner in the NRC regulatory process are maintained at—

The NRC Technical Library
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852-2738

These standards are available in the library for reference use by the public. Codes and standards are usually copyrighted and may be purchased from the originating organization or, if they are American National Standards, from—

American National Standards Institute
11 West 42nd Street
New York, NY 10036-8002
www.ansi.org
212-642-4900

Legally binding regulatory requirements are stated only in laws; NRC regulations; licenses, including technical specifications; or orders, not in NUREG-series publications. The views expressed in contractor-prepared publications in this series are not necessarily those of the NRC.

The NUREG series comprises (1) technical and administrative reports and books prepared by the staff (NUREG-XXXX) or agency contractors (NUREG/CR-XXXX), (2) proceedings of conferences (NUREG/CP-XXXX), (3) reports resulting from international agreements (NUREG/IA-XXXX), (4) brochures (NUREG/BR-XXXX), and (5) compilations of legal decisions and orders of the Commission and Atomic and Safety Licensing Boards and of Directors' decisions under Section 2.206 of NRC's regulations (NUREG-0750).

Consolidated Decommissioning Guidance

Financial Assurance, Recordkeeping, and Timeliness

Final Report

Manuscript Completed: February 2012
Date Published: February 2012

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ABSTRACT

The U.S. Nuclear Regulatory Commission (NRC) consolidated and updated numerous decommissioning guidance documents into this three-volume NUREG. Specifically, the three volumes address the following topics:

- (1) “Decommissioning Process for Materials Licensees”;
- (2) “Characterization, Survey, and Determination of Radiological Criteria”; and
- (3) “Financial Assurance, Recordkeeping, and Timeliness.”

This three-volume NUREG series replaces NUREG-1727 (“NMSS Decommissioning Standard Review Plan,” issued September 2000) and NUREG/BR-0241 (“NMSS Handbook for Decommissioning Fuel Cycle and Materials Licensees,” issued March 1997). This NUREG series is intended for use by NRC staff, licensees, and others.

Volume 3 of this NUREG series provides guidance on the technical aspects of compliance with requirements for timeliness in decommissioning of materials facilities, the requirements for financial assurance for decommissioning, and the recordkeeping requirements related to eventual decommissioning.

Licensees should use this guidance in preparing decommissioning plans, license termination plans, final status surveys, and other technical decommissioning reports for submittal to the NRC. The NRC staff will use this guidance in reviewing these documents and related license amendment requests.

Volume 3 is intended to apply only to the decommissioning of materials facilities licensed under Title 10 of the *Code of Federal Regulations* (10 CFR) Parts 30, 40, 70, and 72.

PAPERWORK REDUCTION ACT STATEMENT

The information collections contained in this NUREG are covered by the requirements of 10 CFR Parts 19, 20, 30, 33, 34, 35, 36, 39, 40, 51, 70, 72, and 150, which were approved by the Office of Management and Budget under approval numbers 3150-0044, 0014, 0017, 0015, 0007, 0010, 0158, 0130, 0020, 0021, 0009, 0132, and 0032.

PUBLIC PROTECTION NOTIFICATION

If a means used to impose an information collection does not display a currently valid Office of Management and Budget control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

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FOREWORD

The staff of the U.S. Nuclear Regulatory Commission (NRC) suggests that licensees contact the NRC or the appropriate Agreement State authority to ensure understanding of the actions that should be taken to initiate and complete decommissioning at a facility.

In September 2003, the NRC staff consolidated and updated the policies and guidance of its decommissioning program in a three-volume NUREG series, NUREG-1757, “Consolidated Decommissioning Guidance.” This NUREG series provides guidance on planning and implementing license termination under the NRC’s License Termination Rule (LTR), in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 20, “Standards for Protection Against Radiation,” Subpart E, “Radiological Criteria for License Termination”; complying with the radiological criteria for license termination; and complying with the requirements for financial assurance and recordkeeping for decommissioning and timeliness in decommissioning of materials facilities.

NUREG-1757, Volume 3, Revision 1, “Consolidated Decommissioning Guidance: Financial Assurance, Recordkeeping, and Timeliness,” addresses demonstrations of compliance with the financial assurance, recordkeeping, and timeliness criteria in 10 CFR Parts 30, 40, 70, and 72. Volume 3 identifies issues related to demonstrating compliance with financial assurance and decommissioning recordkeeping and timeliness requirements that licensees may wish to consider, provides guidance on addressing these issues, and describes methods and approaches that are acceptable to the NRC staff. The staff periodically updates NUREG-1757, so that it reflects current NRC decommissioning policy.

In 2003, the NRC staff conducted an analysis of decommissioning issues and presented results and recommendations to the Commission. One of the recommendations included changes to financial assurance requirements to address the need for more detailed reporting of licensee financial assurance mechanisms to fund site decommissioning activities and protection of the committed funds in cases of financial distress. The Commission approved the staff’s recommendations, and in 2007, the Commission approved publication of a proposed rule for public comment that would implement those recommendations. The objective of the rulemaking was to improve decommissioning planning and reduce the number of funding shortfalls caused in the past by (1) overly optimistic decommissioning assumptions, (2) lack of adequate updating of cost estimates during operation, and (3) licensees falling into financial distress with financial assurance funds unavailable for decommissioning.

The proposed rule on Decommissioning Planning was published for public comment in the *Federal Register* on January 22, 2008 (73 FR 3812). Draft guidance on financial assurance, compatible with the proposed changes to financial assurance requirements in the proposed rule, was released for public comment concurrently with the proposed rule. The draft guidance document was modeled on the financial assurance guidance in NUREG-1757, Volume 3.

The staff finalized the Decommissioning Planning Rule and associated guidance, after consideration of public comments, and published the final rule on June 17, 2011 (76 FR 35512). The NRC staff’s responses to public comments on the draft financial assurance guidance are

included as Appendix B to this NUREG report. The final Decommissioning Planning Rule and NUREG-1757, Volume 3, Revision 1, will become effective on December 17, 2012. Prior to the effective date of this NUREG report, the NRC staff, licensees, and others seeking guidance on the technical aspects of compliance with requirements for timeliness in decommissioning of materials facilities, the requirements for financial assurance for decommissioning, and the recordkeeping requirements related to eventual decommissioning should reference the original version of NUREG-1757, Volume 3, dated September 2003.

The current document, Revision 1 of Volume 3, incorporates changes based on the final Decommissioning Planning Rule. This volume has also been updated to reflect other NRC staff changes. Table 1 describes the most significant changes to the guidance in this volume.

Table 1. Summary of Major Changes to Volume 3, Revision 1

Subject	Affected Sections of Volume 3	
	Previous version	Rev. 1 (current)
Elimination of Discussion of Site Decommissioning Management Plan Sites	Section 2.4	Section 2.4
New Guidance on Returning, Canceling, or Reducing Financial Assurance Instruments		Chapter 8
Elimination of Escrow Account	Sections 4.3.2.2, A.1.4, A.5	Section A.1.4
Elimination of Government Fund	Sections 4.3.2.3, A.1.4, A.6	Section A.1.4
Elimination of Certificate of Deposit	Sections 4.3.2.4, 6.3, A.1.4, A.7	Section A.1.4
Elimination of Deposit of Government Securities	Sections 4.3.2.5, 6.3, A.1.4, A.8	Section A.1.4
Elimination of Line of Credit	Sections 4.3.2.8, A.1.4, A.11	Section A.1.4
Addition of Requirements on Subsurface Residual Radioactivity	Chapter 4, Section A.1.3	Chapter 4, Section A.1.3
Addition of Evaluation Criteria for Cost Estimates	Sections 4.1, A.3	Sections 4.1, A.3
Addition of Requirements for Revisions to Cost Estimates	Section A.3.2	Section A.3.2
Revisions to the Financial Test for Parent Company Guarantees	Sections 4.3.2, A.13	Sections 4.3.2, A.8
Revisions to the Financial Test for Self-Guarantees	Sections 4.3.2, A.14	Sections 4.3.2, A.9
Incorporation of New Prescribed Amounts for Certification	Sections A.1.3, A.2.1; Attachments 1 and 2	Sections A.1.3, A.2.1; Attachments 1 and 2
Revisions to Financial Instruments that may be Used for License Termination Under Restricted Conditions	Section A.18.2.2	Section A.13.2.2.
Update of Appendix B: NRC Responses to Comments	Appendix B	Appendix B

The primary decommissioning guidance documents used by licensees and the NRC staff are NUREG-1757 and NUREG-1700, Revision 1, “Standard Review Plan for Evaluating Nuclear Power Reactor License Termination Plans,” issued April 2003. Table 2 below describes the general applicability of these documents. NUREG-1537, “Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors,” issued February 1996, which contains guidance for non-power reactor licensees and NRC staff, includes a section on decommissioning and license termination.

Table 2. Content and Applicability of Key Decommissioning Guidance Documents

Volume and Status¹	Title	Licensees to Which the Guidance Applies
NUREG-1757, Vol. 1, Rev. 2; September 2006	“Consolidated Decommissioning Guidance: Decommissioning Process for Materials Licensees”	Fuel cycle, fuel storage, and materials licensees. ² Limited applicability to reactor licensees.
NUREG-1757, Vol. 2, Rev. 1; September 2006 ³	“Consolidated Decommissioning Guidance: Characterization, Survey, and Determination of Radiological Criteria”	All licensees that are subject to the LTR (fuel cycle, fuel storage, materials, and reactor licensees).
NUREG-1757, Vol. 3, Rev. 1, February 2012	“Consolidated Decommissioning Guidance: Financial Assurance, Recordkeeping, and Timeliness”	Fuel cycle, fuel storage, and materials licensees. Limited applicability to uranium recovery licensees. ⁴
NUREG-1700, Rev. 1, April 2003	“Standard Review Plan for Evaluating Nuclear Power Reactor License Termination Plans”	Power reactor licensees.
<p>¹ Versions listed are current as of February 2012. Please refer to the NRC’s Public Electronic Reading Room at http://www.nrc.gov/reading-rm/doc-collections/nuregs to obtain the most up-to-date version.</p> <p>² Licensees regulated under 10 CFR Parts 30, 40, 60, 61, 63, 70, and 72 (for 10 CFR Parts 60, 61, and 63, only the ancillary surface facilities that support radioactive waste disposal activities). Because uranium recovery facilities are not subject to 10 CFR Part 20, Subpart E, refer to NUREG-1620, Rev. 1, Section 5, and NUREG-1569, Rev. 1, Section 6.5, for decommissioning guidance for uranium recovery facilities that are subject to 10 CFR Part 40, Appendix A.</p> <p>³ On August 16, 2007 (72 FR 46102), certain portions of ALARA-related guidance in Volume 2 were retracted. The NRC staff intends to update the guidance to address these retractions.</p> <p>⁴ Licensees regulated under 10 CFR Parts 30, 40, 60, 61, 63, 70, and 72 (for 10 CFR Parts 60, 61, and 63, only the ancillary surface facilities that support radioactive waste disposal activities). For uranium recovery facilities, only the guidance on recordkeeping and timeliness for decommissioning in this volume is applicable. Guidance on financial assurance for uranium recovery facilities under 10 CFR Part 40 is provided in the Branch Technical Position (BTP), “Technical Position on Financial Assurances for Reclamation, Decommissioning, and Long-Term Surveillance and Control of Uranium Recovery Facilities,” (issued October 1988).</p>		

NUREG-1757 is intended for use by applicants, licensees, NRC license reviewers, and other NRC personnel. It is also available to Agreement States and the public.

FOREWORD

This NUREG is not a substitute for NRC regulations, and compliance with it is not required. The NUREG describes approaches that are acceptable to the NRC staff. However, methods and solutions different than those in this NUREG will be acceptable, if they provide a basis for concluding that the decommissioning actions are in compliance with NRC regulations.

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ABBREVIATIONS

The following terms are defined for the purposes of this three-volume NUREG report.

ACAP	Alternative Cover Assessment Program
ADAMS	Agencywide Documents Access and Management System
AEA	Atomic Energy Act (of 1954, as amended)
AEC	U.S. Atomic Energy Commission (became Energy Resource Development Agency and Nuclear Regulatory Commission)
ALARA	As low as reasonably achievable
ALCD	Alternative Landfill Cover Demonstration
ANSI	American National Standards Institute
APF	Assigned Protection Factors
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
Bq	becquerel
BRT	Bankruptcy Review Team
BTP	Branch Technical Position
CAM	Continuous Air Monitor
CATX	Categorical Exclusion
CEDE	Committed Effective Dose Equivalent
CEO	Chief Executive Officer
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFO	Chief Financial Officer
CFR	Code of Federal Regulations
Ci	curie
cpm	counts per minute
DCGLs	Derived Concentration Guideline Levels
DFP	Decommissioning Funding Plan
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DP	Decommissioning Plan

ABBREVIATIONS

dpm	disintegrations per minute
DQA	Data Quality Assessment
DQO	Data Quality Objective
DURLD	Decommissioning and Uranium Recovery Licensing Directorate (Nuclear Regulatory Commission)
DWMEP	Division of Waste Management and Environmental Protection (Nuclear Regulatory Commission)
EA	Environmental Assessment
Eh	redox potential
EIS	Environmental Impact Statement
EMC	Elevated Measurement Comparison
EML	DOE Environmental Measurements Laboratory (formerly the Health and Safety Laboratory)
EPA	U.S. Environmental Protection Agency
EPPAD	Environmental Protection and Performance Assessment Directorate (Nuclear Regulatory Commission)
EPA/NRC MOU	Memorandum of Understanding between the Environmental Protection Agency and the Nuclear Regulatory Commission dated October 9, 2002
ER	Environmental Report
FEP	Feature, Event, and/or Process
FFIEC	Federal Financial Institutions Examination Council
FHLM	Federal Home Loan Mortgage Corporation
FNMA	Federal National Mortgage Association
FONSI	Finding of No Significant Impact
FR	<i>Federal Register</i>
FSME	Office of Federal and State Materials and Environmental Management Programs (Nuclear Regulatory Commission)
FSS	Final Status Survey
FSSP	Final Status Survey Plan
FSSR	Final Status Survey Report
FUSRAP	Formerly Utilized Sites Remedial Action Program
GEIS	Generic Environmental Impact Statement
GNMA	Government National Mortgage Association
GPO	Government Printing Office

HEPA	high-efficiency particulate air
HSA	Historical Site Assessment
IC	Institutional Control
ICRP	International Commission on Radiological Protection
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IROFS	Items Relied on for Safety
ISA	Integrated Safety Analysis
ISCORS	Interagency Steering Committee on Radiation Standards
ISFSI	Independent Spent Fuel Storage Installation
ISO	International Organization for Standardization
ISR	In-situ uranium recovery facility
LA	License Amendment
LA/RC	legal agreement and restrictive covenant
LBGR	Lower Bound [of the] Gray Region
LLD	lower limit of detection
LPDR	Local Public Document Room
LTC	long-term control
LTP	License Termination Plan
LTR	License Termination Rule
MARLAP	Multi-Agency Radiological Laboratory Analytical Protocols Manual
MARSSIM	Multi-Agency Radiological Survey and Site Investigation Manual (NUREG-1575)
mCi	millicurie
MCL	Maximum Contaminant Level
MDA	Minimum Detectable Activity
MDC	Minimum Detectable Concentration
MIP	Master Inspection Plan
MOU	Memorandum of Understanding
mrem	millirem
mSv	millisievert
NAIC	National Association of Insurance Commissioners
NAS	National Academy of Sciences

ABBREVIATIONS

NCRP	National Council on Radiation Protection and Measurements
NCS	Nuclear Criticality Safety
NCSA	Nuclear Criticality Safety Analysis
NEPA	National Environmental Policy Act
NIST	National Institute of Standards and Technology
NMMSS	Nuclear Materials Management and Safeguards System
NMSS	Office of Nuclear Material Safety and Safeguards (Nuclear Regulatory Commission)
NOAA	National Oceanic and Atmospheric Administration
NORM	Naturally Occurring Radioactive Material
NRC	U.S. Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation (Nuclear Regulatory Commission)
OC	Office of Controller
OCC	Office of the Comptroller of the Currency
OCFO	Office of the Chief Financial Officer (Nuclear Regulatory Commission)
OE	Office of Enforcement (Nuclear Regulatory Commission)
OGC	Office of the General Counsel (Nuclear Regulatory Commission)
OSHA	U.S. Occupational Safety and Health Administration
PCBs	Polychlorinated Biphenyls
pCi	picocurie
PDF	Probability Density Function
PDR	Public Document Room (Nuclear Regulatory Commission)
P&GD	Policy and Guidance Directive
pH	hydrogen power
PM	Project Manager
PMF	probable maximum flood
PMP	probable maximum precipitation
PPE	personal protective equipment
PSR	Partial Site Release
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance and Quality Control
RAI	Request for Additional Information

RCRA	Resource Conservation and Recovery Act
REMP	Radiological Environmental Monitoring Program
RF	Resuspension Factor
RG	Regulatory Guide (also known as Reg Guide)
RIS	Regulatory Issue Summary
ROD	Record of Decision
RSO	Radiation Safety Officer
RSSI	Radiation Site Survey and Investigation [Process]
RWP	Radiation Work Permit
SCP	Site Characterization Plan
SCR	Site Characterization Report
SDMP	Site Decommissioning Management Plan
SDWA	Safe Drinking Water Act
SER	Safety Evaluation Report
SOPs	Standard Operating Procedures
SRP	[NMSS Decommissioning] Standard Review Plan (NUREG-1727)
SSAB	site-specific advisory board
Sv	sievert
TAR	Technical Assistance Request
TDS	Total Dissolved Solids
TEDE	Total Effective Dose Equivalent
TENORM	Technologically Enhanced Naturally Occurring Radioactive Material
TI	Transport Index
TLD	Thermoluminescent Dosimeter
TOC	Total Organic Carbon
TODE	Total Organ Dose Equivalent
TRU	Transuranic(s) [radionuclides]
UECA	Uniform Environmental Covenants Act
UMTRA	Uranium Mill Tailings Remedial Action
UMTRCA	Uranium Mill Tailings Radiation Control Act
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDA	U.S. Department of Agriculture

ABBREVIATIONS

USGS	U.S. Geological Survey
WAC	waste acceptance criteria
WRS	Wilcoxon Rank Sum [test]

GLOSSARY

The following terms are defined for the purposes of this three-volume NUREG report.

Acceptance Review. The evaluation the NRC staff performs upon receipt of a license amendment request to determine if the information provided in the document is sufficient to begin the technical review.

Activity. The rate of disintegration (transformation) or decay of radioactive material. The units of activity are the curie (Ci) and the becquerel (Bq) (see Title 10 of the *Code of Federal Regulations* (10 CFR) Section 20.1003, “Definitions”).

Affected Parties. Representatives of a broad cross-section of individuals and institutions in the community or vicinity of a site that may be affected by the decommissioning of the site.

ALARA. Acronym for “as low as reasonably achievable,” which means making every reasonable effort to maintain exposures to radiation as far below the dose limits as is practical, consistent with the purpose for which the licensed activity is undertaken, and taking into account the state of technology, the economics of improvements in relation to the state of technology, the economics of improvements in relation to the benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest (see 10 CFR 20.1003).

Alternate Criteria. Dose criteria for residual radioactivity that are greater than the dose criteria described in 10 CFR 20.1402, “Radiological Criteria for Unrestricted Use,” and 10 CFR 20.1403, “Criteria for License Termination under Restricted Conditions,” as allowed in 10 CFR 20.1404, “Alternate Criteria for License Termination.” The Commission must approve alternate criteria.

Aquifer. A geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

Background Radiation. Radiation from cosmic sources, naturally occurring radioactive material, including radon (except as a decay product of source or special nuclear material), and global fallout as it exists in the environment from the testing of nuclear explosive devices or from past nuclear accidents such as Chernobyl that contribute to background radiation and are not under the control of the licensee. Background radiation does not include radiation from source, byproduct, or special nuclear materials regulated by the NRC (see 10 CFR 20.1003).

Broad Scope Licenses. A type of specific license authorizing receipt, acquisition, ownership, possession, use, and transfer of any chemical or physical form of the byproduct material specified in the license, but not exceeding quantities specified in the license. The requirements for specific domestic licenses of broad scope for byproduct material are found in 10 CFR Part 33, “Specific Domestic Licenses of Broad Scope for Byproduct Material.” Examples of broad scope licensees are large universities and large research and development facilities.

Byproduct Material. (1) Any radioactive material (except special nuclear material) yielded in, or made radioactive by, exposure to the radiation incident to the process of producing or using special nuclear material. (2) The tailings or wastes produced by the extraction or concentration of uranium or thorium from ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes. Underground ore bodies depleted by these solution extraction operations do not constitute “byproduct material” within this definition. (3)(i) Any discrete source of radium-226 that is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; or (ii) Any material that—(A) Has been made radioactive by use of a particle accelerator, and (B) Is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity. (4) Any discrete source of naturally occurring radioactive material, other than source material, that—(i) The Commission, in consultation with the Administrator of the Environmental Protection Agency, the Secretary of Energy, the Secretary of Homeland Security, and the head of any other appropriate Federal agency, determines would pose a threat similar to the threat posed by a discrete source of radium-226 to the public health and safety or the common defense and security and (ii) Before, on, or after August 8, 2005, is extracted or converted after extraction for use in a commercial, medical, or research activity (see 10 CFR 20.1003).

Categorical Exclusion (CATX). A category of regulatory actions which do not individually or cumulatively have a significant effect on the human environment and which the Commission has found to have no such effect in accordance with procedures set out in 10 CFR 51.22, “Criterion for Categorical Exclusion; Identification of Licensing and Regulatory Actions Eligible for Categorical Exclusion or Otherwise Not Requiring Environmental Review,” and for which, therefore, neither an environmental assessment nor an environmental impact statement is required (see 10 CFR 51.14(a)).

Certification Amount of Financial Assurance. See *prescribed amount of financial assurance*.

Certification of Financial Assurance. The document submitted to certify that financial assurance has been provided as required by regulation.

Characterization Survey. A type of survey that includes facility or site sampling, monitoring, and analysis activities to determine the extent and nature of residual radioactivity. Characterization surveys provide the basis for acquiring necessary technical information to develop, analyze, and select appropriate cleanup techniques.

Cleanup. See *decontamination*.

Closeout Inspection. An inspection performed by the NRC, or its contractor, to determine if a licensee has adequately decommissioned its facility. Typically, a closeout inspection is performed after the licensee has demonstrated that its facility is suitable for release in accordance with NRC requirements.

Confirmatory Survey. A survey conducted by the NRC, or its contractor, to verify the results of the licensee’s final status survey. Typically, confirmatory surveys consist of measurements at a

fraction of the locations previously surveyed by the licensee, to determine whether the licensee's results are valid and reproducible.

Critical Group. The group of individuals reasonably expected to receive the greatest exposure to residual radioactivity for any applicable set of circumstances (see 10 CFR 20.1003).

DandD Code. The Decontamination and Decommissioning (DandD) software package, developed by the NRC, that addresses compliance with the dose criteria of 10 CFR Part 20, "Standards for Protection Against Radiation," Subpart E, "Radiological Criteria for License Termination." Specifically, DandD embodies the NRC's guidance on screening dose assessments to allow licensees to perform simple estimates of the annual dose from residual radioactivity in soils and on building surfaces.

Decommission. To remove a facility or site safely from service and reduce residual radioactivity to a level that permits (1) release of the property for unrestricted use and termination of the license or (2) release of the property under restricted conditions and termination of the license (see 10 CFR 20.1003).

Decommissioning Funding Plan (DFP). A document that provides a detailed site-specific cost estimate for decommissioning, based on the costs of an independent contractor to meet the criteria for unrestricted use in 10 CFR 20.1402 (except that, if the applicant or licensee can demonstrate its ability to meet the restricted use provisions of 10 CFR 20.1403, then the cost estimate may be based on meeting the 20.1403 criteria); key assumptions used to develop the cost estimate; the method for assuring funds for decommissioning; the means for adjusting both the cost estimate and funding level over the life of the facility; the volume of material containing residual radioactivity that will require remediation; and the certification of financial assurance and the signed originals of the financial instruments provided as financial assurance.

Decommissioning Groups. For the purposes of this guidance document, the categories of decommissioning activities that depend on the type of operation and the residual radioactivity.

Decommissioning Plan (DP). A detailed description of the activities that the licensee intends to use to assess the radiological status of its facility, to remove radioactivity attributable to licensed operations at its facility to levels that permit release of the site in accordance with the NRC's regulations and termination of the license, and to demonstrate that the facility meets the NRC's requirements for release. A DP typically consists of several interrelated components, including (1) site characterization information, (2) a remediation plan that has several components, including a description of remediation tasks, a health and safety plan, and a quality assurance plan, (3) site-specific cost estimates for the decommissioning, and (4) a final status survey plan (see 10 CFR 30.36(g)(4)).

Decontamination. The removal of undesired residual radioactivity from facilities, soils, or equipment prior to the release of a site or facility and termination of a license. Also known as remediation, remedial action, and cleanup.

Derived Concentration Guideline Levels (DCGLs). Radionuclide-specific concentration limits used by the licensee during decommissioning to achieve the regulatory dose standard that permits the release of the property and termination of the license. The DCGL applicable to the

average concentration over a survey unit is called the $DCGL_W$. The DCGL applicable to limited areas of elevated concentrations within a survey unit is called the $DCGL_{EMC}$.

Dose (or Radiation Dose). A generic term that means absorbed dose, dose equivalent, effective dose equivalent, committed dose equivalent, committed effective dose equivalent, or total effective dose equivalent, as defined in other paragraphs of 10 CFR 20.1003. In this NUREG report, dose generally refers to *total effective dose equivalent (TEDE)*.

Durable Institutional Controls. A legally enforceable mechanism for restricting land uses to meet the radiological criteria for license termination (10 CFR Part 20, Subpart E). Durable institutional controls are reliable and sustainable for the time period needed.

Effluent. Material discharged into the environment from licensed operations.

Environmental Assessment. A concise public document for which the Commission is responsible that serves to (1) briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact, (2) aid the Commission's compliance with the National Environmental Policy Act (NEPA) when no environmental impact statement is necessary, and (3) facilitate preparation of an environmental impact statement when one is necessary (see 10 CFR 51.14(a)).

Environmental Impact Statement. A detailed written document that ensures the policies and goals defined in NEPA are considered in the actions of the Federal Government. It discusses significant impacts and reasonable alternatives to the proposed action.

Environmental Monitoring. The process of sampling and analyzing environmental media in and around a facility (1) to confirm compliance with performance objectives and (2) to detect radioactive material entering the environment to facilitate timely remedial action.

Environmental Report (ER). A document submitted to the NRC by an applicant for a license amendment request (see 10 CFR 51.14(a)). The ER is used by NRC staff to prepare environmental assessments and environmental impact statements. The requirements for ERs are specified in 10 CFR 51.45–51.69.

Exposure Pathway. The route by which radioactivity travels through the environment to eventually cause radiation exposure to a person or group.

Exposure Scenario. A description of the future land uses, human activities, and behavior of the natural system as related to a future human receptor's interaction with (and therefore exposure to) residual radioactivity. In particular, the exposure scenario describes where humans may be exposed to residual radioactivity in the environment, what exposure group habits determine exposure, and how residual radioactivity moves through the environment.

External Dose. That portion of the dose equivalent received from radiation sources outside the body (see 10 CFR 20.1003).

Final Status Survey (FSS). Measurements and sampling to describe the radiological conditions of a site or facility, following completion of decontamination activities (if any) and in preparation for release of the site or facility.

Final Status Survey Plan (FSSP). The description of the final status survey design.

Final Status Survey Report (FSSR). The results of the final status survey conducted by a licensee to demonstrate the radiological status of its facility. The FSSR is submitted to NRC for review and approval.

Financial Assurance. A guarantee, or other financial arrangement, provided by a licensee that funds for decommissioning will be available when needed. This is in addition to the licensee's regulatory obligation to decommission its facilities.

Financial Assurance Mechanism. Financial instruments used to provide financial assurance for decommissioning.

Floodplain. The lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands. Areas subject to a 1 percent or greater chance of flooding in any given year are included (see 10 CFR 72.3, "Definitions").

Footprint. The portion of a site undergoing decommissioning, which is comprised of all of the areas of soil containing residual radioactivity, where intentional mixing is proposed to meet the release criteria. This definition is applicable only to proposed intentional mixing cases.

General Licenses. Licenses that are effective without the filing of applications with the NRC or the issuance of licensing documents to particular persons.

Ground Water. Water contained in pores or fractures in either the unsaturated or saturated zones below ground level.

Historical Site Assessment (HSA). The identification of potential, likely, or known sources of radioactive material and radioactive contamination based on existing or derived information for the purpose of classifying a facility or site, or parts thereof, as impacted or non-impacted (see 10 CFR 50.2, "Definitions").

Hydraulic Conductivity. The volume of water that will move through a medium in a unit of time under a unit hydraulic gradient through a unit area measured perpendicular to the direction of flow.

Hydrology. Study of the properties, distribution, and circulation of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere.

Impact. The positive or negative effect of an action (past, present, or future) on the natural environment (land use, air quality, water resources, geological resources, ecological resources, aesthetic and scenic resources) and the human environment (infrastructure, economics, social, and cultural).

Impacted Areas. The areas with some reasonable potential for residual radioactivity in excess of natural background or fallout levels (see 10 CFR 50.2).

Inactive Outdoor Area. The outdoor portion of a site not used for licensed activities or materials for 24 months or more.

Infiltration. The process of water entering the soil at the ground surface. Infiltration becomes percolation when water has moved below the depth at which it can be removed (to return to the atmosphere) by evaporation or transpiration.

Institutional Controls. Measures to control access to a site and minimize disturbances to engineered measures established by the licensee to control the residual radioactivity. Institutional controls include administrative mechanisms (e.g., land use restrictions) and may include, but are not limited to, physical controls (e.g., signs, markers, landscaping, and fences).

Karst. A type of topography that is formed over limestone, dolomite, or gypsum by dissolution, characterized by sinkholes, caves, and underground drainage.

Leak Test. A test for leakage of radioactivity from sealed radioactive sources. These tests are made when the sealed source is received and on a regular schedule thereafter. The frequency is usually specified in the sealed source and device registration certificate and/or license.

Legacy Site. An existing decommissioning site that is complex and difficult to decommission for a variety of financial, technical, or programmatic reasons.

License Termination Plan (LTP). A detailed description of the activities a reactor licensee intends to use to assess the radiological status of its facility, to remove radioactivity attributable to licensed operations at its facility to levels that permit release of the site in accordance with the NRC's regulations and termination of the license, and to demonstrate that the facility meets the NRC's requirements for release. An LTP consists of several interrelated components including (1) a site characterization, (2) identification of remaining dismantlement activities, (3) plans for site remediation, (4) detailed plans for the final radiation survey, (5) a description of the end use of the facility, if restricted, (6) an updated site-specific estimate of remaining decommissioning costs, and (7) a supplement to the environmental report, pursuant to 10 CFR 51.33, "Draft Finding of No Significant Impact; Distribution," describing any new information or significant environmental change associated with the licensee's proposed termination activities (see 10 CFR 50.82, "Termination of License").

License Termination Rule (LTR). The LTR refers to the final rule on "Radiological Criteria for License Termination," published by the NRC as Subpart E to 10 CFR Part 20 in the *Federal Register* on July 21, 1997 (62 FR 39058).

Licensee. A person who possesses a license, or a person who possesses licensable material and whom the NRC could require to obtain a license.

MARSSIM. The "Multi-Agency Radiation Site Survey and Investigation Manual (MARSSIM)" (NUREG-1575) is a multi-agency consensus manual that provides information on planning, conducting, evaluating, and documenting building surface and surface soil final status

radiological surveys for demonstrating compliance with dose- or risk-based regulations or standards.

Model. A simplified representation of an object or natural phenomenon. The model can be in many possible forms, such as a set of equations or a physical, miniature version of an object or system constructed to allow estimates of the behavior of the actual object or phenomenon when the values of certain variables are changed. Important environmental models include those estimating the transport, dispersion, and fate of chemicals in the environment.

Monitoring. Monitoring (radiation monitoring, radiation protection monitoring) is the measurement of radiation levels, concentrations, surface area concentrations, or quantities of radioactive material and the use of the results of these measurements to evaluate potential exposures and doses (see 10 CFR 20.1003).

mrem/y (millirem per year). One one-thousandth (0.001) of a rem per year. (See also *sievert*.)

National Environmental Policy Act (NEPA). The National Environmental Policy Act of 1969, which requires Federal agencies, as part of their decision-making process, to consider the environmental impacts of actions under their jurisdiction. Both the Council on Environmental Quality (CEQ) and the NRC have promulgated regulations to implement NEPA requirements. CEQ regulations are contained in 40 CFR Parts 1500 to 1508, and NRC requirements are provided in 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions."

Naturally Occurring Radioactive Material (NORM). The natural radioactivity in rocks, soils, air, and water. NORM generally refers to materials in which the radionuclide concentrations have not been enhanced by or as a result of human practices. NORM does not include uranium or thorium in source material.

Non-impacted Areas. The areas with no reasonable potential for residual radioactivity in excess of natural background or fallout levels (see 10 CFR 50.2).

Pathway. See *exposure pathway*.

Performance-Based Approach. Regulatory decisionmaking that relies upon measurable or calculable outcomes (i.e., performance results) to be met, but provides more flexibility to the licensee as to the means of meeting those outcomes.

Permeability. The ability of a material to transmit fluid through its pores when subjected to a difference in head (pressure gradient). Permeability depends on the substance transmitted (oil, air, water, and so forth) and on the size and shape of the pores, joints, and fractures in the medium and the manner in which they are interconnected.

Porosity. The ratio of openings, or voids, to the total volume of a soil or rock expressed as a decimal fraction or as a percentage.

Potentiometric Surface. The two-dimensional surface that describes the elevation of the water table. In an unconfined aquifer, the potentiometric surface is at the top of the water level. In a

confined aquifer, the potentiometric surface is above the top of the water level because the water is under confining pressure.

Prescribed Amount of Financial Assurance. An amount of financial assurance based on the authorized possession limits of the NRC license, as specified in 10 CFR 30.35(d), 40.36(b), or 70.25(d).

Principal Activities. Activities authorized by the license that are essential to achieving the purpose(s) for which the license was issued or amended. Storage during which no licensed material is accessed for use or disposal and activities incidental to decontamination or decommissioning are not principal activities (see 10 CFR 30.4, “Definitions”).

Probabilistic. Refers to computer codes or analyses that use a random sampling method to select parameter values from a distribution. Results of the calculations are also in the form of a distribution of values. The results of the calculation do not typically include the probability of the scenario occurring.

Reasonable Alternatives. Those alternatives that are practical or feasible from a technical and economic standpoint.

Reasonably Foreseeable Land Use. Land use scenarios that are likely within 100 years, considering advice from land use planners and stakeholders on land use plans and trends.

rem. The special unit of any of the quantities expressed as dose equivalent. The dose equivalent in rems is equal to the absorbed dose in rads multiplied by the quality factor (1 rem = 0.01 sievert) (see 10 CFR 20.1004).

Remedial Action. See *decontamination*.

Remediation. See *decontamination*.

Residual Radioactivity. Radioactivity in structures, materials, soils, ground water, and other media at a site resulting from activities under the licensee’s control. This includes radioactivity from all licensed and unlicensed sources used by the licensee, but excludes background radiation. It also includes radioactive materials remaining at the site as a result of routine or accidental releases of radioactive material at the site and previous burials at the site, even if those burials were made in accordance with the provisions of 10 CFR Part 20 (see 10 CFR 20.1003).

RESRAD Code. A computer code developed by the U.S. Department of Energy and designed to estimate radiation doses and risks from RESidual RADioactive materials in soils.

RESRAD-BUILD Code. A computer code developed by the U.S. Department of Energy and designed to estimate radiation doses and risks from RESidual RADioactive materials in BUILDings.

Restricted Area. Any area to which access is limited by a licensee for the purpose of protecting individuals against undue risks from exposure to radiation and radioactive materials (see 10 CFR 20.1003).

Risk. Defined by the “risk triplet” of a scenario (a combination of events and/or conditions that could occur) or set of scenarios, the probability that the scenario could occur, and the consequence (e.g., dose to an individual) if the scenario were to occur.

Risk-Based Approach. Regulatory decision making that is based solely on the numerical results of a risk assessment. (Note that the Commission does not endorse a risk-based regulatory approach.)

Risk-Informed Approach. Regulatory decision making that represents a philosophy whereby risk insights are considered together with other factors to establish requirements that better focus licensee and regulatory attention on design and operational issues commensurate with their importance to public health and safety.

Risk Insights. Results and findings that come from risk assessments.

Robust Engineered Barrier. A manmade structure that is designed to mitigate the effect of natural processes or human uses that may initiate or accelerate release of residual radioactivity through environmental pathways. The structure is designed so that the radiological criteria for license termination (10 CFR Part 20, Subpart E) can be met. Robust engineered barriers are designed to be more substantial, reliable, and sustainable for the time period needed without reliance on active ongoing maintenance.

Safety Evaluation Report. The NRC staff’s evaluation of the radiological consequences of a licensee’s proposed action to determine if that action can be accomplished safely.

Saturated Zone. That part of the earth’s crust beneath the regional water table in which all voids, large and small, are ideally filled with water under pressure greater than atmospheric.

Scoping Survey. A type of survey that is conducted to identify (1) radionuclide contaminants, (2) relative radionuclide ratios, and (3) general levels and extent of residual radioactivity.

Screening Approach/Methodology/Process. The use of (1) predetermined building surface concentration and surface soil concentration values, or (2) a predetermined methodology (e.g., use of the DandD code) that meets the radiological decommissioning criteria without further analysis, to simplify decommissioning in cases where low levels of residual radioactivity are achievable.

Sealed Source. Any special nuclear material or byproduct material encased in a capsule designed to prevent leakage or escape of the material.

sievert (Sv). The SI unit of any of the quantities expressed as dose equivalent. The dose equivalent in sieverts is equal to the absorbed dose in grays multiplied by the quality factor (1 sievert = 100 rem) (see 10 CFR 20.1004).

Site. The area of land, along with structures and other facilities, as described in the original NRC license application, plus any property outside the originally licensed boundary added for the purpose of receiving, possessing, or using radioactive material at any time during the term of the

license, as well as any property where radioactive material was used or possessed that has been released prior to license termination.

Site Characterization. Studies that enable the licensee to sufficiently describe the conditions of the site, separate building, or outdoor area to evaluate the acceptability of the decommissioning plan.

Site Characterization Survey. See *characterization survey*.

Site Decommissioning Management Plan (SDMP). The program established by the NRC in March 1990 to help ensure the timely cleanup of sites with limited progress in completing the remediation of the site and the termination of the facility license. In 2004, the NRC eliminated the SDMP because the original intent of the SDMP and SDMP Action Plan had been achieved. As of 2004, all sites are managed under the Comprehensive Decommissioning Program. SDMP sites typically had buildings, former waste disposal areas, large volumes of tailings, ground water contamination, and soil contaminated with low levels of uranium or thorium or other radionuclides.

Site-Specific Dose Analysis. Any dose analysis that is done other than by using the default screening tools.

Smear. A radiation survey technique which is used to determine levels of removable surface contamination. A medium (typically filter paper) is rubbed over a surface (typically an area of 100 cm²), followed by a quantification of the activity on the medium. Also known as a “swipe.”

Source Material. Uranium or thorium, or any combination of uranium and thorium, in any physical or chemical form, or ores that contain by weight one-twentieth of one percent (0.05 percent) or more of uranium, thorium, or any combination of uranium and thorium. Source material does not include special nuclear material (see 10 CFR 20.1003).

Source Term. A conceptual representation of the residual radioactivity at a site or facility.

Special Nuclear Material. (1) Plutonium, uranium-233 (U-233), uranium enriched in the isotope 233 or in the isotope 235, and any other material that the Commission, pursuant to the provisions of Section 51 of the Atomic Energy Act, determines to be special nuclear material, but does not include source material, or (2) any material artificially enriched by any of the foregoing but does not include source material (see 10 CFR 20.1003).

Specific Licenses. Licenses issued to a named person who has filed an application for the license under the provisions of 10 CFR Parts 30, 32 through 36, 39, 40, 61, 70, and 72. Examples of specific licenses are industrial radiography, medical use, irradiators, and well logging.

Survey. An evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation. When appropriate, such an evaluation includes a physical survey of the location of radioactive material and measurements or calculations of levels of radiation, or concentrations or quantities of radioactive material present (see 10 CFR 20.1003).

Survey Unit. A geographical area consisting of structures or land areas of specified size and shape at a site for which a separate decision will be made as to whether the unit attains the site-specific, reference-based cleanup standard for the designated pollution parameter. Survey units are generally formed by grouping contiguous site areas with similar use histories and having the same contamination potential (classification). Survey units are established to facilitate the survey process and the statistical analysis of survey data.

Technologically Enhanced Naturally Occurring Radioactive Material (TENORM). Naturally occurring radioactive material with radionuclide concentrations increased by or as a result of past or present human practices. TENORM does not include background radioactive material or the natural radioactivity of rocks and soils. TENORM does not include uranium or thorium in source material.

Timeliness. Specific time periods stated in NRC regulations for decommissioning unused portions of operating nuclear materials facilities and for decommissioning the entire site upon termination of operations.

Total Effective Dose Equivalent (TEDE). The sum of the deep-dose equivalent (for external exposures) and the committed effective dose equivalent (CEDE) (for internal exposures) (see 10 CFR 20.1003).

Transmissivity. The rate of flow of water through a vertical strip of aquifer, which is one unit wide and which extends the full saturated depth of the aquifer.

Unrestricted Area. An area, access to which is neither limited nor controlled by the licensee (see 10 CFR 20.1003).

Unsaturated Zone. The subsurface zone in which the geological material contains both water and air in pore spaces. The top of the unsaturated zone typically is at the land surface, otherwise known as the “vadose zone.”

Vadose Zone. See *unsaturated zone*.

1. PURPOSE, APPLICABILITY, AND ROADMAP

1.1 PURPOSE AND APPLICABILITY

The purpose of this volume is to provide guidance to the U.S. Nuclear Regulatory Commission (NRC) staff and licensees on the following:

- **recordkeeping and timeliness in decommissioning; and**
- **financial assurance for decommissioning.**

This NUREG provides guidance regarding decommissioning leading to termination of a license. Licensees of Agreement States should contact the appropriate regulatory authority. This volume is also intended to be used in conjunction with NRC Inspection Manual Chapter 2602, “Decommissioning Oversight and Inspection Program for Fuel Cycle Facilities and Materials Licensees.”

This volume of NUREG-1757 is being issued to describe and make available to licensees and the public: (1) guidance on technical aspects of compliance with specific parts of the Commission’s regulations, (2) methods acceptable to the NRC staff for implementing these regulations, and (3) some of the techniques and criteria used by the NRC staff in evaluating licensee submittals. This guidance is not a substitute for regulations, and compliance with the guidance is not required. Methods and solutions different from those described in this volume will be acceptable if they provide a basis for the NRC staff to conclude that the licensee’s decommissioning actions are in compliance with the Commission’s regulations. Licensees should note that approaches consistent with the guidance in this volume may be easier for NRC staff to review, potentially resulting in more effective and efficient staff reviews.

This volume applies to the timeliness and recordkeeping requirements for licensees under Title 10 of the *Code of Federal Regulations* (10 CFR) Parts 30, 40, 70, and 72. It also applies to financial assurance requirements for licensees under 10 CFR Parts 30, 40, 70, and 72, with the exception of licensees (uranium recovery facilities) subject to Criteria 9 and 10 of Appendix A, “Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes Produced by the Extraction or Concentration of Source Material From Ores Processed Primarily for Their Source Material Content,” to 10 CFR Part 40, “Domestic Licensing of Source Materials.”

This volume does not apply to licensees under 10 CFR Part 50, “Domestic Licensing of Production and Utilization Facilities.” Regulatory Guide 1.159, Revision 1, “Assuring the Availability of Funds for Decommissioning Nuclear Reactors,” issued October 2003, provides guidance on financial assurance for these licensees.

Other documents address the decommissioning financial assurance requirements for other types of licensees. Guidance on financial assurance for uranium recovery facilities under 10 CFR Part 40 is provided in the Branch Technical Position (BTP), “Technical Position on Financial Assurances for Reclamation, Decommissioning, and Long-Term Surveillance and

Control of Uranium Recovery Facilities,” (issued October 1988). Information on low-level waste disposal facilities under 10 CFR Part 61, “Licensing Requirements for Land Disposal of Radioactive Waste,” is provided in Revision 2 of NUREG-1199, “Standard Format and Content of a License Application for a Low-Level Radioactive Waste Disposal Facility,” (issued January 1991), and Revision 3 of NUREG-1200, “Standard Review Plan for the Review of a License Application for a Low-Level Radioactive Waste Disposal Facility,” (issued April 1994).

1.2 ROADMAP TO THIS VOLUME

This volume contains guidance on three areas of regulation: (1) timeliness in decommissioning, (2) recordkeeping for decommissioning, and (3) financial assurance. In addition, the standard format and content for financial instruments is contained in Appendix A to this volume.

- Chapter 1 contains the document roadmap and reference lists. Table 1.1 identifies various source documents used to develop the guidance in this volume. Source documents that have been superseded are identified in Table 1.2 in Section 1.3.3.
- Chapter 2 contains guidance on timeliness. Figure 2.1 summarizes the requirements for compliance with timeliness requirements.
- Chapter 3 contains guidance on recordkeeping. A list of documents to retain is contained in Section 3.4.
- Chapter 4 contains guidance on financial assurance. A brief outline of the steps necessary to prepare a financial assurance demonstration is found at the end of Section 4.0 under the heading “How to Use Chapter 4.”
- Chapter 5 directs the reader to NUREG-1556, “Consolidated Guidance About Materials Licenses,” Volume 15, “Guidance About Changes of Control and About Bankruptcy Involving Byproduct, Source, or Special Nuclear Material Licenses,” issued November 2000, for guidance on handling bankruptcy situations.
- Chapter 6 provides procedures for drawing on financial assurance instruments.
- Chapter 7 provides a procedure for approving disbursements of funds from a decommissioning trust.
- Chapter 8 provides guidance on returning, canceling, or reducing financial assurance instruments.
- Appendix A contains detailed guidance on drafting and preparing the package for submittal of financial instruments. Checklists in each section of Appendix A are provided to summarize the necessary elements of each package.
- Appendix B contains the NRC’s response to public comments on the version of NUREG-1757, Volume 3 that was published for comment.

Table 1.1 Origin of Guidance in this Volume

Section of this Guidance		Section of SRP or Other Guidance
1.0	Purpose, Applicability, and Roadmap	N/A
1.1	Purpose and Applicability	N/A
1.2	Roadmap to this Volume	N/A
1.3	Documents Referenced in this NUREG	N/A
Part I: Timeliness and Recordkeeping		
2.0	Timeliness in Decommissioning Overview	NRC AL 96-05, Rev. 1 & NUREG/BR-0241, Sec. 3
2.1	Initiation of the Decommissioning Process	NRC AL 96-05, Rev. 1 & NUREG/BR-0241, Sec. 3
2.2	Extension or Alternative Schedule for Decommissioning	NRC AL 96-05, Rev. 1 & NUREG/BR-0241, Sec. 3
2.3	Completion of the Decommissioning Process	NRC AL 96-05, Rev. 1
2.4	Application of the Timeliness Rule to Special Cases	NRC AL 96-05, Rev. 1, IN 96-47, & NUREG/BR-0241, Sec. 6
2.5	Enforcement	NRC AL 96-05, Rev. 1
2.6	Review Criteria for Extension or Alternative Time Schedule Requests	NRC AL 96-05, Rev. 1
3.0	Recordkeeping Overview	N/A
3.1	Recordkeeping Requirements During Licensed Operations	IN 96-47; DG-3001
3.2	Recordkeeping Information for Decommissioning Plans	N/A
3.3	Record Disposition Requirements at License Termination or Transfer	61 FR 24669
3.4	NRC Staff Record Retention Requirements	NUREG/BR-0241, Sec. 5 & Appendix D
Part II: Financial Assurance		
4.0	Financial Assurance Overview	NUREG-1727, Sec. 15.0
4.1	Cost Estimate (As Contained in a Decommissioning Funding Plan or Decommissioning Plan)	NUREG-1727, Sec. 15.1
4.2	Prescribed Amount	NUREG-1727, Sec. 15.2
4.3	Financial Assurance Mechanisms	NUREG-1727, Sec. 15.3

Table 1.1 Origin of Guidance in this Volume (continued)

Section of this Guidance		Section of SRP or Other Guidance
Part III: Bankruptcy, Bankruptcy Review Team, and Drawing on Financial Assurance Instruments		
5.0	Bankruptcy Overview	N/A
5.1	Bankruptcy	N/A
5.2	Bankruptcy Review Team	NUREG-1556, App. H
6.0	Procedures for Drawing on Financial Assurance Instruments	NUREG-1556, App. I
6.1	Letter of Credit	NUREG-1556, App. I
6.2	Surety Bond	NUREG-1556, App. I
6.3	Parent Company Guarantee	NUREG-1556, App. I
6.4	Self-Guarantee	NUREG-1556, App. I
7.0	Procedure for Approving Disbursements from Decommissioning Funds	N/A
8.0	Returning, Canceling, or Reducing Financial Assurance Instruments	Management Directive 8.12
Appendix A	Standard Format and Content of Financial Assurance Mechanisms for Decommissioning	NUREG-1727, App. F
Appendix B	NRC Response to Comments	N/A

1.3 DOCUMENTS REFERENCED IN THIS NUREG

This section provides the referenced and superseded documents list for this volume. While Chapter 4 of Volume 1 and Chapter 1 of Volume 2 of this NUREG series provided lists of decommissioning references, Section 1.3.3 provides a complete list of superseded documents for this NUREG series.

Use of References Cited in this Volume

This volume refers to a number of other documents for guidance. In some cases, this volume will state that the referenced guidance is approved by NRC staff. However, in some cases, the documents are only referenced for information. In these cases, the specific applicability to a facility should be determined by the licensee, in consultation with NRC staff, as appropriate.

1.3.1 DOCUMENTS REFERENCED BY VOLUME 3

- Department of the Treasury. Circular 570, “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies.” Washington, DC. July 2010.
- U.S. Nuclear Regulatory Commission. Branch Technical Position, “Technical Position on Financial Assurances for Reclamation, Decommissioning, and Long-Term Surveillance and Control of Uranium Recovery Facilities.” Washington, DC. October 1988.
- — — — — —. Inspection Manual Chapter 2602, “Decommissioning Oversight and Inspection Program for Fuel Cycle Facilities and Materials Licensees.” Washington, DC. July 2008.
- — — — — —. Management Directive 8.12, “Decommissioning Financial Assurance Instrument Security Program.” NRC: Washington, DC. April 3, 1998.
- — — — — —. NUREG/CR-6477, “Revised Analyses of Decommissioning Reference Non-Fuel-Cycle Facilities.” NRC: Washington, DC. September 1997.
- — — — — —. NUREG-0910, “NRC Comprehensive Records Disposition Schedule.” Washington, DC. March 2005.
- — — — — —. NUREG-1199, “Standard Format and Content of a License Application for a Low-Level Radioactive Waste Disposal Facility.” Washington, DC. January 1991.
- — — — — —. NUREG-1200, “Standard Review Plan for the Review of a License Application for a Low-Level Radioactive Waste Disposal Facility.” Washington, DC. April 1994.
- — — — — —. NUREG-1537, “Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors.” Washington, DC. February 1996.
- — — — — —. NUREG-1556, “Consolidated Guidance About Materials Licenses,” Vol. 15, “Guidance About Changes of Control and About Bankruptcy Involving Byproduct, Source, or Special Nuclear Material Licenses.” Washington, DC. November 2000.

- — — — — —. NUREG-1569, “Standard Review Plan for In Situ Leach Uranium Extraction License Applications.” Washington, DC. June 2003.
- — — — — —. NUREG-1575, “Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM).” Washington, DC. August 2000.
- — — — — —. NUREG-1600, “General Statement of Policy and Procedure for NRC Enforcement Actions.” NRC: Washington, DC. May 2000.
- — — — — —. NUREG-1620, “Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978.” Washington, DC. June 2003.
- — — — — —. NUREG-1700, “Standard Review Plan for Evaluating Nuclear Power Reactor License Termination Plans.” Washington, DC. April 2003.
- — — — — —. Draft Regulatory Guide-3001, “Records Important for Decommissioning for Licensees Under 10 CFR Parts 30, 40, 70, and 72.” Washington, DC. July 1989.
- — — — — —. Regulatory Guide 1.159, Revision 1, “Assuring the Availability of Funds for Decommissioning Nuclear Reactors.” NRC: Washington, DC. October 2003.
- — — — — —. Regulatory Guide 4.21, “Minimization of Contamination and Radioactive Waste Generation: Life-Cycle Planning.” NRC: Washington, DC. June 2008.

The following documents are not specifically referenced in Volume 3, but represent guidance on decommissioning cost estimating for various facilities and cost components.

- U.S. Nuclear Regulatory Commission. NUREG/CR-0129, “Technology, Safety and Costs of Decommissioning a Reference Small Mixed Oxide Fuel Fabrication Plant.” Washington, DC. February 1979.
- — — — — —. NUREG/CR-1266, “Technology, Safety and Costs of Decommissioning a Reference Uranium Fuel Fabrication Plant.” Washington, DC. October 1988.
- — — — — —. NUREG/CR-1757, “Technology, Safety and Costs of Decommissioning a Reference Uranium Hexafluoride Conversion Plant.” Washington, DC. October 1981.
- — — — — —. NUREG/CR-2210, “Technology, Safety and Costs of Decommissioning a Reference Independent Spent Fuel Storage Installation.” Washington, DC. January 1984.
- — — — — —. NUREG/CR-2241, “Technology and Costs of Termination Surveys Associated with Decommissioning of Nuclear Facilities.” Washington, DC. February 1982.
- — — — — —. NUREG/CR-3293, “Technology, Safety and Costs of Decommissioning Reference Nuclear Fuel Cycle and Non Fuel Cycle Facilities Following Postulated Accidents.” Washington, DC. May 1985.
- — — — — —. NUREG/CR-5884, Vols. 1 and 2, “Revised Analyses of Decommissioning for the Reference Pressurized Water Reactor Power Station.” Washington, DC. November 1995.

- — — — — —. NUREG/CR-6054, “Estimating Pressurized Water Reactor Decommissioning Costs: A User’s Manual for the PWR Cost Estimating Computer Program (CECP) Software.” Washington, DC. November 1995.
- — — — — —. NUREG/CR-6174, Vols. 1 and 2, “Revised Analyses of Decommissioning for the Reference Boiling Water Reactor Power Station.” Washington, DC. July 1996.
- — — — — —. NUREG/CR-6270, “Estimating Boiling Water Reactor Decommissioning Costs: A User’s Manual for the BWR Cost Estimating Computer Program (CECP) Software.” Washington, DC. June 1996.
- — — — — —. NUREG/CR-6280, “Technology, Safety, and Costs of Decommissioning a Reference Large Irradiator and Reference Sealed Sources.” Washington, DC. January 1996.
- — — — — —. NUREG-1307, Rev. 10, “Report on Waste Burial Charges.” Washington, DC. October 2002.

1.3.2 DOCUMENTS SUPERSEDED BY VOLUME 3

- U.S. Nuclear Regulatory Commission. Administrative Letter 96-05, Rev. 1, “Compliance with the Rule ‘Timeliness in Decommissioning of Material Facilities.’” Washington, DC. July 14, 1998.
- — — — — —. Information Notice 96-47, “Recordkeeping, Decommissioning Notifications for Disposals of Radioactive Waste by Land Burial Authorized under Former 10 CFR 20.304, 20.302, and Current 20.2002.” NRC: Washington, DC. August 16, 1996.
- — — — — —. NUREG/BR-0241, “NMSS Handbook for Decommissioning Fuel Cycle and Materials Licensees.” NRC: Washington, DC. March 1997.
- — — — — —. NUREG-1727, “NMSS Decommissioning Standard Review Plan.” NRC: Washington, DC. September 2000.

1.3.3 DOCUMENTS SUPERSEDED BY NUREG-1757, VOLUMES 1, 2, AND 3

This NUREG series supersedes the Regulatory Guides (RGs), Policy and Guidance Directives (P&GDs), Branch Technical Positions (BTPs), and NUREGs listed in Table 1.2.

Table 1.2 List of Documents Superseded by this NUREG Series

Document Identification	Title	Date
RG 3.65	“Standard Format and Content Decommissioning Plans for Licensees Under 10 CFR Parts 30, 40, and 70”	06/1989
RG 3.66	“Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning Under 10 CFR Parts 30, 40, 70, and 72”	06/1990
P&GD FC 90-2	“Standard Review Plan for Evaluating Compliance with Decommissioning Requirements for Source, Byproduct, and Special Nuclear Material License Applications”	04/1991
P&GD FC 91-2	“Standard Review Plan: Evaluating Decommissioning Plans for Licensees Under 10 CFR Parts 30, 40, and 70”	08/1991
P&GD FC 83-3	“Standard Review Plan for Termination of Special Nuclear Material Licenses of Fuel Cycle Facilities”	03/1983
NRC Memorandum	“Draft Staff Guidance for Dose Modeling of Proposed Partial Site Releases”	09/28/2001
BTP	“Draft Branch Technical Position on Site Characterization for Decommissioning”	11/1994
NUREG-1500	“Working Draft Regulatory Guide on Release Criteria for Decommissioning: NRC Staff's Draft for Comment”	08/1994
NUREG/CR-5849	“Manual for Conducting Radiological Surveys in Support of License Termination”	06/1992
NUREG/BR-0241	“NMSS Handbook for Decommissioning Fuel Cycle and Materials Facilities”	03/1997
NUREG-1727	“NMSS Decommissioning Standard Review Plan”	09/2000

The Standard Review Plan (SRP) (NUREG-1727) and the Handbook (NUREG/BR-0241) have been incorporated into this NUREG series. This three-volume NUREG series supersedes NUREG/BR-0241 and NUREG-1727 in their entirety.

PART I: TIMELINESS AND RECORDKEEPING

2. TIMELINESS IN DECOMMISSIONING OVERVIEW

“Timeliness in Decommissioning of Material Facilities” (known hereafter as the Timeliness Rule) established criteria for timely decommissioning upon termination of operations by amending 10 CFR Parts 2, 30, 40, 70, and 72. The Timeliness Rule establishes requirements for notifying the NRC of pending decommissioning actions and cessations in licensee operations, establishes requirements for when decommissioning plans (DPs) need to be submitted, and establishes requirements for completing decommissioning activities. Chapter 5 of Volume 1 of this NUREG series provides an overview of the decommissioning process, which includes a brief discussion of the timing of decommissioning and the Timeliness Rule. This section of Volume 3, however, provides more detailed information regarding the timing of decommissioning and the Timeliness Rule.

The decommissioning timeliness requirements described in this chapter apply to uranium recovery licensees, with the exception of tailings and waste disposal areas (see the more detailed discussion in Section 2.4). However, any discussion in this chapter of the decommissioning *process* required by the License Termination Rule (LTR) does not apply to uranium recovery licensees, since, under 10 CFR 20.1401(a), the LTR does not apply to such licensees.

Note that the regulations also allow licensees to request relief from the timeliness requirements when justified. The effective date of the Timeliness Rule was August 15, 1994 (59 FR 36026; July 15, 1994).

The Timeliness Rule applies to situations when (1) the licensee has decided to permanently cease principal activities at the entire site, or at any separate building or outdoor area, or (2) no principal activities have been conducted in such areas for a period of 24 months, even if no decision has been made to permanently cease principal activities. Further, the criteria apply to all licensees for whom the authorization to perform licensed activities has expired or been revoked.

The purpose of the Timeliness Rule is to avoid future problems and reduce potential risk, to the public and environment, that may result from delayed decommissioning of inactive facilities and sites. Specific concerns that prompted the Timeliness Rule include the potential risk of safety practices becoming lax because of attrition of key personnel and lack of management interest at facilities once operations cease, as well as the potential for bankruptcy, corporate takeover, or other unforeseen changes in a company’s financial status that may complicate or delay decommissioning.

This chapter contains guidance on compliance with Timeliness Rule requirements. The contents of this chapter are as follows:

- 2.1 Initiation of the Decommissioning Process
- 2.2 Extension or Alternative Schedule for Decommissioning
- 2.3 Completion of the Decommissioning Process

2.4 Application of the Timeliness Rule to Special Cases

2.5 Enforcement

2.6 Review Criteria for Extension or Alternative Time Schedule Requests

Figures 2.1a and 2.1b present flowcharts to assist in determining compliance with the Timeliness Rule. If licensees find that they are out of compliance, they must take all necessary corrective actions to restore compliance. Licensees may contact the NRC for assistance in determining whether their actions meet regulatory requirements and for regulatory guidance documents containing NRC recommendations of adequate methods of compliance.

Licensees who notify the NRC in accordance with the Timeliness Rule should provide such notices to the appropriate offices listed in 10 CFR 30.6, 40.5, and 70.5.

2.1 INITIATION OF THE DECOMMISSIONING PROCESS

There are four situations that lead to the requirement for a licensee to notify the NRC and to initiate the decommissioning process. These occurrences include the following:

1. The license to conduct a principal activity has expired or been revoked. (A principal activity is one that is essential to achieving the purpose for which a license was issued or amended. Storage, during which no licensed material is accessed for use or disposal, and activities incidental to decontamination or decommissioning are not principal activities.)
2. The licensee has made the decision to permanently cease principal activities at the entire site or in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area (this includes inactive burials, and land used for waste disposal under 10 CFR 20.302, 20.304, or the current 20.2002) is unsuitable for release in accordance with the requirements in Subpart E, "Radiological Criteria for License Termination," of 10 CFR Part 20, "Standards for Protection Against Radiation." See Volume 2 of this NUREG report for guidance on unsuitable release: Chapter 5 and Appendices H and I offer general guidance for dose modeling, and Appendix J offers specific guidance on burials.
3. There has been a 24-month duration in which no principal activities have been conducted under the license (regardless of the level of contamination), whether or not a decision was made to permanently cease principal activities.
4. There has been a 24-month duration in which no principal activities have been conducted in any separate building or outdoor area (including inactive burial grounds) that is unsuitable for release in accordance with the requirements in Subpart E of 10 CFR Part 20, whether or not a decision was made to permanently cease principal activities.

A licensee is required to assess the dose consequences of unused outdoor areas, including onsite buried material and unused separate buildings, in order to determine whether the area is suitable for release in accordance with 10 CFR Part 20, Subpart E.

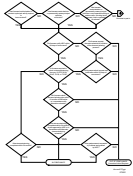


Figure 2.1a Determining Compliance with the Timeliness Rule (1 of 2)

TIMELINESS IN DECOMMISSIONING OVERVIEW

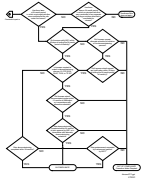


Figure 2.1b Determining Compliance with the Timeliness Rule (2 of 2)

Within 60 days of the occurrence of any of the above, the licensee is required to inform the NRC of the occurrence in writing. In addition, the licensee is required to begin decommissioning the facility *or* within 12 months, submit a DP to the NRC for review. If no DP is needed, the licensee is to begin decommissioning within the 60-day notification period. When a DP is required, the written notification serves to initiate the decommissioning process, and the licensee must submit a DP within 12 months of the notification date. The licensee must begin decommissioning in accordance with the DP, following the NRC's approval of the DP.

MULTIPLE LICENSES AT A SITE OR MULTIPLE ACTIVITIES ON A LICENSE

If there are multiple licenses at a site, the requirements of the Timeliness Rule apply to each individual license. In situations where a license has expired, but principal activities will continue under other licenses in the same building or outdoor area, the licensee would need to submit an alternative schedule request to delay decommissioning until all licensed activities are terminated in that building or outdoor area. The NRC may find this delay acceptable provided that the radioactive material from the expired license is not significantly migrating, the licensee has sufficient financial assurance for decommissioning, and adequate controls are in place to ensure protection of the public and the environment.

If there are multiple activities authorized under the same license, the requirements of the Timeliness Rule apply to the license and not to each individual activity. That is, an individual activity could permanently cease without necessarily requiring the licensee to initiate the decommissioning process. As long as at least one principal activity continues, the licensee is not required to decommission its entire site. However, parts of the licensee's site may require initiation of the decommissioning process, even if principal activities continue in other parts of the site. If a building or an area is unsuitable for release under NRC requirements, then the licensee should either submit an extension request, or initiate the decommissioning process for that building or area when (1) a decision is made to permanently cease principal activities in a separate building or outdoor area, or (2) no principal activity has been conducted in such areas for 24 months.

TIMELINESS REQUIREMENTS FOR A DECOMMISSIONING PLAN

If the licensee is required to submit a DP pursuant to license condition or under 10 CFR 30.36(g), 40.42(g), or 70.38(g), the plan must be submitted to the NRC within 12 months of the notification date, unless the licensee has submitted an alternative schedule request. The NRC may approve an alternate schedule for the submittal of the DP, in accordance with 10 CFR 30.36(g)(2), 40.42(g)(2), 70.38(g)(2), and 72.54(f)(2). For additional information on an alternative schedule for decommissioning, see Section 2.6.

DECOMMISSIONING SCHEDULE REQUIREMENTS

If the licensee is required to submit a DP, then decommissioning must be initiated upon the NRC's approval of the plan. Decommissioning must be completed (including the submittal of a complete final survey report), and a request for license termination submitted (when decommissioning involves the entire site), as soon as practicable but no later than 24 months

after the initiation of decommissioning, unless a delay or postponement has been requested by the licensee and granted by the NRC. (Note that 10 CFR 170.31, “Schedule of Fees for Materials Licenses and Other Regulatory Services, Including Inspections, and Import and Export Licenses,” contains the fee schedule for NRC review of DPs.) Decommissioning by a licensee not required to submit a DP must also be completed, and a request for license termination submitted (when decommissioning involves the entire site), as soon as practicable but no later than 24 months after the initiation of decommissioning, unless a delay or postponement has been requested by the licensee and granted by the NRC.

2.2 EXTENSION OR ALTERNATIVE SCHEDULE FOR DECOMMISSIONING

The licensee may request to delay initiation of the decommissioning process. This request must be provided to the NRC within 30 days of the occurrence of any of the situations described in Section 2.1 and contain justification for the proposed delay. Pursuant to 10 CFR 30.36(f), 40.42(f), 70.38(f), and 72.54(f)(1), the NRC may grant a request to delay initiation of the decommissioning process. The decommissioning process does not start until the NRC makes a determination on the request.

For additional information regarding the criteria that the NRC staff will use to review requests for alternative time schedules for initiation of decommissioning activities, see Section 2.6.

2.3 COMPLETION OF THE DECOMMISSIONING PROCESS

As the final step in decommissioning, the licensee shall certify the disposition of all licensed material, including accumulated wastes, and conduct a radiation survey of the premises where the licensed activities were carried out. The licensee must either submit a report of the results of this survey or demonstrate that the premises are suitable for release in some other manner. This information must be submitted within the 24-month period after notification or approval of the DP, if required, unless an alternative schedule has been approved. Licenses, including expired licenses, will be terminated by written notice to the licensee when the Commission determines that (1) the radioactive material has been properly disposed of, (2) a reasonable effort has been made to eliminate residual radioactive contamination, and (3) either a radiation survey has been performed, or other information is submitted by the licensee which demonstrates that the premises are suitable for release in accordance with NRC requirements.

2.4 APPLICATION OF THE TIMELINESS RULE TO SPECIAL CASES

STORAGE-ONLY LICENSES

There are two different types of licenses where the authorized activity is “storage only”:

- (1) A storage-only license issued to address the inability to transfer or dispose of the material:

Storage under these circumstances is not a principal activity as defined in 10 CFR 30.4, “Definitions.” Therefore, the requirements to notify the NRC and undertake decommissioning of the material kept in storage are not applicable. For these licensees, any decommissioning issues will be addressed by NRC when the license comes up for renewal. (Possible examples could include “greater than class C” and transuranic waste.)

- (2) A license where storage of material is the principal activity (i.e., spent fuel storage under 10 CFR Part 72):

In such cases, storage will be treated as the principal activity under the license. Thus, the notification and decommissioning requirement would apply, but would be applicable only if the licensee ceases storage (i.e., transfers all material).

ONSITE DISPOSALS (BURIAL GROUNDS)

The Timeliness Rule includes requirements pertaining to buildings and outdoor areas that have been unused for a period of 24 months at facilities licensed under 10 CFR Parts 30, 40, and 70. Outdoor areas include those where disposals were made pursuant to former 10 CFR 20.304 and 20.302 and current 10 CFR 20.2002, “Method for Obtaining Approval of Proposed Disposal Procedures.” Note that outdoor areas where radioactive materials were used that currently meet the NRC’s criteria for unrestricted use are not subject to the notification requirements of the Timeliness Rule.

Outdoor areas include those where disposals were made pursuant to former 10 CFR 20.304 and 20.302 and current 10 CFR 20.2002. A licensee is required to assess the dose consequences of existing onsite buried material in order to determine whether the area is suitable for release in accordance with 10 CFR Part 20, Subpart E.

For proposed new onsite disposals, NRC guidance suggests constraining doses from onsite disposals to a few millirem per year, so that it is more likely that the entire site (including the contribution from onsite disposals) will meet the release criteria in 10 CFR Part 20, Subpart E, without remediation of the onsite disposal. Guidance for onsite disposal of radioactive material under 10 CFR 20.2002 is provided in Section 15.12 of Volume 1 of this NUREG report.

Burial of certain quantities of radioactive waste in soil by a licensee without prior approval of the U.S. Atomic Energy Commission (AEC) was authorized on January 29, 1957 (22 FR 548). Originally, this authorization was codified in former 10 CFR 20.304. On October 30, 1980, the Commission concluded that it was inappropriate to continue generic authorizations of burials

pursuant to 10 CFR 20.304 without regard to factors such as location of burial, concentrations of radioactive material, form of packaging, and notification of the NRC (45 FR 71761, 71762). Therefore, the NRC rescinded 10 CFR 20.304, and as of January 28, 1981, a licensee wishing to perform onsite disposals of the type previously authorized under 10 CFR 20.304 was required to obtain the NRC's prior approval in accordance with 10 CFR 20.302. The current requirements of 10 CFR 20.2002 (revised from 10 CFR 20.302) remain in force. For proposed new onsite disposals, refer to the guidance for onsite disposal of radioactive material under 10 CFR 20.2002, in Section 15.12 of Volume 1 of this NUREG report.

During decommissioning, the NRC will evaluate onsite disposals authorized under former 10 CFR Sections 20.304, 20.302, and current 20.2002 to determine their potential impact on the health and safety of the public. The acceptability of a disposal will depend on two factors: (1) the potential for the disposed material to migrate and significantly contaminate the ground water and (2) the potential for significant exposure to members of the public who may, at some time in the future, develop and use the disposal site for a private residence, farm, business, or other purpose.

BROAD-SCOPE LICENSES

The requirements of the Timeliness Rule apply to licensees regulated by 10 CFR Part 33, "Specific Licenses of Broad Scope for Byproduct Material." The permanent cessation of principal activities in an individual room or laboratory may require the licensee to notify the NRC if no other licensed activities are being performed in the building. Licensees should note, even if licensed activities are being performed in other parts of the building, they are required to keep lists of restricted (and formerly restricted) areas pursuant to 10 CFR 30.35(g)(3). Inspectors will review these lists to identify individual rooms that have been released, and verify that the rooms have been properly decommissioned.

URANIUM AND THORIUM MILLING

The Timeliness Rule, as described in this chapter, applies to the buildings and outdoor areas at all uranium and thorium recovery licensed sites, except the tailings impoundments and/or waste disposal areas. Per 10 CFR 40.42(l), specific licenses for uranium and thorium milling are exempt from selected provisions in the Timeliness Rule, with respect to the reclamation of tailings impoundments and/or waste disposal areas. The Statement of Considerations for the Timeliness Rule (59 FR 36026; July 15, 1994) provides clarification on disposal areas. Disposal areas (defined in 10 CFR Part 40) are areas containing Atomic Energy Act Section 11.e.(2) byproduct material that must be reclaimed under the design requirements of Criterion 6 of Appendix A. Based on 10 CFR Part 40, Appendix A, Criterion 2, in most cases, wastes from in situ uranium recovery (ISR) facilities must be disposed at existing large mill tailings disposal sites. In general, ISR facilities are cleaning up for unrestricted use all areas on the site, including evaporation ponds, deep well injection areas, and land application areas, among other areas on site. As a result, those areas are not being reclaimed under the design requirements of 10 CFR Part 40, Appendix A, Criterion 6, so these areas are not generally considered disposal areas for purposes of the exemption in 10 CFR 40.42(l). Thus, typically, all areas of ISR facilities, including evaporation ponds, deep well injection areas, land application areas, and

other similar areas, *will* be subject to the timeliness requirements. The exemptions are from 10 CFR 40.42(d)(4) for the 24-month period of inactivity; 10 CFR 40.42(g) for the content of the DP; and 10 CFR 40.42(h) for the timing of completion of the plan.

At ISRs, in addition to the applicability of the timeliness requirements for their overall decommissioning upon closure, the separate outdoor area provisions (see, e.g., 10 CFR 40.42(d)) mean that the timeliness requirements also apply to the ISRs on a wellfield-by-wellfield basis. This application reflects the common operational practice at ISRs, where groundwater restoration may be occurring in one wellfield while active uranium recovery is taking place in another wellfield. Once an ISR licensee decides to terminate the principal activity of uranium recovery in a particular wellfield, restoration of that wellfield must be initiated on a timely basis, even though licensed activities may continue to be conducted in other wellfields. Cessation of lixiviant injection would signify a licensee's intent to shift from the principal activity of uranium production to the initiation of groundwater restoration. While the NRC staff recognizes that residual uranium in the groundwater may still be recovered following the cessation of lixiviant injection and the initiation of groundwater restoration, the NRC staff's position is that the recovery of uranium then becomes incidental to groundwater restoration. The NRC staff recognizes that, in many cases, groundwater restoration may take several years or more to complete in a given wellfield. Nevertheless, extensions for restoration beyond the 24-month completion requirement (see Section 2.6) must provide that decommissioning/restoration will be completed as soon as practical, and that the health and safety of workers and the public will be protected.

TEMPORARY JOB SITES

The Timeliness Rule applies to licensees who conduct licensed activities at temporary job sites and are licensed pursuant to 10 CFR Parts 30, 40, and 70. Examples of these activities include, but are not limited to, reactor component repair service; well logging; radiography; portable gauge use; mobile nuclear medicine service; and field flood studies. The rule also applies to Agreement State licensees conducting licensed activities at temporary job sites within NRC jurisdiction pursuant to the provisions for reciprocity in 10 CFR Part 150, "Exemptions and Continued Regulatory Authority in Agreement States and in Offshore Waters under Section 274." However, operations conducted at temporary job sites generally do not result in site contamination. Additionally, all radioactive materials used at temporary job sites are required to be removed at the completion of the licensed work. Hence, the Timeliness Rule will not apply to such operations that are conducted in compliance with NRC regulations and license conditions and do not result in site contamination that would involve site decommissioning.

Further, NRC or Agreement State licensees conducting licensed activities at temporary job sites are not expected to notify the NRC upon release of each job site under normal operations. These licensees are, however, expected to comply with applicable notification requirements, if significant contamination does occur (i.e., 10 CFR 30.50, "Reporting Requirements," and 10 CFR 39.77, "Licenses and Radiation Safety Requirements for Well Logging"). In case of site contamination, decommissioning may be required, and compliance with the Timeliness Rule may be applicable. Such occurrences will be reviewed on a case-by-case basis.

2.5 ENFORCEMENT

Failure to comply with the Timeliness Rule may be classified as a Severity Level III violation (as defined in NUREG-1600, “General Statement of Policy and Procedure for NRC Enforcement Actions” (Enforcement Policy), issued May 2000, and may result in consideration of monetary civil penalties or other enforcement action, as appropriate. Examples of noncompliance include the following:

- failure to notify the NRC as required by regulation or license condition;
- failure to meet decommissioning standards;
- failure to complete decommissioning activities in accordance with regulation or license condition; and
- failure to meet required schedules without adequate justification.

NUREG-1600 describes the NRC’s enforcement policies. The current Enforcement Policy is included on the NRC’s Web site at <<http://www.nrc.gov>>.

2.6 REVIEW OF EXTENSION OR ALTERNATIVE TIME SCHEDULE REQUESTS

The NRC staff will review a request to extend the time limits established for the initiation or completion of decommissioning activities in accordance with the requirements of the Timeliness Rule. *The Timeliness Rule requirements are presented in 10 CFR 30.36, 40.42, 70.38, and 72.54. Throughout the remainder of this section, reference will be made to various sections of 10 CFR 30.36, “Expiration and Termination of Licenses and Decommissioning of Sites and Separate Buildings or Outdoor Areas.” Readers should substitute similar sections in 10 CFR 40.42, 70.38, and 72.54, as applicable, for other licensing situations.*

There are two relevant time schedules: one for initiating decommissioning (10 CFR 30.36(d)) and another for completion of decommissioning (10 CFR 30.36(h)).

The time schedules can be extended for initiation of decommissioning. Section 30.36(f) provides the requirements for extending the time periods established in Section 30.36(d); specifically, whether the relief is not detrimental to the public health and safety and is otherwise in the public interest. In addition to the criteria in 10 CFR 30.36(f), the criteria in 10 CFR 30.36(i) may also be helpful in evaluating an extension request.

The time schedules for the completion of decommissioning can also be extended. A request for an extension or alternative schedule for completing decommissioning may be approved, pursuant to 10 CFR 30.36(i), if warranted, after considering the following:

- whether it is technically feasible to complete the decommissioning within the 24-month period;

- whether sufficient waste disposal capacity is available to allow the completion of the decommissioning within the 24-month period;
- whether allowing short-lived radionuclides to decay will achieve a significant volume reduction in waste requiring disposal;
- whether allowing short-lived radionuclides to decay can achieve a significant reduction in radiation exposure to workers; and
- whether there are other site-specific factors, such as the regulatory requirements of other agencies, lawsuits, ground water treatment activities, monitored natural ground water restoration, actions that could result in more environmental harm than deferred cleanup, and other NRC-agreed upon factors beyond the control of the licensee.

The NRC's review should include the following:

- acceptance review;
- detailed review;
- request for additional information; and
- documentation of the safety and environmental review.

The NRC staff will review a request to extend the time period established in 10 CFR 30.36(d) (for initiating decommissioning) or 10 CFR 30.36(h) (for completing decommissioning) in accordance with the following sections.

ACCEPTANCE REVIEW

If the licensee's information is inadequate or incomplete, the staff will request that the licensee supply additional information. The NRC staff may elect to perform any of the following:

- reject a request because of inadequate information;
- place a request on hold pending submittal of requested information; or
- accept a request for a detailed review.

DETAILED REVIEW

The NRC staff will determine whether the licensee has met the extension request requirements of the Timeliness Rule. The NRC staff will verify the following:

- The licensee met the notification requirements of the Timeliness Rule.
- The licensee provided sufficient evidence to show that it met the regulatory evaluation criteria described below.

- Whether factors alleged to be beyond the control of the licensee are, in fact, beyond its control.

REQUESTS FOR ADDITIONAL INFORMATION

The NRC staff will document insufficient or inadequate information submitted by the licensee and communicate what additional information is needed to address the identified deficiencies.

SAFETY AND ENVIRONMENTAL REVIEW REPORTS

The NRC staff will document and communicate to the licensee the staff's position on the safety and environmental acceptability of the request, which forms the basis for the subsequent licensing action.

2.6.1 ACCEPTANCE CRITERIA

INFORMATION TO BE SUBMITTED

To support a request for an extension of the time period in 10 CFR 30.36(d), a licensee should provide the following:

- The date that principal activities ceased at the site, separate building, or outdoor area, as provided for in 10 CFR 30.36(d)(3) and 30.36(d)(4).
- The date a request for an extension of the time period is required, as provided for in 10 CFR 30.36(f).
- The length of postponement requested.
- Whether a DP will ultimately be required for the site.
- The reason the licensee is requesting an extension of the time period for initiation of the decommissioning schedule and an explanation of how the public's interest will be served by NRC approval of the extension. For example, licensees who request to go on standby rather than decommission could address whether decommissioning of the facility will require dismantlement, such that the facility will no longer be available for nuclear purposes. Operators of Federal facilities could explain how an extension of the time period for initiation of decommissioning would better take into account a broader Federal plan for decommissioning that establishes priority, funding, and schedules, thereby reducing the public funds needed for decommissioning the facility.
- A demonstration that the facilities will not significantly deteriorate during a standby period, if applicable. Facilities should be sufficiently maintained such that they may become operational without extensive repairs and decommissioning is not significantly more complex at a later date.
- A discussion of the current decommissioning cost estimate and the potential for increased decommissioning costs if an extension of the time period is approved.

- Evidence of adequate financial assurance for the ultimate decommissioning of the site. Financial assurance documentation will be reviewed in accordance with Chapter 4 and Appendix A to this volume.
- A discussion (1) of the extent and nature of contamination and the potential for migration by airborne or ground water pathways and (2) of the plan for monitoring and maintaining the site, separate building, or outdoor area during the extension period. The plan should be sufficiently detailed to demonstrate that public and worker health and safety and the environment will not be negatively affected during the extension period. The operating maintenance and radiation protection programs previously approved by the NRC may be continued during the extension period. The plan should also demonstrate that the applicant will conduct sufficient monitoring, during the extension period, to ensure that residual contamination does not become a public or a worker health and safety issue.

2.6.2 EVALUATION CRITERIA

Notification Requirements of the Timeliness Rule

A request to extend the time period established for initiation of decommissioning may be accepted if the request demonstrates that the extension is not detrimental to public health and safety and is otherwise in the public interest.

Evidence that an Extension of the Time Period will not be Detrimental to Public Health and Safety

To demonstrate that delaying the start of decommissioning will not be detrimental to public health and safety, a licensee should submit the following:

- a discussion of its record of regulatory compliance, particularly its compliance with NRC regulations
- the health and safety plan that will be in effect during the standby period

If the current health and safety plan will remain in effect during standby, the licensee should state when it was submitted and when the NRC-approved health and safety plan will be reviewed in accordance with Volume 1 of this NUREG series.

Demonstration that an Extension of the Time Period for Initiation of Decommissioning is Otherwise in the Public Interest

Factors that may form the basis for an argument that an extension of the time period for initiation of decommissioning is otherwise in the public interest include, but are not limited to, the following:

- future needs of the national defense industry
- a substantial increase in the efficiency of decommissioning and thus a reduction in anticipated dose to workers

- reduced decommissioning costs for Federal facilities
- postponing the initiation of decommissioning will not result in the spread of contamination, particularly ground water contamination, that may adversely affect the ultimate termination of the license

This list is not meant to be exhaustive. There are likely to be other valid licensee-specific arguments for extending the time period established for decommissioning. The NRC's determination of what is in the public interest will not be based solely on what is in the applicant's best economic interest; because the applicant's economic interest and the public's interest may not necessarily coincide.

2.6.3 SAMPLE EVALUATION FINDINGS

Documentation of the evaluation findings by the NRC staff should include the elements shown below:

- The NRC staff has reviewed the licensee's request to extend the time period established in 10 CFR 30.36(d), according to NUREG-1757, Volume 3, Revision 1, "Consolidated Decommissioning Guidance: Financial Assurance, Recordkeeping, and Timeliness."
- *[Insert name and license number of facility]* ceased principal activities at *[insert location of facility]* on *[insert date]*. The NRC received a request to extend the time period established for initiation of decommissioning by *[insert number]* years, on *[insert date]*, in accordance with the requirements of 10 CFR 30.36(f). *[Insert name of licensee]* has acknowledged that a DP will be required to decommission the site before license termination.
- The Health and Safety Plan submitted *[or referenced]* by *[insert name of licensee]* is adequate to ensure that public health and safety will be protected during the extension period. In addition, results of past inspections indicate that *[insert name of licensee]* can successfully implement its operational health and safety plan.
- *[Insert name of licensee]* has secured financial surety equal in amount to the decommissioning cost estimate that the NRC previously approved. Provisions have been made to vary the amount of financial surety if necessary, to cover changing decommissioning costs with time.
- The monitoring and maintenance plan submitted by *[insert name of licensee]* is adequate to ensure that worker and public health and safety, and the environment, will not be negatively affected during the extension period.
- It is in the public's interest to allow *[insert name of licensee]* to extend the time period established for initiation of decommissioning for a period of time, not to exceed *[insert number]* years, for the following reason(s). *[Insert reason(s).]* *[Examples: The standby period will allow economic conditions in the uranium market to improve. Existing statutes oblige the Secretary of Energy to gather information on the uranium mining industry and to have a continuing responsibility for the domestic industry, to encourage the use of domestic uranium. See 42 U.S.C. 2201b and 2296b-3. Although this responsibility is not the NRC's, we recognize that the viability of the industry is a Federal concern. **OR** An alternate*

schedule involving some of the Federal licensee's other facilities would better take into account the Federal licensee's overall decommissioning needs, thereby reducing public funds needed for the ultimate decommissioning of the facility, etc.]

The NRC letter documenting its evaluation findings to the licensee will also state that within 60 days of the termination of the extension period, the licensee must notify the NRC in writing of such occurrence, and either begin decommissioning or submit within 12 months of notification a DP, if required by 10 CFR 30.36(g)(1), and begin decommissioning upon approval of that plan. An extension of a time schedule (for either initiation or completion of decommissioning) for greater than 6 months should be by license amendment, and the amendment should lay out the time schedule.

3. RECORDKEEPING OVERVIEW

NRC regulations prescribe recordkeeping responsibilities for NRC licensees. During licensed operations, the NRC requires licensees to maintain records important to safe and effective decommissioning. For licensees who must submit a DP, these records should subsequently be used to develop the site description portion of the DP. Following decommissioning and before license termination, additional NRC regulations prescribe the disposition of these records, in most cases to the NRC. Finally, the NRC staff is responsible for maintaining decommissioning records following license termination.

This chapter contains guidance for these recordkeeping requirements. The contents of this chapter are as follows:

- 3.1 Recordkeeping Requirements During Licensed Operations
- 3.2 Recordkeeping Information for Decommissioning Plans
- 3.3 Record Disposition Requirements at License Termination or Transfer
- 3.4 Record Retention Requirements for NRC Staff

3.1 RECORDKEEPING REQUIREMENTS DURING LICENSED OPERATIONS

INTRODUCTION

This section provides guidance on the NRC's recordkeeping requirements for licensees while they are conducting licensed operations. Section 3.2 of this chapter discusses how this information should be incorporated into a DP.

The purpose of the NRC's recordkeeping requirements is to provide an adequate knowledge base of the radiological conditions of a facility to enable decommissioning planning. This information will serve to facilitate decommissioning by minimizing occupational exposure and reducing the risk of any public exposure. The purpose of decommissioning records is to keep and maintain information concerning contamination remaining from spills or other occurrences and to maintain up-to-date drawings of both (1) restricted areas where radioactive materials are used or stored and (2) inaccessible areas, such as buried pipes that could have been contacted by radioactive materials, so that this information can be used when planning for decommissioning.

REGULATORY REQUIREMENTS

The applicable regulations are 10 CFR 20.1501, 20.2101, 20.2108, 20.2110, 30.35(g), 30.51(c)(1), 40.36(f), 40.61(c)(1), 70.25(g), 70.52(i)(1), and 72.30(f).

3.1.1 METHODS FOR IMPLEMENTING RECORDKEEPING REQUIREMENTS

GENERAL

1. The location of decommissioning records must be clearly identified and designated to contain records and information important to safe decommissioning.
2. Information related to decommissioning need not be submitted to the NRC as it is collected and filed, but the necessary documents must be maintained in appropriate files and be available for inspection upon request by the NRC.
3. Pertinent documents such as licensee operating procedures and incident reporting requirements should specify the type of information to be kept and the means for retention and updating of the records.
4. Records may be originals, copies, or clear and specific references to documents in other files. Computerized records systems may be used provided the other provisions of this guidance (e.g., provisions for retrievability and protection against damage) are followed.
5. The records must be protected against tampering and loss (e.g., fire, theft, or misplacement). The records should be updated as necessary, at least annually, to include pertinent new information such as recent unusual occurrences or facility modifications.
6. There should be provisions for efficient retrieval of the records at the time of decommissioning so that the records can be used as part of decommissioning planning.
7. Licensee operating procedures should contain a clear definition of responsibility for collection, retention, maintenance, updating, and recall of the decommissioning records.
8. Decommissioning records should be reviewed by licensee management, at least annually, to ensure their completeness and ability to serve their intended function.

REFERENCES TO OTHER RECORDS

The regulations in 10 CFR 30.35(g), 40.36(f), 70.25(g), and 72.30(f) indicate that, if records of information relevant to decommissioning are kept for other purposes, reference to those records and their locations may be substituted. If reference is made to other records, the following should be considered:

1. There must be an entry in the decommissioning records referring to the other record. The reference should be clear and specific, providing at least a one-sentence description of the subject and providing the referenced file location.
2. The licensee's procedures should contain provisions to avoid loss of the information in the original document in the referenced file in case that file is destroyed before the license is terminated, for example, by cross-referencing the original document or its file to the decommissioning records. Records that are referenced but not included in the decommissioning records themselves should be so labeled and marked not to be removed or destroyed without approval by the individual responsible for maintaining decommissioning records.

3. It is acceptable to reference reports made under other regulatory requirements concerning spills. However, the record for decommissioning purposes should specifically consider the contaminant levels remaining after any cleanup activities.

3.1.2 CONTENT OF DECOMMISSIONING RECORDS FILE

1. The regulation in 10 CFR 20.1501(a) requires each licensee to make or cause to be made, surveys of areas, including the subsurface, that may be necessary for the licensee to comply with the regulations in 10 CFR Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels, and concentrations or quantities of residual radioactivity, and the potential radiological hazards of the radiation levels and residual radioactivity detected. The regulation in 10 CFR 20.1501(b) requires records from surveys describing the location and amount of subsurface residual radioactivity identified at the site to be kept with records important for decommissioning.
2. The regulations in 10 CFR 30.35(g)(1), 40.36(f)(1), 70.25(g)(1), and 72.30(f)(1) state that records are to be kept of spills and other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site; that the records may be limited to instances when contamination remains after any cleanup procedures or when there is reasonable likelihood that contaminants have spread to inaccessible areas, as in the case of possible seepage into porous material such as concrete; and that the records must include any known information on involved nuclides, quantities, forms, and concentrations.
 - The records should contain a description of the spill or occurrence (including the date), cleanup activities taken, and the location of the remaining contamination. Inaccessible areas would be areas beyond those normally encountered in operations, such as cracks in concrete, seepage into porous material such as concrete, wood, or tile, seepage into equipment and components, or areas behind, below, or obstructed by equipment or structures. The records should contain sketches, diagrams, or drawings marked to show areas of contamination and points where radionuclide and radiation measurements were made.
 - The records should contain information related to site characterization, including information on radiological spills on the site, residual soil contamination levels, principal contaminant radionuclides, onsite locations that may have been used for burial of radioactive materials, and any problems with the hydrology and geology if the site contained or still contains settling ponds, lagoons, or other potential sources of ground water contamination.
 - As noted above, the records are to clearly indicate the specific radionuclides involved and the locations, quantity, form, and concentration of the radionuclide contamination, where known, and the basis for this information.
 - Records on contamination that could contribute to exposure or impact decommissioning methods, costs, or radiation exposures should be included in the record file.
3. The regulations in 10 CFR 30.35(g)(2), 40.36(f)(2), 70.25(g)(2), and 72.30(f)(2) state that decommissioning records must include as-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are used or stored and locations of possible inaccessible contamination. Normal facility as-built drawings are acceptable. If the

records reference other required drawings, each relevant document need not be indexed individually. If drawings are not available, appropriate records of available information concerning these areas and locations are to be substituted.

- Drawings of restricted areas where radioactive materials are used or stored should include drawings showing the location of structures, systems, equipment, and components in restricted areas as defined in 10 CFR 20.1003.
 - Drawings of areas of possible inaccessible contamination should include buried pipes or other areas obstructed by equipment or structures.
 - If other drawings are referenced, it is sufficient to reference the general category of drawings being referenced (for example, drawings of a particular laboratory location or facility structure or equipment) and the specific location where those drawings are kept (for example, the facility's specific file number).
 - If drawings are unavailable, appropriate records of available information may be substituted, including written descriptions of particular areas, recent sketches, or photographs.
 - Drawings should be maintained and should be updated as systems, components, and structures are modified or added. Old or superseded drawings must be retained if they contain information relevant to potential locations of contamination.
 - To ensure that previously used work sites are not forgotten if they are inactive when final decommissioning occurs, the records should include information on all locations where radioactive operations were ever performed during the life of the facility, including a list of what licensed materials were handled, a general description of the operations performed, and typical contamination and radiation levels during operations.
 - To provide a baseline history of background radiation levels prior to work with radioactive materials, the records should include surveys and isotopic analyses of building materials and soil samples made prior to initial use of new facilities or existing facilities not previously used for work with radioactive materials. This information can be used to verify the actual contribution of licensee operations to contamination and radiation levels at decommissioning.
4. Except for radionuclides and materials excluded by regulations 10 CFR 30.35(g)(3), 40.36(f)(3), and 70.25(g)(3), a list of the following must be maintained and updated every 2 years:
 - all areas designated and formerly designated as restricted (under 10 CFR 20.1003);
 - all areas outside of restricted areas that require documentation (under 10 CFR 30.35(g)(1), 40.36(f)(1), 70.25(g)(1), and 72.30(f)(1) respectively);
 - all areas outside of restricted areas where wastes have been buried as documented under 10 CFR 20.2108, "Records of Waste Disposal"
 - all areas outside of restricted areas that contain material, which if the license expired, would require remediation to meet the criteria in 10 CFR Part 20, Subpart E, or application for disposal under 10 CFR 20.2002
 5. The regulations in 10 CFR 30.35(g)(4), 40.36(f)(4), 70.25(g)(4), and 72.30(f)(4) state that decommissioning records must include records of the cost of decommissioning. These records must include the prescribed amount of financial assurance provided (referred to in

the regulation as “the amount certified for decommissioning”), or the cost estimate performed for the decommissioning funding plan (DFP), as applicable. Additionally, records of the funding method used to provide financial assurance must be maintained.

3.1.3 SPECIFIC RECORDKEEPING REQUIREMENTS FOR DISPOSAL OF RADIOACTIVE WASTE BY LAND BURIAL UNDER FORMER 10 CFR 20.302, 20.304, AND CURRENT 20.2002

Onsite burials under 10 CFR 20.2002 (revision to the former 10 CFR 20.302) and under the former 10 CFR 20.304 have been problematic for licensees during their decommissioning of sites containing such burials. For some of these previous burials, it has been necessary to exhume material and dispose of it offsite, even though the material was originally disposed of in accordance with existing regulations. Based on this experience, NRC regulations require licensees to notify the NRC if they have burial sites that may require decommissioning (see Section 2.4) and also to maintain records of these burials.

At the time of decommissioning, completed records of 10 CFR 20.304, 20.302, and 20.2002 disposals are necessary for the NRC to evaluate the acceptability of the disposals. Each licensee is required per 10 CFR 20.2108 to maintain records of disposals made under 10 CFR 20.2002 and to preserve such records until the Commission terminates the license requiring these records. Former 10 CFR 20.401(c)(3) stated that records of disposals made pursuant to 10 CFR 20.302 and 10 CFR 20.304 must be maintained until the Commission authorizes their disposition. In addition, the final rule on “Decommissioning Recordkeeping and License Termination” (58 FR 39628; July 26, 1993) requires a single document listing (1) all areas outside restricted areas where current and previous wastes have been buried (as documented under 10 CFR 20.2108); and (2) other information necessary to ensure that decommissioning is carried out in accordance with the Commission’s regulations.

At present, 10 CFR 20.2002 states that the licensee must apply to the Commission for approval of proposed procedures to dispose of licensed material in a manner not otherwise authorized in 10 CFR Part 20. The former NRC regulations also required this. After the NRC approves the application, records of actual disposals must be maintained under 10 CFR 20.2108. These records should be sufficient to demonstrate compliance with the approved procedures contained in the application.

Pursuant to the former 10 CFR 20.401 requirements, the records of disposals performed under former 10 CFR 20.304 were required. The following requirements were placed on burials made under 10 CFR 20.304:

1. The total quantity of licensed and other radioactive material buried at any one location and time does not exceed, at the time of burial, 1,000 times the amount specified in Appendix C, “Quantities of Licensed Material Requiring Labeling,” to 10 CFR Part 20.
2. The burial is at a minimum depth of 1.2 meters (4 feet).
3. Successive burials are separated by distances of at least 1.8 meters (6 feet) and not more than 12 burials are made in any year.

The NRC expects that licensees who disposed of radioactive waste in accordance with 10 CFR 20.304, 20.302, and 20.2002 will comply with the applicable recordkeeping requirements. Further, if the NRC determines that the licensee has not kept the minimum records required for disposals that may pose a significant risk to the public after release, the licensee may then be expected to characterize the disposal sites by compiling the necessary information (e.g., sampling and survey data). The acceptability of the timing and extent of characterization will be determined by NRC on a case-by-case basis.

3.2 RECORDKEEPING INFORMATION FOR DECOMMISSIONING PLANS

Volume 1 of this NUREG series contains NRC guidance on developing and reviewing DPs. Specifically, Chapter 16 of Volume 1 details the site description portion of DPs. The records maintained in accordance with NRC Regulations discussed in this volume should be used in the licensee's development of the site description as well as the facility operating history, the facility description, and the radiological status of the facility. Refer to Volume 1 of this NUREG series for specific guidance in this regard.

3.3 RECORD DISPOSITION REQUIREMENTS AT LICENSE TERMINATION OR TRANSFER

This section provides guidance on the NRC's recordkeeping requirements for licensees at license termination or during license transfer. The purpose of these requirements is to ensure that records important to decommissioning remain available in the event that safety concerns arise after license termination or transfer. Since the NRC may not be able to determine what problems will arise in the future, the best course of action is to have the records available after license transfer or termination.

REGULATORY REQUIREMENTS

The applicable regulations are 10 CFR 30.35(g), 30.36, 30.51, 40.36(f), 40.42, 40.61, 70.25(g), 72.30(f), 70.38, 70.51, and 72.54.

RECORD DISPOSITION

In addition to maintaining records important to facility decommissioning, licensees are also required to ensure that such records are not lost at license transfer or termination.

When a license is transferred, the records kept in accordance with Section 3.1 of this volume must be transferred to the new licensee. Before the NRC consents to a license transfer, the licensee is responsible for ensuring that the appropriate records have been transferred in accordance with NRC regulations.

Before the NRC terminates a license, a licensee should transfer all records kept in accordance with Section 3.1 of this volume to the appropriate NRC Regional Office. The NRC staff is

responsible for verifying that all of these records were received, before termination of the NRC license.

3.4 RECORD RETENTION REQUIREMENTS FOR NRC STAFF

INTRODUCTION

The decommissioning process can generate a considerable amount of records, particularly in conducting a final status survey (FSS). This section provides general record retention guidance for the NRC staff responsible for project management of facilities undergoing decommissioning. The guidance is not meant to capture the totality of NRC staff requirements for record retention and document control. Refer to NUREG-0910, Revision 4, "NRC Comprehensive Records Disposition Schedule," issued March 2005, for detailed record retention guidelines. This section provides an overview of the records that, at a minimum, the NRC project manager should ensure are retained in the NRC's official records management system. Note that additional information in this regard can be obtained from the NRC's Office of Federal and State Materials and Environmental Management Programs (FSME), Records Management Liaison.

This volume does not contain staff requirements on electronic document maintenance. Because this is an evolving area, such guidance would become outdated with technological improvements and process changes and is therefore not appropriate for this consolidated guidance document. Additional information on electronic document submittal may be found at the NRC's Web site <<http://www.nrc.gov>>.

DOCUMENTS TO RETAIN

The NRC project manager should ensure, at a minimum, that the following records are retained for decommissioned facilities:

- all license applications, amendment requests, and renewal requests;
- complete license, including all amendments;
- any licensee request for license termination and all supporting documentation, including plans for completion of decommissioning;
- forms dealing with disposition of material (NRC/AEC Form 314, AEC Form HQ-277, and other forms) and/or letters from licensees dealing with disposition and status of material;
- any documents dealing with the disposition of waste or other material or residual contamination on the site, including records of onsite burials;
- all documents related to financial assurance for decommissioning, including DFPs, certifications of financial assurance for decommissioning, related cost estimates, and records of funding methods;
- records of spills and other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site;

- as-built drawings and modifications of structures and equipment in restricted areas where radioactive materials were used or stored and locations of possible inaccessible contamination;
- any additional documents that refer to decommissioning, decontamination, or termination of the license, including interim or partial decommissioning of specific facilities at any time during the history of licensed operations;
- any enforcement documents related to decommissioning and decontamination activities;
- a copy of the final status survey plan (FSSP) and DP, if required;
- FSSR from the licensee, which should include the following:
 - summary measurements for each survey unit in the FSS,
 - elevated area (“hot-spot”) evaluations,
 - survey instrument description and calibration records,
 - records of data reductions and comparisons with guidelines, and
 - the results of any investigations to determine the cause of the failure to meet the decommissioning criteria;
- results of site inspections, meeting reports, and correspondence;
- results of closeout surveys and inspections, including split sample collection and evaluation and independent verification reports; and
- any other records provided by the licensee at termination in accordance with the preceding section of this volume.

PART II: FINANCIAL ASSURANCE

4. FINANCIAL ASSURANCE OVERVIEW

NRC regulations at 10 CFR 30.35, 40.36, 70.25, and 72.30 specify the requirements for certain licensees to provide financial assurance for decommissioning. The requirement to provide financial assurance is based on the authorized possession limits specified in the NRC license. In general, above a threshold quantity of radioactive material, the licensee must provide increasing amounts of financial assurance as its authorized possession limit increases. Financial assurance may be provided in certain prescribed amounts where the authorized possession limit falls within specified bounds and no significant subsurface contamination has occurred. The threshold quantities and specified bounds are listed in Appendix A.2. Such licensees must provide the NRC with a certification of financial assurance and the original financial instruments obtained to guarantee that funds will be available for decommissioning. A licensee with authorized possession limits within the specified bounds but with significant subsurface contamination or a licensee with authorized possession limits greater than the upper bound of the prescribed amounts must perform a site-specific cost estimate to determine the amount of financial assurance required. Such licensees must provide the NRC with a DFP, which includes the original financial instruments and a certification of financial assurance. Licensees under 10 CFR Part 72 must submit a DFP and are not required to submit the originals of the financial instruments but are required to submit a certification of financial assurance. If certain information in the financial instrument (licensee's name, license number, and docket number; and the name, address, and other contact information of the issuer, and, if a trust is used, the trustee) changes, licensees must, within 30 days, submit financial instruments reflecting such changes. This information is typically presented to the NRC for review and approval in the license application or renewal. The information in the DFP is updated periodically to reflect changes in the cost of decommissioning. Additionally, if a survey required under 10 CFR 20.1501(a) detects residual radioactivity at a site at levels that would, if left uncorrected, prevent the site from meeting 10 CFR 20.1402 "Radiological Criteria for Unrestricted Use," then the licensee must submit an updated DFP within one year of when the survey is complete. Later, the information is updated in the DP.

A certification of financial assurance is a statement by the licensee that a prescribed amount of funding has been obtained for decommissioning. The amount is established in NRC regulations and is summarized in the introduction to Appendix A to this volume.

A DFP outlines the work required to decommission a facility, provides a site-specific cost estimate for the decommissioning, and states that the funds necessary to complete the decommissioning have been obtained. During operations, residual radioactivity that would be significant for decommissioning planning would be a quantity of radioactive material that would later require remediation during decommissioning to meet the unrestricted use criteria of 10 CFR 20.1402. The cost estimate must provide for decommissioning the facility to allow unrestricted release, unless the applicant or licensee can demonstrate its ability to meet the provisions of 10 CFR 20.1403, "Criteria for License Termination under Restricted Conditions," in which case the cost estimate may be based on meeting the criteria of that section. The estimate must assume that the work will be performed by an independent third-party contractor and should not take credit for salvage value or reduced taxes. However, for certain sites where the licensee provides a viable alternative approach, or alternative basis for the cost estimate, the

DFP may be approved if the approach provides sufficient assurance of funding for decommissioning.

The objective of the NRC's financial assurance requirements is to ensure that a suitable mechanism for financing the decommissioning of licensed facilities is in place in the event that a licensee is unable or unwilling to complete decommissioning. Financial assurance is achieved through the use of financial instruments. Some financial instruments provide a special account into which the licensee may essentially prepay the applicable costs. Other financial instruments guarantee funding by a suitably qualified third party, thereby providing "defense in depth" in the event the licensee is unable or unwilling to pay these costs when they arise. Financial assurance for decommissioning must be obtained prior to the commencement of licensed activities or receipt of licensed material, and it must be maintained until termination of the license. If the license is being terminated under restricted conditions, then financial assurance for site control and maintenance must be obtained prior to license termination. The amount of financial assurance obtained is often based on a site-specific cost estimate and must be increased if the cost estimate increases. Under NRC regulations, a number of different types of financial instruments may be used to demonstrate financial assurance, including trusts, letters of credit, surety bonds, and guarantees.

This chapter provides guidance to NRC licensees and license applicants on how to demonstrate financial assurance for decommissioning and, if applicable, for site control and maintenance following license termination. It also addresses the financial assurance requirements that apply when the license will be terminated for unrestricted release and when the license will be terminated under restricted conditions. Appendix A establishes a standard format for presenting the information to the NRC that will (1) aid the licensee or license applicant in ensuring that the information is complete, (2) help ensure that applicable requirements in 10 CFR Parts 30, 40, 70, and 72 have been met, and (3) help achieve the intent of the regulations, which is to ensure that the decommissioning of all licensed facilities will be accomplished in a safe and timely manner and that licensees will provide adequate funds to cover all costs associated with decommissioning and, if applicable, with site control and maintenance.

Unlike other materials licensees, 10 CFR Part 72 licensees are not required to submit originals of the financial instruments used to provide financial assurance. Part 72 licensees are encouraged to use the instrument templates described in this guidance. Financial assurance for Part 72 licenses is administered by the NRC's Office of Nuclear Reactor Regulation (NRR) in conjunction with financial assurance for the associated reactor. For Part 72 licenses that are not associated with a reactor, the Division of Spent Fuel Storage and Transportation in the Office of Nuclear Material Safety and Safeguards (NMSS) has the project lead and may request assistance from NRR or FSME staff for performing the financial assurance review.

This volume does not address the financial assurance requirements in 10 CFR Part 50.

This volume applies only to licensees and license applicants covered under the following parts of 10 CFR:

- Part 30—Byproduct Material. Financial assurance requirements are in 10 CFR 30.35, “Financial Assurance and Recordkeeping for Decommissioning,” and 10 CFR 30.36.
- Part 40—Source Material (except uranium recovery facilities). Financial assurance requirements appear in 10 CFR 40.36, “Financial Assurance and Recordkeeping for Decommissioning,” and 10 CFR 40.42, “Expiration and Termination of Licenses and Decommissioning of Sites and Separate Buildings or Outdoor Areas.”
- Part 70—Special Nuclear Material. Financial assurance requirements are in 10 CFR 70.25, “Financial Assurance and Recordkeeping for Decommissioning,” and 10 CFR 70.38, “Expiration and Termination of Licenses and Decommissioning of Sites and Separate Buildings or Outdoor Areas.”
- Part 72—Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste. Financial assurance requirements are in 10 CFR 72.30, “Financial Assurance and Recordkeeping for Decommissioning,” and 10 CFR 72.54, “Expiration and Termination of Licenses and Decommissioning of Sites and Separate Buildings or Outdoor Areas.”
- Part 20 (Subpart E)—License Termination. Financial assurance requirements appear in 10 CFR 20.1403.

Other documents also address the decommissioning financial assurance requirements. Guidance on uranium recovery facilities under 10 CFR Part 40 is provided in the Branch Technical Position titled “Technical Position on Financial Assurances for Reclamation, Decommissioning, and Long-Term Surveillance and Control of Uranium Recovery Facilities,” (issued October 1988). Information on low-level waste disposal facilities under 10 CFR Part 61 is provided in Revision 1 of NUREG-1199, “Standard Format and Content of a License Application for a Low-Level Radioactive Waste Disposal Facility,” (issued 1988), and Revision 3 of NUREG-1200, “Standard Review Plan for the Review of a License Application for a Low-Level Radioactive Waste Disposal Facility,” (issued 1994).

The information in this volume is taken directly from the Standard Review Plan (SRP) (NUREG-1727). The SRP was developed specifically for reviewing DPs written to comply with the LTR. There has been some minor editing to remove redundancy and use consistent terminology in this document, but the essential information is the same. The difference in writing styles between the documents is because of different objectives and different authors for the documents. While there is some difference in writing style, this approach was the most efficient means to capture the contents of the SRP, which was finalized after significant public comment.

The financial assurance demonstrations discussed below are independent of the cost-benefit analysis required as part of the demonstration that residual radioactivity has been reduced to a level that is as low as reasonably achievable (ALARA). Appendix N of Volume 2 of this NUREG report includes guidance on preparing and reviewing the cost-benefit calculation for the ALARA analysis.

Note that throughout the remainder of this section, the term “licensee” is used generally to refer to licensees, applicants, and other responsible parties.

FINANCIAL ASSURANCE DEMONSTRATIONS REQUIRED AT LICENSE APPLICATION OR RENEWAL

At the time of license application or renewal, licensees who are authorized to possess nuclear material in excess of certain thresholds specified in 10 CFR Parts 30, 40, or 70 must submit a certification to demonstrate that sufficient assurance is in place to cover prescribed amounts (as specified in 10 CFR 30.35(b)(2), 30.35(c)(2), 40.36(b)(2), 40.36(c)(2), 70.25(b)(2), 70.25(c)(2), or 70.25(c)(3)).

Licensees having possession limits exceeding the upper bonds of the prescribed amounts must provide a certification of financial assurance to demonstrate that the dollar amount of the financial assurance provided is sufficient to cover the cost estimate for decommissioning (as specified in 10 CFR 30.35(c)(2), 30.35(e), 40.36(c)(2), 40.36(d), 70.25(c)(2), 70.25(c)(3), 72.25(e), or 72.30(b)(6)).

The amount of financial assurance certified must be either the prescribed amount specified in the NRC regulations or the amount of the cost estimate provided in the DFP. (Licensees under 10 CFR Part 72 cannot submit a prescribed amount of financial assurance; they must submit a DFP.)

- A DFP is based on a site-specific cost estimate for decommissioning.
- A certification of financial assurance relies on coverage levels specified in NRC regulations.

Licensees may choose among a number of different mechanisms to comply with the financial assurance requirements for decommissioning. The following financial assurance “methods” are specifically allowed under 10 CFR Parts 30, 40, 70, and 72:

- *Prepayment.* Under this method, the licensee provides advance decommissioning funding in full, using an account segregated from licensee assets and outside the licensee’s administrative control. An acceptable prepayment mechanism is a trust fund.
- *Surety, insurance, or guarantee.* Under this method, an entity with adequate financial strength (e.g., bank, insurer, or other financial institution) guarantees that the required amount of funds will be available whenever needed. Acceptable surety, insurance, or guarantee mechanisms include surety bonds, letters of credit, insurance policies, parent company guarantees, and self-guarantees.
- *External sinking fund.* This method allows a licensee to gradually prepay for decommissioning by combining the use of a partially funded prepayment instrument (i.e., a trust fund) with a surety bond, a letter of credit, parent company guarantee or self-guarantee, or insurance covering the unfunded balance.

- *Statement of intent.* This method is a commitment by a Federal, State, or local government licensee to request and obtain decommissioning funds from its funding body, when necessary. A statement of intent needs to state the estimated cost of decommissioning, as required in NRC regulations, as well as a demonstration that the party signing the statement has the authority to make such a statement on behalf of the government. The signatory should be the head of the agency or the designee.

Licensees may also use combinations of the above instruments, except in the case of parent company guarantees and self-guarantees, which cannot be combined with other mechanisms except sinking funds. Note that a DFP must contain a certification of financial assurance. The licensee must include a signed original (or signed duplicate original) of the financial mechanism(s) obtained to satisfy the requirements for decommissioning, whether using a certification of financial assurance alone or a DFP. If certain information in the financial instrument (licensee's name, license number, and docket number, and the name, address, and other contact information of the issuer, and, if a trust is used, the trustee) changes, the licensee must, within 30 days, submit financial instruments reflecting such changes.

Note that 10 CFR Part 72 has different requirements. Part 72 licensees must submit a certification of financial assurance. Licensees providing financial assurance under Part 72 are not required to submit originals of the financial instruments obtained to satisfy financial assurance requirements.

FINANCIAL ASSURANCE DEMONSTRATIONS REQUIRED AT THE END OF LICENSED OPERATIONS

At the end of licensed operations, licensees must maintain all financial assurance established pursuant to 10 CFR Parts 30, 40, 70, or 72. In addition, licensees must submit a DP (1) if such a plan is required by a license condition, or (2) if the procedures and activities necessary to carry out decommissioning (and, if applicable, site control and maintenance) have not been approved by NRC and these procedures could increase the potential health and safety impacts to workers or the public.

A DP must include the following:

- an updated, detailed cost estimate for decommissioning;
- a comparison of that estimate with present funds set aside for decommissioning; and
- a plan for assuring the availability of adequate funds for completion of decommissioning.

If the license is being terminated under unrestricted conditions, the licensees may choose among the mechanisms listed above to comply with the financial assurance requirements for decommissioning.

If the license is being terminated under restricted conditions, the DP also must include estimated costs for control and maintenance of the site, along with financial assurance coverage for these costs. In addition to the cost estimate and financial assurance mechanism(s), the financial

assurance demonstration in a DP should contain a description of the means the licensee will employ for adjusting the cost estimate and associated funding level over any storage or surveillance period. Acceptable financial assurance for a restricted release site may be demonstrated either by a trust fund segregated from the licensee's assets and outside the licensee's administrative control or through special arrangements with a government entity that assumes custody and ownership of the site.

NRC staff will evaluate the decommissioning financial assurance demonstrations submitted by licensees pursuant to the requirements in 10 CFR Parts 30, 40, 70, and 72. NRC staff will evaluate the licensee's financial assurance demonstration to ensure that sufficient funds will be available to carry out decommissioning activities and site control and maintenance (if applicable) in a safe and timely manner. The demonstrations must include the following information:

- for a DFP, (1) a site-specific cost estimate for decommissioning, (2) a description of the means for adjusting the cost estimate and associated funding level periodically over the life of the facility, (3) a certification of financial assurance by the licensee that financial assurance has been provided in the amount of the cost estimate, and (4) one or more financial assurance mechanisms (including supporting documentation) (note that 10 CFR Part 72 licensees are not required to submit the certification of financial assurance of the third item or the mechanisms of the fourth item with the DFP);
- for a certification of financial assurance, (1) a "certification of financial assurance" (which certifies that the licensee has provided financial assurance in the appropriate amount specified in 10 CFR Parts 30, 40, 70, or 72), and (2) one or more financial assurance mechanisms (including supporting documentation); and
- for a DP, (1) an updated, detailed cost estimate for decommissioning and, if the license is being terminated under restricted conditions, for control and maintenance of the site following license termination, (2) one or more financial assurance mechanisms (including supporting documentation), (3) a comparison of the cost estimate with the present funds set aside for decommissioning and, if the license is being terminated under restricted conditions, for control and maintenance of the site following license termination, and (4) a plan for assuring the availability of adequate funds for completion of decommissioning.

NRC staff will review the financial assurance demonstration submitted by the licensee in accordance with the procedures outlined in this volume. NRC staff will ensure that, at a minimum, the financial assurance submission includes the information summarized above in addition to the following:

- For a licensee submitting a DFP at the time of license application or renewal, the NRC staff will review the following:
 - the accuracy and appropriateness of the methods used by the licensee to estimate the costs of decommissioning;
 - the acceptability of the licensee's submitted financial assurance mechanism(s) for decommissioning; and

- the means identified in the DFP for adjusting the cost estimate and associated funding level over the life of the facility.
- For a licensee submitting a certification of financial assurance at the time of license application or renewal, the NRC staff will review the following:
 - the certification of financial assurance, to ensure that it certifies compliance with the appropriate requirements and that it specifies the correct amount of financial assurance; and
 - the acceptability of the licensee’s submitted financial assurance mechanism(s).
- For a licensee submitting a DP at the end of licensed operations, the NRC staff will review the following:
 - the accuracy and appropriateness of the methods used by the licensee to estimate the costs of decommissioning and, if the license is being terminated under restricted conditions, the costs of site control and maintenance;
 - the acceptability of the licensee’s submitted financial assurance mechanism(s) for decommissioning and, if the license is being terminated under restricted conditions, for site control and maintenance; and
 - the means identified in the DP for adjusting the cost estimate and associated funding level over any storage or surveillance period.

The material to be reviewed by the NRC staff is technical in nature. NRC staff will make a quantitative evaluation of the licensee’s or responsible party’s cost estimate or prescribed amount and financial assurance mechanism(s).

If the licensee has provided adequate financial assurance for decommissioning, the NRC staff will prepare a letter for the signature of the license reviewer, informing the licensee that the financial assurance for decommissioning is adequate. A sample post-review letter from the NRC to licensees for cases where no deficiencies are found in the submittal is provided at the end of this section. If the NRC staff determines that the licensee has not complied with the NRC’s requirements for financial assurance for decommissioning, the staff will prepare a deficiency letter for signature at the Branch Chief level or higher outlining these deficiencies and requiring the licensee to respond within a brief period (e.g., 30 to 60 days) to provide financial assurance. No existing financial assurance will be canceled and returned to the licensee until the NRC has received adequate assurance. It is important to maintain control and security of the financial instruments once received by the NRC.

The staff will follow NRC Management Directive 8.12, “Decommissioning Financial Assurance Instrument Security Program,” to ensure security and control of the instrument. In the event a licensee defaults before completing the decommissioning, the management directive specifies procedures for acting on the instrument. Additional guidance is found in Chapters 5 and 6 of this volume.

HOW TO USE CHAPTER 4

Chapter 4 is organized around the various components of a financial assurance demonstration (e.g., the cost estimate, the financial instrument). Each component of a financial assurance demonstration is addressed briefly in this introduction and then is addressed again in greater detail in its own section. Each subsequent section provides narrative guidance on a particular component and contains one or more checklists to guide the reader. By completing the tasks on the checklists, a licensee can be sure that its financial assurance demonstration is complete and likely to be acceptable to the NRC.

Licensees should read this chapter in its entirety. This chapter directs licensees to Checklist 1 in Section A.1, which directs the reader to other relevant sections and checklists in Appendix A of this volume. To prepare a financial assurance demonstration that is likely to be acceptable to the NRC, a licensee should simply complete the following steps:

1. Complete Checklist 1 in Appendix A.
2. Complete applicable checklists called for by Checklist 1 in Appendix A.
3. Prepare any documentation called for in the completed checklists.
4. Submit the completed checklists and accompanying documentation to NRC for review and approval.

SAMPLE POST-REVIEW LETTER FROM NRC TO LICENSEES

(No Deficiencies in Submittal)

(NOTE: *Letters will be printed on NRC letterhead paper.*)

[Date]

[Names of licensee representative]

[Title]

[Names of a licensee]

[Address]

SUBJECT: DECOMMISSIONING FINANCIAL ASSURANCE

Dear [insert “Dr.,” “Mr.,” or “Ms.”] [insert last name of licensee representative]:

We have reviewed your [insert description of information submitted by the licensee (e.g., decommissioning funding plan, certification of financial assurance, cost estimate, financial assurance mechanism)] dated [insert date]. Based on our review, we have no further comments at this time.

If you have any questions, you may contact us at [insert telephone number].

Sincerely,

[Name of NRC representative]

[Branch]

License No. [insert all applicable NRC license numbers]

Docket No. [insert all applicable NRC docket numbers]

4.1 COST ESTIMATE (AS CONTAINED IN A DECOMMISSIONING FUNDING PLAN OR DECOMMISSIONING PLAN)

The purpose of the review of the cost estimate is to ensure that the licensee or responsible party has developed a cost estimate for decommissioning the facility based on documented and reasonable assumptions and that the estimated cost is sufficient to allow an independent third party to assume responsibility for decommissioning the facility if the licensee or responsible party is unable to complete the decommissioning. In addition, if the licensee or responsible party intends to request license termination under restricted conditions, the cost estimate must be sufficient to allow an independent third party to assume responsibility for all necessary control and maintenance activities at the site.

INFORMATION TO BE SUBMITTED

The information supplied by the licensee or responsible party should be sufficient to allow the NRC staff to determine if the cost estimates for decommissioning and site control and maintenance (if applicable) are reasonable and were developed in accordance with NRC regulations and guidance. NRC staff's review should verify that the cost estimates for decommissioning and site control and maintenance incorporate all of the information summarized under "Evaluation Criteria," below.

Section A.3 of Appendix A to this volume contains guidance—including cost estimating tables—to assist licensees in preparing cost estimates that will be acceptable to the NRC. The NRC staff should use this guidance to the extent necessary in reviewing cost estimates submitted by licensees.

EVALUATION CRITERIA

The information supplied by the licensee or responsible party should be sufficient to allow the NRC staff to determine if the licensee's cost estimate(s) is adequate by comparing the information presented in the decommissioning financial plan or decommissioning plan with applicable NRC regulations and guidance. A cost estimate for decommissioning and site control and maintenance (if applicable) is acceptable if it meets *all* of the conditions in this section.

Evaluation Criteria Applicable to All Cost Estimates for Unrestricted or Restricted Release

At minimum, all cost estimates for unrestricted or restricted release must meet all 10 of the following conditions:

- (1) The cost estimate meets the applicable regulatory requirements in 10 CFR 20.1403(c), 20.1403(e)(2)(iii), 30.35(b), 30.35(c), 30.35(e), 30.36(e), 30.36(g)(4)(v), 40.36(b), 40.36(c), 40.36(d), 40.42(e), 40.42(g)(4)(v), 70.25(b), 70.25(c)(5), 70.25(e), 70.38(e), 70.38(g)(4)(v), 72.30(b), and 72.54(g)(5).
- (2) The cost estimate is based on documented and reasonable assumptions. The key assumptions are identified and justified.