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(Proposed Revision 2 of Regulatory Guide 1.159, dated October 2003)

ASSURING THE AVAILABILITY OF FUNDS FOR DECOMMISSIONING NUCLEAR REACTORS

A. INTRODUCTION

This document provides guidance to applicants and licensees of nuclear power, research, and test reactors concerning methods acceptable to the staff of the U.S. Nuclear Regulatory Commission (NRC) for complying with requirements in the rules regarding the amount of funds for decommissioning. It also provides guidance on the content and form of the financial assurance mechanisms in those rule amendments.

The general requirements for applications for license termination and decommissioning nuclear power, research, and test reactors appear in Title 10, Part 50, "Domestic Licensing of Production and Utilization Facilities," of the *Code of Federal Regulations* (10 CFR Part 50). Subsequent to the original publication of this regulatory guide in August 1990, the NRC promulgated amendments to 10 CFR Part 50 in the *Federal Register* on September 22, 1998 (63 FR 50465). Various amendments modified 10 CFR 50.33(k), 10 CFR 50.75, "Reporting and Recordkeeping for Decommissioning Planning," and 10 CFR 50.82(b), which require operating license applicants and existing licensees to submit information on how reasonable assurance will be provided that funds are available to decommission the facility. The NRC promulgated additional amendments to 10 CFR 50.75 on December 24, 2002 in the *Federal Register* (67 FR 78332). As amended, 10 CFR 50.75 establishes requirements for indicating how this assurance will be provided; namely, the amount of funds that must be provided, including updates; the methods to be used for assuring funds; and provisions contained in trust agreements for safeguarding decommissioning funds.

This regulatory guide is being issued in draft form to involve the public in the early stages of the development of a regulatory position in this area. It has not received final staff review or approval and does not represent an official NRC final staff position. Public comments are being solicited on this draft guide (including any implementation schedule) and its associated regulatory analysis or value/impact statement. Comments should be accompanied by appropriate supporting data. Written comments may be submitted to the Rules, Announcements, and Directives Branch, This Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; submitted through the NRC's interactive rulemaking Web page at http://www.nrc.gov; or faxed to (301) 492-3446. Copies of comments received may be examined at the NRC's Public Document Room, 11555 Rockville Pike, Rockville, MD. Comments will be most helpful if received by March 14, 2011.

Electronic copies of this draft regulatory guide are available through the NRC's interactive rulemaking Web page (see above); the NRC's public Web site under Draft Regulatory Guides in the Regulatory Guides document collection of the NRC's Electronic Reading Room at http://www.nrc.gov/reading-rm/doc-collections/; and the NRC's Agencywide Documents Access and Management System (ADAMS) at http://www.nrc.gov/reading-rm/adams.html, under Accession No. ML103400008. The regulatory analysis may be found in ADAMS under Accession No. ML103400018.

The NRC published Revision 1 to Regulatory Guide 1.159 in October 2003 to reflect these changes in the regulations and to include guidance on the amendments to 10 CFR 50.75. Revision 2 of Regulatory Guide 1.159 provides clarification of certain concepts. The most substantive changes are found in Section C, "Regulatory Position," and involve: (1) paragraph 3 of Subsection 1.3, "Decommissioning Cost Estimates"; (2) Subsection 2.1.5 of Section 2.1, "Guidance Applicable to All Methods of Financial Assurance"; and (3) Subsection 2.2.8 of Section 2.2, "Prepayment and External Sinking Fund." The changes in (1) are primarily word changes in paragraph 3 for clarification. The changes in (2) relate to a change in the timing for making adjustments to the licensee's financial assurance amount(s) and mechanism(s). The changes to (3) specify when a greater than 2 percent real rate of return will be allowed and reflect any withdrawals made during the safe-store period when taking the allowed credit through the projected decommissioning period.

As a guidance document, this regulatory guide and its provisions are not designed to be restrictive or to represent binding requirements. The guide presents methods acceptable to the NRC staff for complying with the decommissioning regulations. The NRC staff recognizes that, in certain circumstances (e.g., to meet requirements established by Federal or State economic regulatory agencies or to comply with other applicable laws), other approaches may be necessary. As a point of clarification, it is the NRC's position that licensees who have existing license conditions relating to topics covered by the final rule, "Decommissioning Trust Provisions," dated December 24, 2002 (67 FR 78332), will have the option of maintaining their existing license conditions or submitting to the new requirements.

The NRC issues regulatory guides to describe to the public methods that the staff considers acceptable for use in implementing specific parts of the agency's regulations, to explain techniques that the staff uses in evaluating specific problems or postulated accidents, and to provide guidance to applicants. Regulatory guides are not substitutes for regulations and compliance with them is not required.

This regulatory guide contains information collection requirements covered by 10 CFR Part 50 and 10 CFR Part 30 that the Office of Management and Budget (OMB) approved under OMB control numbers 3150-0011 and 3150-0017, respectively. The NRC may neither conduct nor sponsor, and a person is not required to respond to, an information collection request or requirement unless the requesting document displays a currently valid OMB control number. The NRC has determined that this Regulatory Guide is not a major rule as designated by the Congressional Review Act and has verified this determination with the OMB.

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B. DISCUSSION

According to 10 CFR 50.2, "Definitions," "Decommission means 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." As used in this context, "facility" refers to the contaminated components (or noncontaminated components required to be dismantled to obtain access to contaminated components) of the site, buildings and contents, and equipment associated with all NRC-licensed activities within the scope of 10 CFR 50.75.

There are three primary methods of decommissioning nuclear reactors:

DECON is the method in which the equipment, structures, and portions of a facility and site containing radioactive contaminants are removed or decontaminated to a level that permits the property to be released for use, in accordance with the NRC's definition of decommissioning, shortly after cessation of operations.

SAFSTOR is the method in which the nuclear facility is placed and maintained in a condition that allows it to be safely stored and subsequently decontaminated (deferred decontamination) to levels that permit its release for use in accordance with the NRC's definition of decommissioning.

ENTOMB is the method in which radioactive contaminants are encased in a structurally long-lived material, such as concrete. The entombed structure is appropriately maintained, and continued surveillance is carried out, until the radioactivity decays to a level permitting release of the property in accordance with the NRC's definition of decommissioning.

So that a lack of funds does not result in delays in, or improper conduct of, decommissioning that may adversely affect public health and safety, the rule on decommissioning requires that applicants and licensees provide reasonable assurance that adequate funds for performing decommissioning will be available at the end of operation. To provide this assurance, the rule requires that two factors be considered; namely, the amount of funds needed for decommissioning and the method used to provide financial assurance.

Amount of Funds for Decommissioning

Estimating the minimum amount of funds needed for decommissioning is important to prevent funding shortfalls that could adversely affect public health and safety. Requirements for establishing the minimum funding amounts for decommissioning are set out in 10 CFR 50.33(k), 10 CFR 50.75, 10 CFR 50.82(a)(4), 10 CFR 50.82(a)(8), and 10 CFR 50.82(a)(9). These include the following:

(1) An initial certification amount (or, for nonpower reactors, a site-specific estimate), established at the operating license stage (for existing licensees, by July 26, 1990), is required under 10 CFR 50.75(b), and 10 CFR 50.75(c)(1).

(2) Adjustments to the certification amount (or site-specific estimate) are also required over the operating life and storage period, if any, of the facility. Specifically, 10 CFR 50.75(b) requires each licensee to adjust the initial certification amount annually by use of the equation in 10 CFR 50.75(c)(2), which provides for escalation factors for labor, energy, and waste burial. In addition, 10 CFR 50.75(f) requires each licensee to submit, about 5 years prior to the projected end of operation, a preliminary decommissioning cost estimate that includes an up-to-date assessment of the major factors that could affect the cost to decommission.

(3) A post-shutdown decommissioning activities report (PSDAR) to be submitted by the licensee to the NRC, with a copy to the affected States. This must be done prior to or within 2 years following permanent cessation of operations. The PSDAR must include a description of the planned decommissioning activities, along with a schedule for their accomplishment, an estimate of expected costs, and a discussion that provides the reasons for concluding that the environmental impacts associated with site-specific decommissioning activities will be bounded by appropriate previously issued environmental impact statements (10 CFR 50.82(a)(4)).

(4) A site-specific decommissioning cost estimate must be submitted to the NRC prior to the licensee using any funds in excess of those described in 10 CFR 50.82(a)(8)(ii). In addition, the licensee must submit such a cost estimate within 2 years following permanent cessation of operations, if not already submitted (10 CFR 50.82(a)(8)).

(5) A licensee is required by 10 CFR 50.82(a)(9)(ii)(F) to provide "[a]n updated site-specific estimate of remaining decommissioning costs…" as part of a license termination plan. In addition, 10 CFR 50.82(a)(9)(i) requires a licensee to submit its plan at least 2 years before the date of termination of the license.

The regulations in 10 CFR 50.75(b) require each power reactor applicant and licensee to provide certification of financial assurance. The specific information noted in paragraphs 2 through 5 above must also be provided at the appropriate time. The certification amounts in 10 CFR 50.75(c)(1) act as threshold review levels. While not necessarily representing the actual cost of decommissioning for specific reactors, these certification amounts provide assurance that licensees are able to demonstrate adequate financial responsibility, in that the bulk of the funds necessary for a safe decommissioning are being considered and planned for early in the life of the facility, thus providing adequate assurance that the facility will not become a risk to public health and safety when it is decommissioned. To estimate increases in the cost of decommissioning over the operating life of the facility, 10 CFR 50.75(c)(2) contains a formula to account for inflation that has occurred in the labor, energy, and waste burial components of decommissioning costs.

As indicated in 10 CFR 50.75(d), each nonpower reactor applicant and licensee is to submit a cost estimate for decommissioning its facility. For the purposes of this guidance, nonpower reactor applicants and licensees are license applicants for, or licensees of, test and research reactors the primary purpose of which is not to produce electricity. This initial cost estimate is not an exact accounting of the actual cost of decommissioning but is intended to provide an approximation of what decommissioning the reactor will cost at the proposed time of decommissioning. This estimate may be based on information from the literature (e.g., generic studies, licensee models, experience). Pacific Northwest Laboratory (PNL) has made a detailed cost estimate of the conceptual decommissioning for research and test reactors in NUREG/CR-1756 "Technology, Safety, and Costs of Decommissioning Reference Nuclear Research and Test Reactors," issued March 1982, and Addendum 1, issued July 1983 (Ref. 1), that can be used as a basis, for regulatory purposes, for developing estimates of the costs of decommissioning.

Use of the certification approach is a first step in providing reasonable assurance of decommissioning funds. Another step is that, 5 years prior to the expected end of operations, licensees are required to submit (or for nonpower reactors, to update) a preliminary decommissioning cost estimate that includes an up-to-date assessment of the major factors that could affect the cost to decommission and the plans for adjusting levels of funds. In accordance with 10 CFR 50.82(c), for licensees that shut down their reactors prematurely, the collection period for any shortfall of funds will be determined on a case-by-case basis upon application by the licensee, taking into account the specific financial situation of each licensee. As required by 10 CFR 50.75(f), this estimated amount of decommissioning funds is to be based on a then-current assessment of major factors that could affect decommissioning costs and is to

include relevant, up-to-date information. The third step is a licensee evaluation of specific decommissioning provisions close to the commencement of decommissioning. Together, these steps provide reasonable assurance that the NRC's objective will be met—namely, at the time of permanent end of operations, sufficient funds are available to decommission the reactor in a manner that protects public health and safety.

Methods of Financial Assurance

The NRC rules in 10 CFR 50.75 specify the general requirements for methods that are considered acceptable for providing reasonable assurance of the availability of funds for decommissioning nuclear reactors. These methods and how they are evaluated are discussed in detail in the supplementary information to the NRC rulemaking action that established the requirements ("General Requirements for Decommissioning Nuclear Facilities" (53 FR 24018, dated June 27, 1988; 61 FR 39301, dated July 29, 1996; and 62 FR 39091, dated July 21, 1997)); the action that amended the requirements ("Financial Assurance Requirements for Decommissioning Nuclear Power Reactors: Final Rule" (63 FR 50465, dated September 22, 1998); and the final rule (67 FR 78332), in an NRC staff report (Ref. 2), and in NUREG-0586, "Final Generic Environmental Impact Statement on Decommissioning Nuclear Facilities," issued August 1988 (Ref. 3). These documents present a rationale for the acceptability of methods for providing financial assurance. The supplementary information accompanying the final decommissioning rule indicates that, although some methods for providing funding assurance now may not be available, they would be allowed in the event that they become available. This guide addresses the more feasible alternatives in greater detail. Licensees are, of course, free to use any acceptable method as it becomes available.

According to 10 CFR 50.75(e)(1), the following methods are acceptable for reactors (see the glossary of these terms in Appendix A):

- **Prepayment**—The deposit preceding the start of operation, or the transfer of a license pursuant to 10 CFR 50.80, "Transfer of Licenses," into an account segregated from licensee assets and outside the administrative control of the licensee and its subsidiaries or affiliates of cash or liquid assets, such that the amount of funds would be sufficient to pay decommissioning costs at the time permanent termination of operations is expected. Prepayment may be in the form of a trust, escrow account, government fund, certificate of deposit, deposit of government securities, or other payment acceptable to the NRC.

- **External Sinking Fund**—A fund established and maintained by setting funds aside periodically, in an account segregated from licensee assets and outside the administrative control of the licensee and its subsidiaries or affiliates, in which the total amount of funds would be sufficient to pay decommissioning costs at the time permanent termination of operations is expected. An external sinking fund may be in the form of a trust, escrow account, government fund, certificate of deposit, deposit of government securities, or other payment acceptable to the NRC.

- **Guarantee Method**—Can be in the form of surety bonds, letters of credit, or insurance; parent company guarantees may be used when a financial test specified in Appendix A, "Criteria Relating to Use of Financial Tests and Parent Company Guarantees for Providing Reasonable Assurance of Funds for Decommissioning," to 10 CFR Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material," is used.

- **Statement of Intent**—A Statement of Intent by a government agency, if applicable, indicating that funds for decommissioning will be obtained when necessary.

- **Contractual Obligations**—Obligations on the part of a licensee's customers, the total amount of which, over the duration of the contracts, will provide the licensee's total share of uncollected funds to be needed for decommissioning pursuant to 10 CFR 50.75(c) and (f), or 10 CFR 50.82, "Termination of License."

- **Other Mechanisms**—Refers to any other mechanism, or combination of mechanisms, that provide assurance of decommissioning funding equivalent to that provided by the mechanisms listed above.

The NRC guidance on simplifying the preparation, submittal, and review of information on funding methods acceptable for its nonreactor licensees appears in NUREG-1727, "NMSS Decommissioning Standard Review Plan," issued September 2000 (Ref. 4). This regulatory guide contains recommended wording for financial assurance instruments. The instruments in NUREG-1727 are included in modified form in Appendix B of this regulatory guide and are referenced in Regulatory Position 2. Because of the more extensive economic regulation faced by power reactor licensees, as opposed to materials licensees, the sample wording is provided for illustration and is not necessarily recommended for use by any individual licensee.

C. REGULATORY POSITION

This section describes methods of implementing the general requirements for financial assurance for decommissioning for reactor licensees and applicants who must comply with 10 CFR Part 50.

Regulatory Position 1 provides guidance to applicants and licensees on establishing the amount of funds necessary for decommissioning as required by the regulations. Regulatory Position 2 provides guidance on methods acceptable to the NRC for assuring funds.

1. Amount of Funds for Decommissioning

1.1 Funding Requirements for the Decommissioning Report/Initial Amounts

1.1.1 Power Reactor Applicants and Licensees

For power reactor applicants and licensees, the initial certification amount of funds for decommissioning is based on the equations in 10 CFR 50.75(c)(1) and represents the minimum funding level that applicants and licensees must meet.

At its discretion, a power reactor licensee may submit a certification based either on the formulas provided in 10 CFR 50.75(c)(1) and (2) or, when a higher funding level is desired, on a site-specific cost estimate that is equal to or greater than that calculated in the formulas in 10 CFR 50.75(c)(1) and (2). A site-specific cost estimate may include non-NRC-required costs, but such costs should be identified. If such a combined submittal is used, licensees should ensure that the NRC-required cost estimate for decommissioning costs, as defined in 10 CFR 50.2, is equal to or greater than the amount stated in the formulas in 10 CFR 50.75(c)(1) and (2). For certification amounts below the amount stated in the formulas in 10 CFR 50.75(c)(1) and (2), licensees must submit an exemption request containing the details as outlined in Regulatory Position 1.3.

The purpose of the decommissioning report, required under 10 CFR 50.33(k) and described in 10 CFR 50.75(b) and (c), is to provide reasonable assurance that licensees have a viable plan to accumulate funds in the certification amount, adjusted for inflation, by the projected time of permanent cessation of operations. Each licensee should submit a statement indicating the certification amount and

inflation adjustment appropriate for its reactor or reactors, together with a photocopy or conformed copy of the instrument being used to provide assurance of decommissioning funding. If an external sinking fund is being used, the proposed amount of annual (or more frequent) payments should be provided.

1.1.2 Nonpower-Reactor Applicants and Licensees

For nonpower-reactor applicants and licensees, the amount of funds is to be based on a cost estimate for decommissioning the facility and be submitted to the NRC in a report required by 10 CFR 50.33(k). The cost estimate for decommissioning need not be an exact accounting of the actual cost of decommissioning but rather an estimate of the costs for decommissioning the reactor. The PNL studies (Ref. 1) may be used by applicants or licensees for initial cost estimates, with suitable adjustments to account for the site-specific differences as discussed in Regulatory Positions 1.4.2 and 1.4.3. The level of detail necessary to support the cost estimate is discussed in Regulatory Position 1.3.

1.2 Adjustments to Certification Amounts

For power reactor applicants and licensees, certification amounts described in Regulatory Position 1.1 are to be adjusted annually, based on 10 CFR 50.75(b) and (c)(2), and should be available for NRC inspection, as requested. The adjustment factors are in 10 CFR 50.75(c)(2) is 0.65L+0.13E+0.22B, where L, E, and B are escalation factors for labor, energy, and waste burial costs respectively. Although these adjustments are to be made annually, they need not be submitted to the NRC. Applicants and licensees should use reasonably recent editions of the documents cited below.

The following is an example of the calculation of the adjustment factor for labor for the year 2001. The adjustment factor[1] for labor, L, can be obtained from "Monthly Labor Review," published by the U.S. Department of Labor, Bureau of Labor Statistics (BLS). Specifically, applicants and licensees should use the appropriate regional data from the table (currently Table 24), "Employment Cost Index, Private Nonfarm Workers, by Bargaining Status, Region, and Area Size," subtitled "Compensation." (Reference 5 contains information on obtaining the labor adjustment factors that are available on the World Wide Web.) L should be adjusted from a base value in Table 24 corresponding to the amounts in the decommissioning rule amendments that are in January 1986 dollars. The base values of L, using an index value of 100 in June 1981, from the BLS data corresponding to January 1986, are 130.5, 127.7, 125.0, and 130.1 for the northeast, south, midwest, and west regions, respectively. However, the 1999 BLS index values are based on an index value of 100 in June 1989. The 2001 base values are 156.3, 154.6, 158.6, and 159.4 for the same respective regions. The respective scaling factors are 1.555, 1.441, 1.409, and 1.449. A value of L may be calculated for each region by multiplying the 2001 value by the scaling factor and then dividing by the reference base 1981 value. For example, the 2001 value of L in the northeast region is $156.3 \times 1.555 \div 130.5 = 1.862$. This value of L could then be used in the equation in 10 CFR 50.75(c)(2) of the rule amendments for decommissioning a nuclear power plant located in the northeast region of the United States.

The adjustment factor for energy, E, can be obtained from the "Producer Price Indexes," published by the BLS. Specifically, data from the table (currently Table 6) entitled "Producer Price Indexes and Percent Changes for Commodity Groupings and Individual Items" (PPI) should be used. The energy term, E, is made up of two components; namely, electric power, P, and fuel oil, F. Hence, E should be obtained from the BLS data by using the following equations: for the reference pressurized-

[1] The derivation of the adjustment factors is explained in greater detail in Sections 3.1–3.5 of NUREG-1307, "Report on Waste Burial Charges," Revision 9, September 2000 (Ref. 5). NUREG-1307 is revised periodically; the latest revision should be used.

water reactor (PWR) [0.58P+0.42F] and for the reference boiling-water reactor (BWR) [0.54P+0.46F].[2] P should be taken from appropriate regional data for industrial power (commodity code 0543 in Table 6) and F should be taken from data for light fuel oils (commodity code 0573 in Table 6). These energy adjustment factors can also be obtained from BLS databases made available on the World Wide Web (See Ref. 5, Appendix C, for further information). As discussed for L in the preceding paragraph, P and F should be adjusted from a base value in the BLS table corresponding to the amounts, as specified in 10 CFR 50.75(c)(1), that are in January 1986 dollars. The base values of P and F from the BLS data corresponding to January 1986 are 114.2 and 82.0, respectively. No regional BLS data for these PPI commodity codes are currently available. All PPI values are based on a value of 100 for the year 1982 (Base 1982=100). Thus, the preliminary value of P for 2001 is 141.7÷114.2=1.241, and the preliminary value of F is 83.5÷82.0=1.018; therefore the 2001 value of E in this case, for the equation in 10 CFR 50.75(c) for the reference PWR, is [0.58×1.241+0.42×1.018]=1.147.

The escalation factor for waste burial, B, can be taken directly from data on the appropriate waste burial location in Table 2.1 of NUREG-1307 (Ref. 5). The base value of B for January 1986 is 1.0. This corresponds to the value used in the calculation of the waste burial cost for decommissioning in 10 CFR 50.75(c) and reflects the base cost for waste burial at the Washington site. For example, the value of B in January 2000 for the Washington burial site for a PWR is 2.223÷1.0=2.223. Similarly, for the South Carolina site, the value for a PWR in January 2000 (Atlantic Compact) is 17.922÷1.0. These values for B could then be used in the equation in 10 CFR 50.75(c)(2).

Because this formula does not provide for estimates of future inflation but only of inflation that has already occurred, licensees should recalculate the certification amount each year using the previous year's data, as described in 10 CFR 50.75(c)(2). This recalculation is for certification purposes only and does not affect estimated future inflation that a licensee may calculate to establish amortization or collection schedules for rate-making or other purposes.

Applicants and licensees who have prepared a decommissioning cost estimate should also annually prepare adjustments to the cost estimate, but these adjustments need not be submitted to the NRC staff (see Regulatory Position 1.4).

Updated calculations based on the formulas in 10 CFR 50.75(c) or on site-specific estimates are to be submitted every 2 years (and in certain cases annually) as part of the report required in 10 CFR 50.75(f)(1) and (f)(2).

1.3 Decommissioning Cost Estimates

Five decommissioning cost estimates are required to be developed and submitted for NRC review:

(1) initial estimate that may be calculated according to 10 CFR 50.75(c), or that may be site-specific and at least equal to the decommissioning cost from 10 CFR 50.75(c);

(2) preliminary decommissioning cost estimate at or about 5 years before the projected end of operations, in accordance with 10 CFR 50.75(f)(2);

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[2] These equations are derived from Table 6.3 of NUREG/CR-0130, "Technology, Safety, and Costs of Decommissioning a Reference Pressurized-Water Reactor Power Station," Addendum 4, July 1988 (Ref. 6), and Table 5.3 of NUREG/CR-0672, "Technology, Safety, and Costs of Decommissioning a Reference Boiling-Water Reactor Power Station," Addendum 3, July 1988 (Ref. 7), respectively.

(3) estimate of expected costs contained in the PSDAR, in accordance with 10 CFR 50.82(a)(4)(i);

(4) site-specific decommissioning cost estimate within 2 years following permanent cessation of operations, in accordance with 10 CFR 50.82(a)(8)(iii); and

(5) updated site-specific estimate of remaining decommissioning costs contained in the license termination plan, in accordance with 10 CFR 50.82(a)(9)(ii)(F).

The NRC developed guidance providing details on content and format for the reporting of these cost estimates and published it in Regulatory Guide 1.202, "Standard Format and Content of Decommissioning Cost Estimates for Nuclear Power Reactors," (Ref. 8), and in NUREG-1713, "Standard Review Plan for Decommissioning Cost Estimates for Nuclear Power Reactors," (Ref. 9).

In general, decommissioning cost estimates are provided by major activity and major decommissioning phase or time period. The cost estimate must account for the entire decommissioning work scope but not for items that are outside the scope of the decommissioning process. Examples of activities outside the scope ofdecommissioning include, but are not limited to, (1) the maintenance and storage of spent fuel, (2) the design and/or construction of a spent fuel dry storage facility, (3) activities that are not directly related to supporting long-term storage of the facility, or (4) any other activities not directly related to radiological decontamination of the site. If nondecommissioning cost items are included, these items should be identified separately.

Cost estimates should provide costs for each of the following (or similar) major activities and phases, with a level of detail appropriate to the type of cost estimate:

(1) major radioactive component removal—reactor vessel and internals, steam generators, pressurizers, large-bore reactor coolant system piping, and other large components that are radioactive to a comparable degree;

(2) radiological decontamination and decommissioning—removal of remaining radioactive plant systems, including radiological decontamination;

(3) management and support (undistributed costs)—expenses such as labor costs of utility support staff and decommissioning contractor staff, energy costs, regulatory costs, small tools, insurance, and others;

(4) waste packaging/shipping—placing waste in packages and shipping to waste vendors or burial site;

(5) waste burial or waste vendor—waste burial charges, including waste vendors' processing fees; and

(6) contingency—allowance for unexpected costs.

Cost estimates should also include the assumptions, references, and bases for unit costs used in developing the estimates, as well as a description of how the cost estimate accounts for inflation. The cost estimate should be provided in current-year dollars. Escalation of the waste disposition costs is considered separately from the general inflation rate applicable to labor, material, and energy costs. Regulatory Position 1.2 discusses escalation factors.

1.4 Adjustments to Cost Estimates

In order to maintain adequate funds until completion of decommissioning, funding provisions should contain procedures for the periodic review and adjustment of the initial estimate and subsequent amounts set aside, during both operation and any storage periods, based on the factors below.

1.4.1 Inflation

The effect of inflation on the estimated cost should be determined. For licensees subject to the certification requirements of 10 CFR 50.75(b), the certification amount should be adjusted annually, using the formula in 10 CFR 50.75(c)(2) (see Regulatory Position 1.2). For licensees using site-specific cost estimates (i.e., research and test reactor licensees, power reactor licensees not covered by 10 CFR 50.75(c) or exercising their option to submit a site-specific estimate, or for licensees submitting preliminary or proposed decommissioning plans pursuant to 10 CFR 50.75(f) and 10 CFR 50.82(a)), new cost-estimate studies should be conducted periodically to determine whether the estimate reflects cost changes from inflation or other factors. In no case, however, should site-specific estimates be lower than the formula amounts in 10 CFR 50.75(c). As an alternative to performing new site-specific cost estimates, licensees may use standard measures of price indexing, such as the annual Consumer Price Index published by BLS, or the inflation factor derived from the Implicit Price Deflator for the Gross National Product as published in the "Survey of Current Business," by the U.S. Department of Commerce, or in "Economic Indicators," by the Council of Economic Advisors. The licensee may also use the factors indicated in Regulatory Position 1.2 for escalating the principal components of the cost estimate. Estimates of future inflation should bear a reasonable relationship to recent (i.e., within 10 years) economic performance or other relevant economic conditions and factors. The licensee should document the bases for all estimates of past and future inflation.

1.4.2 Technological and Status Changes

For site-specific decommissioning cost estimates, the effect of technological changes or changes in plant status (e.g., whether the plant has been shut down for an extended period) on the cost estimate should be determined. This could include reasonably determined recent developments in decontamination, waste processing and disposal, or cutting equipment and other technology; updated information about the facility conditions, such as larger levels of contamination than anticipated; updated waste disposal conditions; updated residual radioactivity limits; and experience gained from the actual decommissioning of similar facilities.

1.4.3 Frequency of Adjustment

Adjustment to the certification amount and site-specific cost estimates should be made at least once a year for the effects described in Regulatory Position 1.4.1. Adjustment to site-specific cost estimates for the effects described in Regulatory Position 1.4.2 should be made according to the amount of change experienced, as appropriate, but in no event, less than once every 5 years. Regulatory Position 2.1.5 addresses adjustments to funding levels to account for adjustments to the certification amount or site-specific cost estimates.

2. Methods of Financial Assurance

Methods that are considered acceptable for reactors for assuring the availability of funds for decommissioning are in 10 CFR 50.75. The following sections provide specific guidance to licensees for complying with the various types of methods specified in 10 CFR 50.75.

2.1 Guidance Applicable to All Methods of Financial Assurance

2.1.1 If more than one licensee owns a facility, the method should provide a clear indication of the funding provisions made by each licensee or agent acting for a licensee. Multiple licensees may, at their discretion, pool decommissioning funds for a jointly-owned facility or facilities, as long as the contribution of each licensee and each facility is separately identifiable within the methods being used. Decommissioning funding plans may be submitted either jointly or separately by co-licensees. However, each licensee should ensure the accuracy of its share of the total NRC-required amount being certified plus periodic adjustments.

2.1.2 The applicant or licensee should indicate that the method used provides, or will provide, at the projected cessation of operations, an amount at least equal to the estimated or certified decommissioning cost for the facility, when earnings are taken into account, as permitted by 10 CFR 50.75(e)(1)(i) and (ii). If a licensee uses a combination of different methods for assuring decommissioning funds, the combined total of the methods being used should equal the certification amount, plus adjustments projected to be needed. At its discretion, a licensee may use an assurance method to provide funds for the adjusted certification amount plus non-NRC-required decommissioning costs, as long as each portion can be identified.

2.1.3 The applicant or licensee should provide evidence that the parties signing the financial instrument (for the applicant or licensee) are authorized to represent the organization in the transaction.

2.1.4 The applicant or licensee should provide evidence that the financial instrument is either a conformed copy or a photocopy of the original instrument.

2.1.5 A licensee is required to provide assurance that at any time during the life of the facility, through termination of the license, adequate funds will be available to complete decommissioning. (See 61 FR 39278.) Pursuant to 10 CFR 50.75(b)(1) and (b)(2), the minimum amount of financial assurance required for decommissioning must be adjusted annually, using a rate at least equal to that stated in paragraph (c)(2) of 10 CFR 50.75. The licensee should calculate the amount of the adjustment as of December 31 of each year. If the amount of financial assurance provided by the licensee does not equal or exceed the minimum required amount of financial assurance recalculated on December 31, then the licensee must adjust the amount of financial assurance it provides, such that it meets or exceeds the required amount.

Each of the methods of financial assurance should be adjustable to take into account variations in earnings and adjustments in the amount of funds being set aside for decommissioning both during operation and during storage periods, if any (see Regulatory Position 1.4). Adjustments to the annual amount of funds being set aside may be made to coincide with rate cases considered by a licensee's public utility commission (PUC) or by the Federal Energy Regulatory Commission (FERC). Adjustments also may be made to reflect the schedule of "ruling amounts" established by the Internal Revenue Service under Section 468A of the Internal Revenue Code for a qualified[3] Nuclear Decommissioning Reserve Fund. However, the sum of the adjusted ruling amount in a qualified account plus the target amount in a nonqualified account should at least equal the amount indicated in 10 CFR 50.75(c). For licensees who are no longer rate-regulated or do not have access to a non-bypassable charge, in every case, needed adjustments to the amount of funds set aside should be made at least once every 2 years, in conjunction with the biennial

[3] The NRC uses the terms "qualified" and "nonqualified" as defined by the Internal Revenue Service in Section 468A of its Code.

report. This should be interpreted to require that shortfalls identified in a biennial report must be corrected by the time the next biennial report is due.

A licensee that may rely exclusively on an external sinking fund to provide financial assurance under the circumstances defined in 10 CFR 50.75(e)(ii)(A) or (B) (that is, where the total cost of decommissioning is provided through rates established by cost-of-service ratemaking or non-bypassable charges) may make a good-faith effort to obtain rate relief to cover its shortfall. A licensee meeting these criteria should inform its rate regulator by March 31 of each year when a shortfall in financial assurance has occurred as of December 31 of the preceding year. The information should include the NRC minimum financial assurance requirement, the actual amount of the licensee's decommissioning financial assurance, and the amount of additional cost recovery needed to meet the NRC amount. The licensee should request its rate regulator to schedule a review of decommissioning cost recovery by the end of the year. A copy of the information and request should be included in the licensee's decommissioning fund status report in the years that the report is required. The licensee is expected to make adjustments to the amount of funds set aside as necessary to meet the minimum requirement of 10 CFR 50.75(c), but in every case, within 5 years.

However, under the provisions of 10 CFR 50.75(e)(2), the staff reserves the right to review, as needed, the rate of accumulation of decommissioning funds and, either independently or in cooperation with FERC and the licensee's State PUC, take additional actions on a case-by-case basis, including modification of the licensee's schedule for the accumulation of funds.

2.1.6 The licensee should maintain continuity in the funding method as follows:

2.1.6.1 If the licensee decides to change the funding method during the life of the facility or during the storage period, the licensee should notify the Director, Office of Nuclear Reactor Regulation, or the Director, Office of Nuclear Material Safety and Safeguards, as applicable, of this change at least 30 working days in advance of its effective date. Significant modifications to a funding method should also be submitted to the Director, Office of Nuclear Reactor Regulation, or the Director, Office of Nuclear Material Safety and Safeguards, as appropriate, at least 30 working days prior to the proposed effective date of the amendment, providing the text of the amendment and a statement of the reason for the proposed amendment.

2.1.6.2 If ownership or operating responsibility for a facility is transferred, the existing financial assurance method is to be maintained until such transfer is approved by the NRC pursuant to 10 CFR 50.80, and the transfer has been effected. (Sale-leaseback agreements do not require new or amended financial assurance mechanisms unless so provided by such agreements.)

2.1.6.3 An acceptable assurance method is to be maintained until the 10 CFR Part 50 license is terminated.

2.1.7 A licensee may use a single account to commingle its radiological decommissioning funds with its nonradiological decommissioning funds, as long as the licensee is able to identify and provide an accounting for the radiological decommissioning funds that are contained within its single account.

2.2 Prepayment and External Sinking Fund

These funding methods should have the following characteristics:

2.2.1 An applicant or licensee using an escrow account, a certificate of deposit, or a trust agreement to satisfy 10 CFR 50.75(c) may use the examples of these methods in Appendices B-1, B-2, and B-3 of this guide. These sample forms have been provided for general guidance. Specific provisions may not be applicable to particular licensees and may be modified as a licensee's specific situation warrants. The NRC expects that all prepayment or external sinking fund mechanisms will, at a minimum, satisfy the following conditions: (a) the instrument will meet the requirements of State law for that instrument, (b) it will provide for the segregation of decommissioning funds from the licensee's other assets, (c) it will ensure that the funds are outside the administrative control of the licensee, (d) it will ensure that special care is taken to safeguard the funds from investment risks, and (e) it will provide safeguards against improper payments from the funds.

The conditions stipulated in 10 CFR 50.75(e)(1)(i) and (ii), that a prepayment account or an external sinking fund, respectively, be "segregated from licensee assets," are intended to ensure that the integrity of decommissioning funds will be maintained, especially with respect to protection from creditors in a bankruptcy situation, and to ensure continuity of funding during license transfers. A case-by-case "reasonableness" standard will be applied to licensee compliance with this provision. Key indicators of segregation include separation of the funds from the other assets of the licensee, through a transfer to an independent custodian or manager, and separate accounting. The phrase "segregation from licensee assets" does not require that the fund be placed in an entity, such as a grantor trust, that is established as a separate tax-paying entity. Licensees should be aware, however, that such a trust will provide greater protection in bankruptcy than the escrow or certificate of deposit.

2.2.2 The following key provisions should be included in the trust instrument (or, when relevant, in the escrow or government fund agreement) to ensure that it is acceptable to the NRC:

2.2.2.1 The trust agreement should state the purpose of the trust, and the nuclear facility must be identified. An acceptable statement of purpose is the statement required for a trust agreement to qualify as a Nuclear Decommissioning Reserve Fund under Section 468A of the Internal Revenue Code.

2.2.2.2 The trust agreement should specify that the trust fund is established for the benefit of the licensee of the facility and/or the NRC, but only to the extent, in the case of the NRC, that the provisions of 31 U.S.C. 3302(b) would not be applicable. More than one licensee may be identified. A single trust agreement may establish two or more Nuclear Decommissioning Funds when a nuclear power plant is owned by two or more licensees.

2.2.2.3 The trust agreement should specify the obligations of the trustee and, if applicable, the investment manager with respect to investments, specifically for nonelectric utilities, as described below under Regulatory Position 2.2.3.

2.2.2.4 The trust agreement should specify the circumstances under which payments will be made from the trust. It must provide that no disbursements or payments may be made from the trust by the trustee, other than for payment of ordinary administrative expenses (examples of ordinary administrative expenses are set out in the Internal Revenue Code, Section 468A) or withdrawals pursuant to 10 CFR 50.82(a)(8), until the licensee has first given the NRC 30 working days prior written notice, and that no disbursements or payments from the trust may be made if the licensee receives prior written notice of objection from the Director, Office of Nuclear Reactor Regulation, or the Director, Office of Nuclear Material Safety and Safeguards, as appropriate. As noted in 10 CFR 50.82(a)(8), 3 percent of the generic amount specified in 10 CFR 50.75 may be

used for decommissioning planning, and such amounts may be expended during the operating life of a plant without any requirement for written notice to be made. Also, licensees who have submitted the certification required under 10 CFR 50.82 (commencing 90 days after the NRC receives the PSDAR) may use an additional 20 percent without any requirements for notice to be made. After decommissioning has begun, no further notification need be made to the NRC unless otherwise required.

2.2.2.5 For nonelectric-utility licensees, the trust agreement must specify that amendments to the trust must be executed in writing, and that the agreement cannot be amended in any material respect without 30 working days prior written notification from the licensee to the Director, Office of Nuclear Reactor Regulation, or the Director, Office of Nuclear Material Safety and Safeguards, as appropriate. The trust agreement of an electric utility licensee must follow the requirements for trust amendments as specified in the trusts themselves or in the requisite State regulations.

2.2.2.6 The NRC defines "material" modifications to include, but not be limited to, actions such as: change of trustee; change to any key provision of the trust, particularly including the investment provisions; change of the provisions related to withdrawals from the trust; changes related to the beneficiary; changes related to the duration or term of the trust; changes that could affect the ability of the trust agreement to provide reasonable assurance of decommissioning funds; and changes to the terms of providing information to the NRC. Modifications that are not material include, for example, changes in fee structures paid to a trustee; changes in arbitration provisions between the trustee and the licensee; changes in investment advisor or investment manager, if applicable; and changes in investments, provided the changes comply with other aspects of the regulations.

2.2.3 The trust agreement should specify that the trustee's obligations, or obligations of one or more investment managers, with respect to investments, include: (1) day-to-day management of the trust, guided by general investment instructions provided by the licensee or the licensee's designated investment manager; (2) the obligation of the trustee and/or investment manager to ensure that trust investments are made pursuant to an applicable standard of care, whether in investing or otherwise, required by State or Federal law or regulation, or in the absence of such standard, a "prudent investor" standard as set forth in 18 CFR 35.32(a)(3) or any successor regulation; and (3) the obligation of the trustee and/or investment manager, if applicable, to avoid specifically prohibited investments, as described below.

2.2.3.1 The requirement that the trust should not be under the "administrative control of the licensee" will be met if day-to-day investment decisions are made by the trustee or investment manager and not by the licensee. Licensees may exercise general management oversight of trust fund investments to the extent allowed under State trust law. The NRC staff recognizes that licensees have legitimate interests and responsibilities in ensuring appropriate investment strategies for these funds and monitoring the progress of investments, and licensees may issue investment guidelines to a trustee or investment manager. However, licensees should avoid active day-to-day management of these funds. In this regard, if a trustee is unable to act as an investment manager, use of a professional investment manager may be necessary. A licensee or its affiliate may act as an investment manager in the case of passive fund management of trust funds, where management is limited to investments tracking market indices. For example, a licensee may maintain a fund that purchases and sells equities in order to track the Standard & Poor's 500 Index. Such passive funds may make direct investments in securities or obligations of the licensee for the trust (or its affiliates) or of other reactor licensees (or their affiliates), provided that such investments are consistent with the requirements to track the applicable index and are consistent with NRC restrictions and other regulatory requirements.

2.2.3.2 For nonelectric-utility licensees, the trust agreement must prohibit investments in securities or other obligations of the licensee (the grantor) or any other owner or operator of any nuclear power reactor as well as their affiliates, subsidiaries, successors, or assigns. An affiliate is any company that controls, is controlled by, or is under common control with the licensee or any other owner or operator of the facility. A subsidiary is any company that is owned or controlled directly or indirectly by the licensee or any other owner or operator of the facility. A successor or assign is a company that has acquired possessory rights to the licensee, the facility, or any other owner or operator of the facility. The trust agreement also must prohibit investments in a mutual fund in which at least 50 percent of the fund is invested in the securities of a licensee or parent company whose subsidiary is an owner or operator of a foreign or domestic nuclear power plant.

2.2.3.3 For nonelectric-utility licensees, indirect ownership of securities or other obligations of any owners or operators of nuclear power plants through investments in securities tied to market indices or through mutual funds in which less than 50 percent of the fund is invested in the securities of a licensee or parent company whose subsidiary is an owner or operator of a foreign or domestic nuclear power plant is allowed, provided that no more than 10 percent of the total value of the grantor's trust assets may be indirectly invested in the securities of any entity owning or operating one or more nuclear power plants.

2.2.3.4 Investments selected with the approval of, or guidance from, the state PUC with jurisdiction over the licensee, or from the FERC, would be acceptable to the NRC staff.

2.2.4 The escrow account, certificate of deposit, or trust agreement must comply with applicable state law for such instruments.

2.2.5 The financial assurance instrument, signed by individuals authorized to act for the appropriate parties, should be maintained in the licensee's records and be available for inspection until termination of the 10 CFR Part 50 license. If feasible, licensees should maintain records or duplicates onsite.

2.2.6 The trustee of a fund should be an entity that has the authority to act as a trustee and whose trust operations are regulated or examined by a State or Federal agency or, if a government fund is being used, the appropriate State or Federal Government agency. The word "national" in the title of a financial institution signals that the institution is Federally regulated, as do the initials "N.A.," or the words "National Association," or "a national banking association." The "examinations" department of the appropriate district office of the U.S. Office of the Comptroller of the Currency can provide information about whether the institution has trust powers. The word "State" in the title of a financial institution signals that the institution is State-regulated. The examinations department of the applicable State banking authority can provide information about whether the institution has trust powers. Domestic branches of foreign banks may be either Federally regulated or State-regulated. Eligibility of an institution can be checked through the "Trust Institutions Search" database, at http://www2.fdic.gov/structur/trust/index.html.

2.2.7 A trust agreement should include a clause in which the trustee accepts the responsibility of trusteeship.

2.2.8 Annual deposits in an external sinking fund, including projected earnings, should attempt to approximate the total amount remaining to be accumulated, divided by the remaining years of the license, as determined by the initial and updated certification amount specified in 10 CFR 50.75(c)(1) and (2).

2.2.8.1 Arithmetic precision is not required for fund accumulation rates. If, during the course of collecting funds, a licensee has accumulated significantly greater decommissioning funds than anticipated, it may reduce its remaining contributions commensurately. Likewise, if a licensee is significantly behind in collections, increased contributions should be used to make up the deficit. However, licensees should avoid undue reliance on contributions weighted in constant dollars toward the end of projected facility operating life. Additionally, the NRC staff considers reliance on an estimated tax deduction for decommissioning expenses, at the time such expenses are incurred, to be a form of internal reserve and thus not allowed under 10 CFR 50.75(e). If sufficient rate relief by a State PUC or FERC is ultimately not obtained, the licensee's stockholders will be expected to cover decommissioning costs through reduced return on equity. Projected rates of earnings on an external sinking fund during plant operation should reasonably approximate the historical real rate of earnings (i.e., after inflation and taxes) obtained by a given type of investment.

2.2.8.2 For decommissioning funds that are prepaid or in external sinking fund accounts, the regulations in 10 CFR 50.75(e)(i) and (ii) allow a credit for projected earnings of up to a 2-percent annual real rate of return (i.e., nominal rate less inflation and taxes) from the time of the future funds' collection as a factor in calculating the total amount of funds that would be sufficient to pay decommissioning costs. This allowed credit may be greater than 2 percent if a licensee is subject to a rate-setting authority that will provide the total amount of funds necessary for decommissioning and the authority has specifically presumed a higher rate. The period of time for which the credit may be taken is determined by whether a generic formula or a site-specific estimate with a specified safe-storage period is used as the basis for estimating decommissioning costs, as discussed below.

2.2.8.3 For licensees that use a generic formula for decommissioning cost estimates during the period of plant operation, this credit may be taken for the remaining years left on the operating license, and an additional pro rata credit may be taken into the presumed immediate dismantlement period (i.e., the first 7 years after shutdown), as long as such credit reflects the expected cash flow of expenditures during this period. If the NRC has approved license renewal for a plant, the licensee may take the credit during the extended license period.

2.2.8.4 A licensee that uses a site-specific estimate may take the allowed credit through the projected decommissioning period, provided that the site-specific estimate is based on a period of safe storage that is specifically described in the estimate. This decommissioning period includes the period of safe storage, final dismantlement, and license termination. The allowed credit during the period of safe storage must reflect any withdrawals from decommissioning funds during this period, such as withdrawals to pay for annual costs to maintain the facility in a safe storage condition.

2.2.8.5 When a licensee adjusts the cost estimate for decommissioning annually, pursuant to 10 CFR 50.75(b)(2), the adjusted estimate less amounts already accumulated should form the basis of future collections, which can take into account the allowed credit. Funds already accumulated, plus scheduled fund contributions, in the case of those licensees authorized to utilize external sinking funds, plus projected earnings on these funds, should be sufficient to pay

decommissioning costs at the time termination of operation is expected, allowing for extending the real rate of return credit into the decommissioning period, as noted above.

2.2.8.6 Actual earnings on existing funds may be used to calculate the need for future funds. However, pursuant to 10 CFR 50.75(f)(3), when a licensee is within 5 years of the projected end of operations and submits its preliminary decommissioning cost estimate, the licensee may take up to a 2-percent earnings credit (or a higher credit, if specifically presumed by a rate-setting authority) over a storage period, as long as the storage period and its cost implications for total decommissioning costs are specifically addressed in the preliminary decommissioning cost estimate.

2.2.8.7 Licensees who operate multiple modular reactors at a single site may take credit for earnings in such a manner that the assumptions for earnings credit track the cash flows for decommissioning expenses for each module.

2.3 Guarantee Methods

Guarantee methods include surety bonds, letters of credit, and insurance. Acceptable guarantee methods should have the following characteristics:

2.3.1 An applicant or licensee that uses a surety bond, letter of credit, or parent guarantee may use the sample wording for these methods contained in Appendices B-4, B-5, and B-6, respectively. These sample forms have been provided for illustrative purposes. Specific provisions may not be applicable to particular licensees and may be modified as a licensee's specific situation warrants. However, each licensee should be sure that the instrument being used conforms to applicable State law.

2.3.2 The following documents should be maintained in the licensee's records and be available for inspection by the NRC:

(1) for surety bonds, an originally signed duplicate or conformed copy of the surety bond, signed by individuals authorized to act for the licensee and the surety company;

(2) for letters of credit, an originally signed duplicate or conformed copy of the letter of credit, signed by individuals authorized to act for the licensee and the financial institution;

(3) for insurance, an original or conformed copy of the insurance policy; and

(4) a standby trust fund to receive funds if the surety, letter of credit, or insurance is drawn upon.

2.3.3 The following should be considered for financial institutions used as guarantors:

(1) For surety bonds, the surety company must be listed by the U.S. Department of the Treasury in the most recent edition of Circular 570 and have a coverage limit sufficient to cover the cost estimates for which assurance is sought. Circular 570 is published annually about July 1 and is updated in the *Federal Register*.

(2) For letters of credit, the issuing institution must be an entity that has the authority to issue a letter of credit, and whose letter of credit operations are regulated and examined by a Federal or State agency.

(3) For insurance, the insurance company must be licensed by State regulatory authorities to transact business as an insurer in one or more States.

2.4 Standby Trust

2.4.1 Under the decommissioning regulations, a licensee or applicant using a surety bond, letter of credit, or insurance must establish a "standby" trust fund to receive funds from the other financial instruments, if necessary. Under this arrangement, the beneficiary may draw on the funds held in the instruments listed and deposit them directly into the standby trust for use as required for decommissioning. In addition to the instruments listed, applicants or licensees using parent company guarantees, certificates of deposit, or government securities should establish a standby trust.

2.4.2 An applicant or licensee establishing a standby trust is directed to the sample wording for the instrument contained in Appendix B-3.2.

2.4.3 Appropriate documentation regarding the standby trust should be maintained in the licensee's records as indicated in Regulatory Position 2.2.5.

2.5 Governmental Statement of Intent

A government licensee or license applicant, as designated in 10 CFR 50.75(e), can submit a statement of intent that contains a cost estimate for decommissioning and indicates that funds for decommissioning will be obtained when necessary. Federal licensees are the only government licensees allowed to use a statement of intent for power reactors. As defined in 10 CFR 50.2, a "Federal licensee means any NRC licensee, the obligations of which are guaranteed by and supported by the full faith and credit of the United States Government." Nonpower-reactor licensees using a statement of intent may be Federal, State, or local government entities. The statement of intent should contain the following:

(1) identification of the facility or facilities for which it provides the financial assurance and the corresponding decommissioning costs,

(2) an indication that funds for decommissioning will be requested and obtained sufficiently in advance of decommissioning to prevent delay of required activities, and

(3) evidence of the authority of the official of the government entity to sign the statement of intent and evidence that the licensee's decommissioning obligation is supported by the full faith and credit of the U.S. Government, or as applicable, the State or local government.

A signed copy of the statement of intent that funds will be obtained when necessary should be maintained in the licensee's records and be available for inspection.

2.6 Biennial Reports

2.6.1 As provided in 10 CFR 50.75(f)(1), each power reactor licensee is required to report to the NRC on a calendar-year basis, beginning on March 31, 1999, and every 2 years thereafter, on the status of its decommissioning funding for each reactor or share of a reactor that it owns. The information in this report must include, at a minimum, the following: (1) an estimate of the amount of decommissioning funds to be required, pursuant to 10 CFR 50.75(b) and (c), or a site-specific estimate, if greater than the amount in 10 CFR 50.75(c), as appropriate (or for a reactor that is neither a BWR or a PWR); (2) the amount accumulated to the end of the calendar year

preceding the date of the report to meet 10 CFR 50.75 requirements; (3) a schedule of the annual amounts remaining to be collected; (4) the assumptions used regarding rates of escalation in decommissioning costs, rates of earnings on decommissioning funds, and rates of other factors used in funding projections; (5) any contracts upon which the licensee is relying, pursuant to 10 CFR 50.75(e)(1)(v); and (6) any modifications to a licensee's current method of providing financial assurance occurring since the last submitted report, including material modifications to decommissioning trust agreements. Any licensee whose plant is within 5 years of the projected end of operation, or when conditions have changed such that it will close within 5 years (before the end of its licensed life) or has already closed (before the end of its licensed life), is required to submit the report annually. Licensees of plants involved in mergers or acquisitions are also required to submit this report annually until the NRC has approved the merger or acquisition pursuant to 10 CFR 50.80. For such licensees, this report may be submitted as part of the licensee's license transfer application, provided that it contains the information described above. The NRC staff interprets this provision to require applicants to revert to an odd-year biennial reporting cycle upon completion of the merger.

2.6.2 As long as the information described above is included in the report, no specific reporting format is required. The licensee should state with respect to any reporting item whether the item is not applicable, if appropriate. As part of the report, licensees do not need to submit a complete listing of all investments, although it is helpful to indicate broad categories of investments as a percent of the total trust portfolio (e.g., equities equal 20 percent of the total value of the trust, Federal Government bonds and notes equal 50 percent of the total value of the trust). In addition, each licensee should indicate the assurance mechanism being used as a source of revenues for the external sinking fund (e.g., traditional "cost-of-service" ratemaking, a non-bypassable charge, long-term contracts that the NRC has found to be acceptable pursuant to 10 CFR 50.75(e)(1)(v)).[4] If the assumed real earnings rate on an external sinking fund exceeds 2 percent, each licensee should indicate the specific rate ruling or decision by its rate regulator that documents the earnings rate being used, as provided in 10 CFR 50.75(e)(1)(i) or (ii). If a licensee is using an assurance mechanism other than an external sinking fund, it should include adjustments to the assurance mechanisms (e.g., a surety bond or letter of credit) as part of the report to account for any escalation since the previous report.

2.7 License Termination Plan

The regulation in 10 CFR 50.82(a)(9) requires submittal of a license termination plan at the time a licensee applies for termination of a license. The license termination plan is to include provisions for funding and an updated site-specific estimate of remaining decommissioning costs, as described in detail in NUREG-1700, "Standard Review Plan for Evaluating Nuclear Power Reactor License Termination Plans," issued April 2000 (Ref. 10), and Regulatory Guide 1.179, "Standard Format and Content of License Termination Plans for Nuclear Power Reactors," (Ref. 11).

2.8 Procedures for Prematurely or Previously Shutdown Reactors

The funding requirements of 10 CFR 50.75 and 10 CFR 50.82 apply to all reactors, including those that were shut down prior to the effective date of the final rule (July 27, 1988), because these reactors possess a 10 CFR Part 50 license, albeit modified. As indicated in the supplementary information to the final rule, details concerning financial assurance, primarily the time period for

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[4] To the extent that power reactor licensees have received rate regulator approval to use market-based rates for a significant portion of their nuclear-related revenues (i.e., greater than 20 percent), the NRC will not consider them to be subject to traditional cost-of-service rate regulation for that portion of their rates.

accumulating funds not set aside during operation, would be decided on a case-by-case basis. A final rule dated July 9, 1992 (57 FR 30383), extended this case-by-case approach to licensees of all power reactors that shut down prematurely. Each licensee should provide the following:

2.8.1 information on how reasonable assurance will be provided that funds will be available to decommission the facility;

2.8.2 information on the amount of funds necessary for decommissioning, as required by 10 CFR 50.75(f) (i.e., a cost estimate that includes provisions for adjusting the estimate should be submitted based on Regulatory Position 1);

2.8.3 information on the method of financial assurance to be used, as required by 10 CFR 50.75(e). That is, funds needed to complete decommissioning are to be placed in an account segregated from licensee assets and outside the licensee's administrative control, or a surety method or funding statement of intent should be maintained based on Regulatory Position 2.

D. IMPLEMENTATION

The purpose of this section is to provide information on how applicants and licensees[5] may use this guide and information regarding the NRC's plans for using this Regulatory Guide. In addition, it describes how the NRC staff has complied with the Backfit Rule, 10 CFR 50.109 and any applicable finality provisions in 10 CFR Part 52.

Applicant and Licensees' Use

Applicants and licensees may (i.e., voluntarily) use the information in this regulatory guide to develop applications for initial licenses, amendments to licenses, or other requests for NRC regulatory approval (e.g., exemptions). Licensees may use the information in this regulatory guide for actions which do not require prior NRC review and approval (e.g., changes to a facility design under 10 CFR 50.59 which do not require prior NRC review and approval). Licensees may use the information in this Regulatory Guide or applicable parts to resolve regulatory or inspection issues (e.g., by committing to comply with provisions in the regulatory guide).

Current licensees may continue to use the guidance that was found acceptable for complying with specific portions of the regulations as part of their license approval process, which may be a previous version of this Regulatory Guide.

A licensee who believes that the NRC staff is inappropriately imposing this Regulatory Guide as part of a request for a license amendment or request for a change to a previously issued NRC regulatory approval may file a backfitting appeal with the NRC in accordance with applicable procedures.

NRC Staff Use

The NRC staff does not intend or approve any imposition or backfitting of the guidance in this Regulatory Guide. The staff does not expect any existing licensee to use or commit to using the guidance in this Regulatory Guide in the absence of a licensee-initiated change to its licensing basis. The NRC staff does not expect or plan to request licensees to voluntarily adopt this Regulatory Guide to resolve a generic regulatory issue. The NRC staff does not expect or plan to initiate NRC regulatory action which

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[5] In this section, "licensees" include applicants for standard design certifications under 10 CFR Part 52.

would require the use of this regulatory guide (e.g. issuance of an order requiring the use of the Regulatory Guide, requests for information under 10 CFR 50.54(f) as to whether a licensee intends to commit to use of this regulatory guide, generic communication, or promulgation of a rule requiring the use of this Regulatory Guide) without further back-fit consideration.

During inspections of specific facilities, the staff may suggest or recommend that licensees consider various actions consistent with staff positions in this regulatory guide. Such suggestions and recommendations would not ordinarily be considered backfitting even if prior versions of this Regulatory Guide are part of the licensing basis of the facility with respect to the subject matter of the inspection. However, unless this Regulatory Guide is part of the licensing basis for a plant, a failure to comply with the positions in this Regulatory Guide, by itself, may not be identified by the staff as a violation.

If an existing licensee seeks a license amendment or change to an existing regulatory approval, and the staff's consideration of the request involves a regulatory issue which is directly relevant to this Regulatory Guide and the specific subject matter of the new or revised guidance is an essential consideration in the NRC staff's determination of the acceptability of the licensee's request, the staff may require the licensee to use this Regulatory Guide or its equivalent as a prerequisite for NRC approval. This is not considered backfitting as defined in 10 CFR 50.109(a)(1) or a violation of any of the issue finality provisions in 10 CFR Part 52.

Conclusion

This regulatory guide is not being imposed upon current licensees and may be voluntarily used by existing licensees. In addition, this Regulatory Guide is issued in conformance with all applicable internal NRC policies and procedures governing backfitting. Accordingly, the NRC's staff issuance of this regulatory guide is not considered backfitting, as defined in 10 CFR 50.109(a)(1), nor is it deemed to be in conflict with any of the issue finality provisions in 10 CFR Part 52.

GLOSSARY OF FINANCIAL TERMS

certificate of deposit (CD)—A bank's, or other financial institution's, written acknowledgment of the receipt and deposit of a sum of money by the licensee or applicant and its promise of repayment. When using a CD to demonstrate financial assurance for decommissioning, the licensee deposits, with a bank or other financial institution, funds sufficient to cover the certification amount or site-specific cost of decommissioning the licensed facility and receives a CD.

contractual obligations—Obligations on the part of a licensee's customers, the total amount of which, over the duration of the contracts, will provide the licensee's total share of uncollected funds to be needed for decommissioning, according to Title 10, Sections 50.75(c), 50.75(f), and 50.82, "Termination of License," of the *Code of Federal Regulations* (10 CFR 50.75(c), 10 CFR 50.75(f), 10 CFR 50.82).

decommissioning financial assurance—The system of regulation used by the NRC to ensure that funds are available when needed for decommissioning. The term also refers to the total amount of assurance provided using one or more of the methods specified in 10 CFR 50.75(e). A licensee is required to provide financial assurance at all times during the life of the facility, through termination of the license, that adequate funds will be available to complete decommissioning. (61 FR 39278).

escrow account—An account containing funds deposited by the licensee or applicant and held by a bank or other financial institution. An escrow account differs from similar accounts in that the licensee or applicant provides funds that are held by the escrow until the happening of a contingency or the performance of a condition, such as commencement of decommissioning, and then the funds are released to the grantor or the grantor's designee or, if appropriate, placed in the standby trust.

external sinking fund—A fund, established and maintained by setting funds aside periodically in an account segregated from licensee assets and outside the administrative control of the licensee and its subsidiaries or affiliates, in which the total amount of funds would be sufficient to pay decommissioning costs at the time permanent termination of operations is expected. An external sinking fund may be in the form of a trust, escrow account, government fund, CD, deposit of government securities, or other payment acceptable to the U.S. Nuclear Regulatory Commission (NRC).

financial test—An accounting ratio requirement, net worth requirement, bond rating requirement, or similar requirement or combination of requirements that measures the financial strength of a firm providing financial assurance. The financial test is used by a firm that provides a guarantee to a licensee, to show its own financial strength and its ability to support the guarantee. This mechanism is unavailable to electric-utility (power-reactor) licensees. (See Appendix A, "Criteria Relating to Use of Financial Tests and Parent Company Guarantees for Providing Reasonable Assurance of Funds for Decommissioning," to 10 CFR Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material.")

insurance—Insurance, in this case, would be similar to surety bonding, as discussed below, in that it would guarantee that decommissioning costs will be paid to a trustee, should the licensee default.

letter of credit—A binding agreement by which the issuing party, such as a bank or other financial institution, agrees on behalf of the applicant or licensee (the account party) to pay a governmental or government-approved authority (the beneficiary) in the event of any default by the licensee in the performance of decommissioning.

line of credit—An arrangement of the licensee with a lender (a bank or other financial institution) in which the lender agrees to provide funds required for decommissioning of the licensee's facility. The maximum amount of credit stated in the contract between the applicant or licensee and the lender must be at least sufficient to equal the certified or estimated cost of decommissioning.

parent company guarantee—A promise by one party (the guarantor) to pay specified debts or perform specified obligations of another party (the principal) in the event that the principal fails to satisfy the debts or obligations. Specifically, to satisfy the decommissioning regulations, an applicant's or licensee's parent corporation guarantees providing specified dollar amounts to fund performance of decommissioning in the event of the licensee's default. A parent company guarantee can only be used if the parent company passes a financial test. (See Appendix A to 10 CFR Part 30.)

prepayment—The deposit preceding the start of operation, or the transfer of a license pursuant to 10 CFR 50.80, "Transfer of Licenses," into an account segregated from licensee assets and outside the administrative control of the licensee and its subsidiaries or affiliates of cash or liquid assets, such that the amount of funds would be sufficient to pay decommissioning costs at the time permanent termination of operations is expected. Prepayment may be in the form of a trust, escrow account, government fund, CD, deposit of government securities, or other payment acceptable to the NRC.

shortfall—The difference between the amount of financial assurance provided by the licensee and the amount of financial assurance required, when the amount provided is less than the amount required.

standby trust fund—A trust fund (see below) set up to receive funds from a surety, letter of credit, insurance, or guarantee when payment is made from them, to ensure that the funds remain available for decommissioning.

surety bond—A guarantee that decommissioning costs will be paid, should the licensee default. The surety bond is a contract that the licensee or applicant (the principal) enters into with a qualified surety company (the surety) to assure the Commission or State regulatory agency that the licensee will fulfill its decommissioning obligations. In the event of the licensee's default, the surety guarantees that decommissioning costs will be paid.

trust fund—A three-party agreement whereby the licensee or applicant, called the grantor or trustor, transfers assets to a trustee, such as a bank, other financial institution, or governmental authority, to hold on behalf of the beneficiary (e.g., a State agency, or the NRC, but only to the extent the provisions of 31 U.S.C. 3302(b) would not be applicable). The assets may be at least equal to the cost of decommissioning (prepayment) or may build up over time, such that the amount of funds should be sufficient to pay decommissioning costs (external sinking fund).

REFERENCES[1]

1. NUREG/CR-1756, "Technology, Safety, and Costs of Decommissioning Reference Nuclear Research and Test Reactors," prepared by Pacific Northwest Laboratory for the U.S. Nuclear Regulatory Commission, March 1982, and Addendum 1, July 1983.

2. NUREG-0584, "Assuring the Availability of Funds for Decommissioning Nuclear Facilities," Draft Report, Revision 3, March 1983.

3. NUREG-0586, "Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities," August 1988.

4. NUREG-1727, "NMSS Decommissioning Standard Review Plan," September 2000.

5. NUREG-1307, "Report on Waste Burial Charges," Revision 13, November 2008.

6. NUREG/CR-0130, "Technology, Safety, and Costs of Decommissioning a Reference Pressurized-Water Reactor Power Station," June 1978; Addendum 1, July 1979; Addendum 2, July 1983; Addendum 3, September 1984; and Addendum 4, July 1988.

7. NUREG/CR-0672, "Technology, Safety, and Costs of Decommissioning a Reference Boiling-Water Reactor Power Station," June 1980; Addendum 1, July 1983; Addendum 2, September 1984; and Addendum 3, July 1988.

8. Regulatory Guide 1.202, "Standard Format and Content of Decommissioning Cost Estimates for Nuclear Power Reactors," U.S. Nuclear Regulatory Commission, Washington, DC.

9. NUREG-1713, "Standard Review Plan for Decommissioning Cost Estimates for Nuclear Power Reactors," December 2004.

10. NUREG-1700, "Standard Review Plan for Evaluating Nuclear Power Reactor License Termination Plans," April 2000.

11. Regulatory Guide 1.179, "Standard Format and Content of License Termination Plans for Nuclear Power Reactors," U.S. Nuclear Regulatory Commission, Washington, DC.

[1] Publicly available NRC published documents are available electronically through the Electronic Reading Room on the NRC's public Web site at: http://www.nrc.gov/reading-rm/doc-collections/. The documents can also be viewed on-line or printed for a fee in the NRC's Public Document Room (PDR) at 11555 Rockville Pike, Rockville, MD; the mailing address is USNRC PDR, Washington, DC 20555; telephone (301) 415-4737 or (800) 397-4209; fax (301) 415-3548; and e-mail pdr.resource@nrc.gov.

APPENDIX A

EXAMPLES OF FINANCIAL ASSURANCE INSTRUMENTS

The following formats for financial assurance instruments provide examples of language and provisions for compliance with financial assurance requirements for decommissioning for some of the mechanisms allowed in the U.S. Nuclear Regulatory Commission's (NRC's) regulations. Although the specific language is not required by decommissioning regulations, except for certain provisions, applicants and licensees will find that its use will simplify the submittal process. Licensees may add, delete, or modify sample provisions as their circumstances warrant. However, licensees should ensure that the financial assurance instruments being used are valid under applicable State law and comply with the NRC's decommissioning regulations in Title 10, Section 50.33, "Contents of Applications; General Information," of the *Code of Federal Regulations* (10 CFR 50.33); 10 CFR 50.75, "Reporting and Recordkeeping for Decommissioning Planning"; and 10 CFR 50.82, "Termination of License."

APPENDIX A-1

EXAMPLE OF ESCROW AGREEMENT

ESCROW NUMBER _____

Paragraph 1. Establishment of Escrow Account

It is agreed between the parties that [insert name of licensee], licensee, has elected to establish an escrow account with [insert name, address, and position of escrow agent] to provide financial assurance for decommissioning of the facility(ies) in the amounts shown below:

> [For each facility for which financial assurance is provided by the escrow Agreement, list facility name, address, and license and/or docket number, corresponding estimated or certified decommissioning costs, and indicate amount of financial assurance provided by the escrow account.]

Paragraph 2. Description of Property in Escrow Account

It is hereby acknowledged by the parties that [list the assets that have been delivered to the escrow agent and indicate the value of each item] has (have) been delivered to escrow and will remain in the escrow account created by this Agreement until one of the two conditions stated in paragraph 3 of this Agreement has been satisfied.

[Insert name of licensee] warrants to and agrees with [insert name of escrow agent] that, unless otherwise expressly set forth in this Agreement, there is no security interest in the property in the escrow account or any part thereof; no financing statement under the Uniform Commercial Code is on file in any jurisdiction claiming a security interest in or describing (whether specifically or generally) the escrow account or any part thereof; and the escrow agent shall have no responsibility at any time to ascertain whether or not any security interest exists or to file any financing statement under the Uniform Commercial Code with respect to the escrow account or any part thereof.

Paragraph 3. Conditions of Escrow Agreement

The property described in paragraph 2 above will remain in the escrow account created by this Agreement until one of the two following conditions has been satisfied: (1) the decommissioning activities required by 10 CFR Part 50 have been authorized pursuant to paragraph 4 or completed, the license has been terminated, the facility site is available for use for public or private purpose, pursuant to NRC regulations, or the escrow account has been terminated by notice, in writing, from [insert name of licensee]; or (2) the escrow agent, [insert name of the escrow agent], has been notified by the [insert NRC or name of the State regulatory agency], in writing, that the licensee, [name of licensee], has defaulted on the agreed obligation to carry out the decommissioning for the above listed facility(ies).

Paragraph 4. Disbursement of Property in Escrow Account

The [insert name of escrow agent] shall make payments from the escrow account upon the presentation of a certificate duly executed by the Secretary or appropriate Officer of the [insert name of licensee] attesting to the occurrence of the events, and in the form set forth in the attached Specimen Certificate, and upon presentation of a certification attesting to the following conditions:

(1) that decommissioning is proceeding pursuant to an NRC-noticed or NRC-approved plan, and

(2) that the funds withdrawn will be expended for activities undertaken pursuant to that plan.

Or upon [insert name of escrow agent] receiving written notification of licensee default from the [insert NRC or State regulatory agency], [insert name of escrow agent] shall make payments from the escrow account as the [insert NRC or name of State regulatory agency] shall direct, in writing, to provide for the payment of the costs of the required decommissioning activities covered by this Agreement. The escrow agent shall reimburse the licensee or other persons as specified by the [insert NRC or State regulatory agency] from the escrow account for expenses for required activities in such amounts as the [insert NRC or name of the State regulatory agency] shall direct in writing. In addition, the escrow agent shall refund to [insert name of licensee] such amounts as the [insert NRC or the name of the State regulatory agency] specifies, in writing. Upon refund, such funds shall no longer constitute part of the escrow account as described in paragraph 2 above.

Except for withdrawals being made pursuant to 10 CFR 50.82(a)(8), or for payments of ordinary administrative costs (including taxes) and other incidental expenses of the fund (including legal, accounting, actuarial, and trustee expenses) in connection with the operation of the fund, no disbursement or payment may be made from the trust, escrow account, government fund, or other account used to segregate and manage the funds until written notice of the intention to make a disbursement or payment has been given to the Director, Office of Nuclear Reactor Regulation, or the Director, Office of Nuclear Material Safety and Safeguards, as applicable, at least 30 working days prior to the date of the intended disbursement or payment. The disbursement or payment from the trust, escrow account, government fund, or other account may be made following the 30-day notice period if the person responsible for managing the trust, escrow account, government fund, or other account does not receive written notice of objection from the Director, Office of Nuclear Reactor Regulation, or the Director, Office of Nuclear Material Safety and Safeguards, as applicable, within the notice period. Disbursements or payments from the trust, escrow account, government fund, or other account used to segregate and manage the funds, other than for payment of ordinary administrative costs (including taxes) and other incidental expenses of the fund (including legal, accounting, actuarial, and trustee expenses) in connection with the operation of the fund, are restricted to decommissioning expenses or transfer to another financial assurance method acceptable under 10 CFR 50.75(e) until final decommissioning has been completed. After decommissioning has begun and withdrawals from the decommissioning fund are made pursuant to 10 CFR 50.82(a)(8), no further notification need be made to the NRC.

Paragraph 5. Irrevocability

It is also agreed between the parties that this escrow is revocable upon delivery to [insert name of escrow agent], the escrow agent, only on the occurrence of one of the conditions described in paragraph 3 above or by transfer of the funds held in escrow to another financial assurance mechanism permitted under 10 CFR 50.75(e).

Paragraph 6. Powers of the Escrow Agent

The only powers and duties of the escrow agent shall be to hold the escrow property and to invest and dispose of it in accordance with the terms of this Agreement.

Escrow Account Management

The escrow agent shall invest and reinvest the principal and income of the escrow account and keep the escrow account invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines, which the [insert name of licensee] may communicate in writing to the escrow agent from time to time, subject, however, to the provisions of the

escrow account; the escrow agent shall discharge its duties with respect to the escrow account solely in the interest of [insert name of licensee] decommissioning obligation and with the care, skill, prudence, and diligence, under the circumstances then prevailing, that persons of prudence, acting in like capacity and familiar with such matters, would use in the conduct of an enterprise of like character and with like aims; except that:

(a) Securities or other obligations of the licensee, or any other owner or operator of any nuclear power reactor, or any of their affiliates, subsidiaries, successors, or assigns, as defined in the Investment Company Act of 1940, as amended (15 U. S. C. 80A-2(a)), or in a mutual fund in which at least 50 percent of the fund is invested in the securities of an NRC licensee of a nuclear power plant or parent company whose subsidiary is an owner or operator of a foreign or domestic nuclear power plant, shall not be acquired or held. Investments tied to market indices or other nonnuclear-sector collective, commingled, or mutual funds (i.e., a mutual fund in which less than 50 percent of the fund is invested in the securities of a licensee or a parent company whose subsidiary is an owner or operator of a foreign or domestic nuclear power plant) may be acquired or held, provided, however, that no more than 10 percent of trust assets may be indirectly invested in securities of any entity owning or operating one or more nuclear power plants.

(b) For a reasonable time, not to exceed ___ days, the escrow agent is authorized to hold uninvested cash, awaiting investment or distribution, without liability for the payment of interest thereon.

The licensee, its affiliates, and its subsidiaries are prohibited from being engaged as investment manager for the funds or from giving day-to-day management direction of the funds' investments or direction on individual investments by the funds, except in the case of passive fund management of trust funds where such management is limited to investments-tracking market indices.

Express Power of the Escrow Agent

Without in any way limiting the powers and discretion conferred upon the escrow agent by other provisions of this Agreement or by law, the escrow agent is expressly authorized and empowered:

(a) to register any securities held in the escrow account in its own name and to hold any security in bearer form or in book entry, or to deposit or arrange for the deposit of any securities issued by the U.S. Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the escrow agent shall at all times show that all such securities are part of the escrow account;

(b) to deposit any cash in the escrow account in interest-bearing accounts or savings certificates;

(c) to pay taxes, from the account, of any kind that may be assessed or levied against the escrow account and all brokerage commissions incurred by the escrow account.

Paragraph 7. Annual Valuation

After delivery has been made into this escrow account, the escrow agent shall [monthly, quarterly, annually] furnish to the licensee a statement confirming the value of the escrow account. Any securities in the account shall be valued at market value within a reasonable time before issuance of such statement. The failure of the licensee to object in writing to the escrow agent within 90 days after the statement has been furnished to the licensee shall constitute a conclusively binding assent by the licensee, barring the licensee from asserting any claim or liability against the escrow agent with respect to the matters disclosed in the statement.

Paragraph 8. Successor Escrow Agent

Upon 90 days prior notice to the licensee, [insert name of licensee], the escrow agent may resign; upon 90 days notice to the escrow agent, the licensee, [insert name of licensee], may replace the escrow agent, provided that such resignation or replacement is not effective until the escrow agent has appointed a successor escrow agent and this successor accepts the appointment, or another financial assurance instrument has been secured, pursuant to paragraph 5. The successor escrow agent shall have the same powers and duties as those conferred upon the escrow agent under this Agreement. Upon the successor's acceptance of the appointment, the escrow agent shall assign, transfer, and pay over to the successor the funds and properties then constituting the escrow account. If, for any reason, the licensee cannot or does not act in the event of the resignation of the escrow agent, the escrow agent may apply to a court of competent jurisdiction for the appointment of a successor, or for instructions. The successor escrow agent shall specify the date on which it assumes administration of the escrow account in a writing sent to the licensee and the current escrow agent by certified mail 10 days before the change becomes effective. Any expense incurred by the escrow agent as a result of any of the acts contemplated by this paragraph shall be paid as provided in paragraph 10 of this Agreement.

Paragraph 9. Instructions to the Escrow Agent

All orders, requests, and instructions from the licensee to the escrow agent shall be in writing, signed by such persons as are signatories to this Agreement, or such other designees as the licensee may designate in writing. All orders, requests, and instructions from the [insert the NRC or the name of the State regulatory agency] shall be in writing, signed by the designees of the [insert the NRC or the name of the State regulatory agency]. The escrow agent shall be fully protected in acting in accordance with such orders, requests, and instructions. The escrow agent shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the licensee or [insert the NRC or the name of the State regulatory agency] under this Agreement has occurred. The escrow agent shall have no duty to act in the absence of such orders, requests, and instructions from the licensee and/or [insert the NRC or the name of the State regulatory agency], except as provided in this Agreement.

Paragraph 10. Compensation and Expenses of the Escrow Agent

The fee of the escrow agent for its services in establishing the escrow account shall be $_____, payable at the time of the execution of this Agreement, to be borne by [insert the name of the licensee], licensee.

Expenses of the escrow agent for the administration of the escrow account, the compensation of the escrow agent for services subsequent to the establishing of the escrow account to the extent not paid directly by the licensee, and all other proper charges and disbursements shall be paid from the escrow account.

Paragraph 11. Amendment to This Agreement

This Agreement may be amended by an instrument in writing executed by the licensee and the escrow agent. However, this Agreement may not be amended in any material respect without written notification to the Director, Office of Nuclear Reactor Regulation, or the Director, Office of Nuclear Material Safety and Safeguards, as applicable, at least 30 working days prior to the proposed effective date of the amendment. The escrow account may not be amended if the person responsible for managing that account receives written notice of objection from the Director of either the Office of Nuclear Reactor

Regulation or the Office of Nuclear Material Safety and Safeguards, as applicable, within the notice period.

Paragraph 12. Termination

This Agreement can be terminated by written notice of termination to the escrow agent, signed by [insert the name of licensee], licensee, and by the [insert the NRC or the name of the State regulatory agency] alone, if the licensee has ceased to exist.

Paragraph 13. Interpretation

This escrow Agreement constitutes the entire agreement between [insert the name of licensee] and [insert the name of the escrow agent]. The escrow agent shall not be bound by any other agreement or contract entered into by [insert name of licensee], and the only document that may be referenced in case of ambiguity in this escrow Agreement is the licensing agreement between [insert name of licensee] and the United States Nuclear Regulatory Commission, or its successor.

Paragraph 14. Acceptance of Appointment by Escrow Agent

[Insert name, address, and position of escrow agent] does hereby acknowledge its appointment by [insert name of licensee], the licensee, to serve as escrow agent for the escrow account created under this Agreement, and agrees to carry out its obligations and duties as stated in this escrow Agreement.

Paragraph 15. Severability

If any part of this Agreement is invalid, it shall not affect the remaining provisions, which remain valid and enforceable.

Paragraph 16. Effectiveness

This Agreement shall not become effective (and the escrow agent shall have no responsibility hereunder except to return the escrow property to the [insert name of licensee]) until the escrow agent shall have received the following and shall have advised [insert name of licensee] in writing that the same are in form and substance satisfactory to the escrow agent:

Certified resolution of its Board of Directors authorizing the making and performance of this Agreement;

Certificate as to the names and specimen signatures of its officers or representatives authorized to sign this Agreement and notices, instructions, and other communications hereunder.

[Signatures and positions of the designees of the licensee and the escrow agent.]

[Insert name of escrow agent]	[Insert name of licensee]
By _____	By _____
Name _____	Name _____
Title _____	Title _____

Date

Witness by Notary Public

APPENDIX A-1.1

EXAMPLE OF CERTIFICATE OF EVENTS

[Insert name and address of escrow agent]

Attention: Escrow Division

Gentlemen:

In accordance with the terms of the Agreement with you dated _____, I, _____, [Authorized Officer] of [insert name of licensee], hereby certify that the following events have occurred:

1. [Insert name of licensee] has begun the decommissioning of its facilities located at [insert location of facility] (hereinafter called the decommissioning).

2. Ninety days after the plans and procedures for the commencement and conduct of the decommissioning have been either noticed in the *Federal Register* by the United States Nuclear Regulatory Commission (NRC), or its successor (copy of notice attached), or in the case of a license termination plan, approved by the NRC, or its successor (copy of approval attached).

3. The Board of Directors of [insert name of licensee] has adopted the attached resolution authorizing the commencing of the decommissioning.

_____
[Authorized Officer] of [insert name of licensee]

_____
Date

APPENDIX A-1.2

EXAMPLE OF CERTIFICATE OF RESOLUTION

I, _____, do hereby certify that I am [Authorized Officer] of [insert name of licensee], a [insert State of incorporation] corporation, and that the resolution listed below was duly adopted at a meeting of this Corporation's Board of Directors on _____, 20__.

IN WITNESS WHEREOF, I have hereunto signed my name and affixed the seal of this Corporation this _____ day of _____, 20__.

_____
[Authorized Officer] of
[insert name of licensee]

RESOLVED, that this Board of Directors hereby authorizes the President or such other employee of the Company as he may designate [insert name, as appropriate, "to enter into an escrow agreement," or "to commence decommissioning activities at (name of facility)"] with the [insert name of escrow agent], in accordance with the terms and conditions described to this Board of Directors at this meeting and with such other terms and conditions as the President shall have approved with and upon the advice of Counsel.

APPENDIX A-2

EXAMPLES OF CERTIFICATES OF DEPOSIT

APPENDIX A-2.1

EXAMPLE OF NEGOTIABLE CERTIFICATE OF DEPOSIT PAYABLE AT THE EXPIRATION OF A SPECIFIED TIME

CERTIFICATE OF DEPOSIT

_____
(Financial Institution)

Place _____ No. _____

_____
(Date)

[Insert name of licensee or applicant] has deposited not subject to check _____ dollars ($) payable to the order of the holder in current funds not less than 30 days after date, upon surrender of this certificate properly endorsed, with interest at the rate of _____ percent per annum from date to maturity only. The rate of interest payable hereunder is subject to change by the bank to such extent as may be necessary to comply with requirements of the Federal Reserve Board, made from time to time pursuant to the Federal Reserve Act.

These funds are deposited for the purpose of providing financial assurance for the cost of decommissioning activities, as required under Title 10, Part 50, of the *Code of Federal Regulations*. Accordingly, this certificate will be renewed automatically unless written notice of (1) the default of the [insert name of licensee or applicant] on these obligations, (2) the termination of the facility license, or (3) the substitution of another financial assurance mechanism is received from [the name of licensee or applicant].

_____
Cashier or Officer

Note:

The negotiable Certificate of Deposit should be in the possession of the trustee of the concurrently created standby trust or the escrow agent of an escrow account.

The certificate should be for a limited time period, such as 1 to 5 years, so that the face value can be adjusted.

APPENDIX A-2.2

EXAMPLE OF NONNEGOTIABLE CERTIFICATE OF DEPOSIT PAYABLE ON A CERTAIN DATE

CERTIFICATE OF DEPOSIT

(Financial Institution)

Certificate of Deposit _____, 20__

[Insert name of licensee or applicant] has deposited in the financial institution the sum of _____ dollars ($ _____), payable to [State regulatory agency (if the agency can hold special funds under applicable State law), trustee of standby trust, or escrow agent] _____ months after date, with interest thereon at the rate of _____ percent per annum from date, upon presentation of this certificate properly endorsed. These funds are deposited for the purpose of providing financial assurance for the cost of decommissioning activities as required under Title 10, Part 50, of the *Code of Federal Regulations*. Accordingly, this certificate will be renewed automatically unless written notice of (1) the default of the [insert name of licensee or applicant] on these obligations, (2) the termination of the facility license, or (3) the substitution of another financial assurance mechanism is received from [the name of the licensee or applicant].

Cashier or Officer

Note: The certificate should be for a limited time period, such as 1 to 5 years, so that the face value can be adjusted.

APPENDIX A-3

EXAMPLES OF TRUST FUND AND STANDBY TRUST AGREEMENTS

APPENDIX A-3.1

EXAMPLE OF TRUST FUND AGREEMENT

TRUST AGREEMENT, the Agreement is entered into as of [date] by and between [name of NRC licensee], a [name of State] [insert "corporation," "partnership," "association," or "proprietorship"], herein referred to as the "Grantor," and [name and address of an appropriate State or Federal Government agency or an entity that has the authority to act as trustee and whose trust operations are regulated or examined by a State or Federal agency], the "Trustee."

WHEREAS, the U.S. Nuclear Regulatory Commission (NRC), an agency of the U.S. Government, pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, has promulgated regulations in Title 10, Part 50, of the *Code of Federal Regulations* (10 CFR Part 50). These regulations, applicable to the Grantor, require that a holder of, or an applicant for, a license issued pursuant to 10 CFR Part 50 provide assurance that funds will be available when needed for required decommissioning activities.

WHEREAS, the Grantor has elected to use a trust fund to provide [insert "all" or "part"] of such financial assurance for the facilities identified herein and also provide such additional decommissioning funds, not required by the NRC, as the Grantor may elect;

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this Agreement, and the Trustee is willing to act as trustee,

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means the NRC licensee who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the trustee who enters into this Agreement and any successor Trustee.

Section 2. Costs of Decommissioning. This Agreement pertains to the costs of decommissioning the facility identified in License Number [insert license number], issued pursuant to 10 CFR Part 50.

Section 3. Establishment of Fund. The Grantor and Trustee hereby establish a Trust Fund (the Fund) for the benefit of [insert the Grantor or other appropriate beneficiary such as a State agency or the NRC, but only to the extent the provisions of 31 U.S.C. 3302(b) would not be applicable]. The Grantor and the Trustee intend that no third party shall have access to the Fund except as provided herein. [Modification of this provision to cover sale-leaseback agreements should be made contingent upon continued dedication of the trust to provide funds for decommissioning.]

Section 4. Payments Constituting the Fund. Payments made to the Trustee for the Fund shall consist of cash, securities, or other liquid assets acceptable to the Trustee. The Fund is established initially as consisting of property acceptable to the Trustee. Such property and any other property subsequently transferred to the Trustee are referred to as the "Fund," together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided.

Section 5. Payment for Required Activities Specified in the Plan. The Trustee shall make payments from the Fund to the Grantor or to a decommissioning contractor of the Grantor, as the Grantor may designate, upon presentation to the Trustee of the following:

(a) a certificate duly executed by the [Authorized Officer] of the Grantor, attesting to the occurrence of the events, and in the form set forth in the attached Specimen Certificate (see certificate following standby trust), and

(b) a certificate attesting to the following conditions: (1) that decommissioning is proceeding pursuant to an NRC-noticed plan, and (2) that the funds withdrawn will be expended for activities undertaken pursuant to that plan.

Notwithstanding the foregoing, except for payments for administrative costs (including taxes) and other incidental expenses of the Fund (including legal, accounting, actuarial, and Trustee expenses) in connection with the operation of the Fund, no disbursements or payments from the Fund shall be made: (1) unless 30 working days prior written notice of such disbursement or payment has been made to the NRC or (2) if the Trustee receives written notice of an objection from the NRC's Director of the Office of Nuclear Reactor Regulation or the Director of the Office of Nuclear Material Safety and Safeguards, as applicable. Except that the foregoing shall not apply if the Grantor is making a withdrawal pursuant to 10 CFR 50.82(a)(8).

In the event of the Grantor's default or inability to direct decommissioning activities, the Trustee shall: (1) make payments from the Fund as the NRC or State agency shall direct, in writing, to provide for the payment of the costs of required activities covered by this Agreement; (2) make disbursements to the Grantor or other persons as specified by the NRC, or State agency, from the Fund for expenditures for required activities in such amounts as the NRC, or State agency, shall direct in writing; and (3) refund to the Grantor such amounts remaining after the license has been terminated or as the NRC or State Agency specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 6. Trust Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines, which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge its duties with respect to the Fund in the best interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing, which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(a) Securities or other obligations of the Grantor, or any other owner or operator of any nuclear power reactor, or any of their affiliates, subsidiaries, successors, or assigns, as defined in the Investment Company Act of 1940, as amended (15 U.S.C. 80A-2(a)), or in a mutual fund in which at least 50 percent of the Fund is invested in the securities of an NRC licensee of a nuclear

power plant, or a parent company whose subsidiary is an owner or operator of a foreign or domestic nuclear power plant, shall not be acquired or held. Investments tied to market indices or other nonnuclear-sector collective, commingled, or mutual funds (i.e., a mutual fund in which less than 50 percent of the Fund is invested in the securities of a licensee or a parent company whose subsidiary is an owner or operator of a foreign or domestic nuclear power plant) may be acquired or held, provided, however, that no more than 10 percent of trust assets may be indirectly invested in securities of any entity owning or operating one or more nuclear power plants.

(b) For a reasonable time, not to exceed ___ days, the Trustee is authorized to hold uninvested cash, awaiting investment or distribution, without liability for the payment of interest thereon.

(c) Any person directing investments made in the trusts shall adhere to the [applicable State-specific investment standard and/or the] "prudent investor" standard as specified in 18 CFR 35.32(a)(3) of the Federal Energy Regulatory Commission regulations or any successor regulation thereto (the "Prudent Investor Standard"); and

(d) The Grantor, its affiliates, and its subsidiaries are prohibited from acting as investment manager for the funds or from giving day-to-day management direction of the funds' investments or direction on individual investments by the funds except that the Grantor, or an affiliate or subsidiary, may act as an investment manager in the case of passive fund management of trust funds where management is limited to investment-tracking market indices.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) to transfer, from time to time, any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) to purchase shares in any investment company registered under the Investment Company Act of 1940 (15 U.S.C. 80A-1 et seq.), including one that may be created, managed, or underwritten, or to which investment advice is rendered, or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretion conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) to sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale, as necessary, for prudent management of the Fund;

(b) to make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) to register any securities held in the Fund in its own name, or in the name of a nominee, and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, to reinvest interest and dividend payments and funds from matured and redeemed instruments, to file proper forms concerning securities held in the Fund in a timely fashion with appropriate government agencies, or to deposit or arrange for the deposit of such securities in a qualified

central depository, even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee or such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the U.S. Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) to deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee; and

(e) to compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund may be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee, may be paid from the Fund.

Section 10. Annual Valuation. After payment has been made into this Trust Fund, the Trustee shall [monthly, quarterly, annually] furnish to the Grantor a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value within a reasonable time of such statement. The failure of the Grantor to object in writing to the Trustee within __ days after the statement has been furnished to the Grantor shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to the matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may, from time to time, consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting on the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services, as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. Upon ____ days notice to the Grantor, the Trustee may resign; upon ____ days notice to the Trustee, the Grantor may replace the Trustee; but such resignation or replacement shall not be effective until the Grantor has either appointed a successor Trustee and this successor accepts the appointment, or implements another financial assurance mechanism specified in 10 CFR 50.75(e). The successor Trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor Trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor Trustee the funds and properties then constituting the Fund. If, for any reason, the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor Trustee or for instructions. The successor Trustee shall specify the date on which it assumes administration of the Trust in a writing sent to the Grantor and the present Trustee by certified mail ___ days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are signatories to this Agreement or such other

designees as the Grantor may designate in writing. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. If the NRC or State agency issues orders, requests, or instructions to the Trustee in the event of Grantor default, these shall be in writing, signed by the NRC, State agency, or their designees, and the Trustee shall act and shall be fully protected in acting, in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor, the NRC, or State agency, hereunder, has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the NRC, or State agency, except as provided for herein.

Section 15. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and, if applicable, the NRC or State agency, or by the Trustee and the NRC or State agency, if the Grantor ceases to exist. Notwithstanding any provision herein to the contrary, this Agreement cannot be modified in any material respect without first providing 30 working days prior written notice to the NRC's Director of the Office of Nuclear Reactor Regulation or the Director of the Office of Nuclear Material Safety and Safeguards, as applicable. This Agreement may not be amended if the Trustee receives written notice of objection from the Director, Office of Nuclear Reactor Regulation, or the Director, Office of Nuclear Materials Safety and Safeguards, as applicable, within the notice period.

Section 16. Termination. This trust agreement shall continue until terminated at the written agreement of the Grantor, the Trustee, and, if applicable, the NRC or State agency, or by the Trustee and the NRC or State agency if the Grantor ceases to exist. Upon termination of the Trust, all remaining Trust property, less final Trust administration expenses, shall be delivered to the Grantor or its successor, or transferred to another financial assurance mechanism specified in 10 CFR 50.75(e), as appropriate.

Section 17. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor, the NRC, or State agency, issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense, in the event the Grantor fails to provide such defense.

Section 18. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of [insert name of State].

Section 19. Interpretation and Severability. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement. If any part of this Agreement is invalid, it shall not affect the remaining provisions, which will remain valid and enforceable.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by the respective officers duly authorized and the incorporate seals to be hereunto affixed and attested as of the date first written above.

ATTEST:

[Insert name of licensee (Grantor)]
[Signature of representative of Grantor]
[Title]

[Title]
[Seal]

[Insert name of Trustee]
[Signature of representative of Trustee]
[Title]

ATTEST:
[Title]
Seal]

APPENDIX A-3.2

EXAMPLE OF STANDBY TRUST AGREEMENT

TRUST AGREEMENT, the Agreement entered into as of [date] by and between [name of NRC licensee], a [name of State] [insert "corporation," "partnership," "association," or "proprietorship"], herein referred to as the "Grantor," and [name and address of an appropriate State or Federal Government agency or an entity that has the authority to act as trustee and whose trust operations are regulated or examined by a State or Federal agency], the "Trustee."

WHEREAS, the U.S. Nuclear Regulatory Commission (NRC), an agency of the U.S. Government, pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, has promulgated regulations in Title 10, Part 50, of the *Code of Federal Regulations* (10 CFR Part 50). These regulations, applicable to the Grantor, require that a holder of, or an applicant for, a 10 CFR Part 50 license provide assurance that funds will be available when needed for required decommissioning activities.

WHEREAS, the Grantor has elected to use a [insert "letter of credit," "line of credit," "surety bond," "insurance policy," "parent guarantee," "certificate(s) of deposit," or "deposit of government securities"] to provide [insert "all" or "part"] of such financial assurance for the facilities identified herein; and

WHEREAS, when payment is made under a [insert "letter of credit," "line of credit," "surety bond," "insurance policy," "certificate(s) of deposit," "deposit of government securities," or "parent guarantee"], this Standby Trust shall be used for the receipt of such payment; and

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this Agreement, and the Trustee is willing to act as trustee,

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

[The remainder of the recommended wording for the Standby Trust Agreement is as indicated in B-3.1 for the Trust Fund Agreement except that the words "Standby Trust Fund" should be substituted in Section 3 and Section 10 in place of the words "Trust Fund."]

APPENDIX A-3.2.1

EXAMPLE OF CERTIFICATE OF EVENTS

[Insert name and address of Trustee]

Attention: Trust Division

Gentlemen:

In accordance with the terms of the Agreement with you dated _____, I, _____, [Authorized Officer] of [insert name of licensee], hereby certify that the following events have occurred:

1. [Insert name of licensee] has begun the decommissioning of its facility located at [insert location of facility] (hereinafter called the decommissioning).

2. The plans and procedures for the commencement and conduct of the decommissioning have been noticed and approved by the U.S. Nuclear Regulatory Commission, or its successor, on _____ (copy of approval attached).

3. The Board of Directors of [insert name of licensee] has adopted the attached resolution authorizing the commencement of the decommissioning.

_____
[Authorized Officer] of [insert name of licensee]

_____
Date

APPENDIX A-3.2.2

EXAMPLE OF CERTIFICATE OF RESOLUTION

I, _____, do hereby certify that I am [Authorized Officer] of [insert name of licensee], a [insert State of incorporation) corporation, and that the resolution listed below was duly adopted at a meeting of this Corporation's Board of Directors on _____, 20 __.

IN WITNESS WHEREOF, I have hereunto signed my name and affixed the seal of this Corporation this ____ day of _____, 20 __.

_____
[Authorized Officer]

RESOLVED, that this Board of Directors hereby authorizes the President, or such other employee of the Company as he may designate, to commence decommissioning activities at [insert name of facility], in accordance with the terms and conditions described to this Board of Directors at this meeting and with such other terms and conditions as the President shall approve with and upon the advice of Counsel.

APPENDIX A-3.3

EXAMPLE OF ACKNOWLEDGMENT

ACKNOWLEDGMENT

[The following is an example of the acknowledgment that should accompany the trust Agreement for a standby trust fund or trust fund.]

STATE OF _____

To Wit _____

CITY OF _____

On this _____ day of _____, before me, a notary public in and for the city and State aforesaid, personally appeared _____, and she/he did depose and say that she/he is the [title], of [financial institution], Trustee, which executed the above instrument, that she/he knows the seal of said association; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the association; and that she/he signed her/his name thereto by like order.

[Signature of notary public]

My Commission Expires: _____
[Date]

APPENDIX A-4

EXAMPLE OF PAYMENT SURETY BOND

PAYMENT SURETY BOND

Date bond executed: _____

Effective date: _____

Principal: [legal name and business address of licensee or applicant]

Type of organization: [insert "proprietorship," "joint venture," "partnership" or "corporation"]

State of incorporation: _____ (if applicable)

NRC license number, name and address of facility, and amount(s) for decommissioning activity guaranteed by this bond: _____

Surety(ies) [name(s) and business address(es)]

Type of organization: [insert "proprietorship," "joint venture," "partnership" or "corporation"]

State of incorporation: _____ (if applicable)

Surety's qualification in jurisdiction where licensed facility(ies) is (are) located

Surety's bond number: _____
Total penal sum of bond: $_____

Know all persons by these presents, That we, the Principal and Surety(ies) hereto, are firmly bound to the [insert U.S. Nuclear Regulatory Commission (hereinafter called NRC) or the name of the State agency] in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety; but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

WHEREAS, the NRC, an agency of the U.S. Government, pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, has promulgated regulations in Title 10, Part 50, of the *Code of Federal Regulations*, applicable to the Principal, which require that a license holder or an applicant for a license provide financial assurance that funds will be available when needed for facility decommissioning;

NOW, THEREFORE, the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of decommissioning of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility;

Or, if the Principal shall fund the standby trust fund in such amount(s) after an order to begin facility decommissioning is issued by [insert "the NRC" or the name of the State agency], or a U.S. district court or other court of competent jurisdiction;

Or, if the Principal shall provide alternative financial assurance and obtain the written approval of the [insert "NRC" or the name of the State agency] of such assurance, within 30 days after the date a notice of cancellation from the Surety(ies) is received by both the Principal and the [insert "NRC" or the name of the State agency], then this obligation shall be null and void; otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the [insert "NRC" or the name of the State agency] that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the [insert "NRC" or the name of the State agency] provided, however, that cancellation shall not occur during the 90 days, beginning on the date of receipt of the notice of cancellation by both the Principal and the [insert "NRC" or the name of the State agency], as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the [insert "NRC" or name of State agency] and to Surety(ies) 90 days prior to the proposed date of termination, provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond from the [insert "NRC" or the name of the State agency].

The Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new amount, provided that the penal sum does not increase by more than 20 percent in any one year.

In Witness Whereof, the Principal and Surety(ies) have executed this financial guarantee bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies).

Principal

[Signature(s)]

[Name(s)]

[Title(s)]

[Corporate seal]

Corporate Surety(ies)

[Name and address]

State of incorporation: _____

Liability limit: $_____

[Signature(s)]

[Name(s) and title(s)]

[Corporate seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety(ies) above.]

Bond premium: $_____

APPENDIX A-5

EXAMPLE OF IRREVOCABLE STANDBY LETTER OF CREDIT

STANDBY LETTER OF CREDIT NO. [INSERT NO.]

This Credit Expires [insert date]

Issued To: [Insert U.S. Nuclear Regulatory Commission; Washington, DC 20555, or name and address of appropriate State agency.]

Dear Sir or Madam:

We hereby establish our Standby Letter of Credit No. _____ in your favor, at the request and for the account of [applicant's name and address], up to the aggregate amount of [in words], U.S. dollars $_____ available upon presentation of:

(1) your sight draft, bearing reference to this Letter of Credit No._____, and

(2) your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of _____."

This letter of credit is issued in accordance with regulations issued under the authority of the U.S. Nuclear Regulatory Commission (NRC), an agency of the U.S. Government, pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974. The NRC has promulgated regulations in Title 10, Part 50, of the *Code of Federal Regulations* (10 CFR Part 50), which require that a holder of, or an applicant for, a license issued under 10 CFR Part 50 provide assurance that funds will be available when needed for decommissioning.

This letter of credit is effective as of [date] and shall expire on [date at least 1 year later], but such expiration date shall be automatically extended for a period of [at least 1 year] on [date] and on each successive expiration date, unless, at least 90 days before the current expiration date, we notify both you and [licensee's name], as shown on the signed return receipts. If [licensee's name] is unable to secure alternative financial assurance to replace this letter of credit within 30 days of notification of cancellation, the NRC may draw upon the full value of this letter of credit before cancellation to the extent the provisions of 31 U.S.C. 3302(b) would not be applicable. We shall give immediate notice to the applicant and the [insert "NRC" or name of State agency] of any notice received or action filed alleging (1) the insolvency or bankruptcy of the financial institution or (2) any violations of regulatory requirements that could result in suspension or revocation of the bank's charter or license to do business. We also shall give immediate notice if we, for any reason, become unable to fulfill our obligation under the letter of credit.

Whenever this letter of credit is drawn on, under, and in compliance with the terms of this letter of credit, we shall duly honor such draft upon its presentation to us within 30 days, and we shall deposit the amount of the draft directly into the standby trust fund of [licensee's name], in accordance with your instructions.

Each draft must bear on its face the clause: "Drawn under Letter of Credit No. _____, dated _____, and the total of this draft and all other drafts previously drawn under this letter of credit does not exceed [fill in amount]."

[Signature(s) and title(s) of official(s) of issuing institution]

[Date]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce," or "the Uniform Commercial Code"].

APPENDIX A-6

EXAMPLES OF DOCUMENTS RECOMMENDED TO SUPPORT CORPORATE GUARANTEE

APPENDIX A-6.1

EXAMPLE OF LETTER FROM CHIEF FINANCIAL OFFICER OF CORPORATE PARENT, INCLUDING COST ESTIMATES AND DATA FROM AUDITED FINANCIAL STATEMENTS

[Address to U. S. Nuclear Regulatory Commission or State regulatory agency]

I am the chief financial officer of [name and address of firm], a [insert "proprietorship," "joint venture," "partnership," or "corporation"]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in Title 10, Part 50, of the *Code of Federal Regulations* (10 CFR Part 50).

[Complete the following paragraph regarding facility(ies) and associated cost estimates. For each facility, include its license number, name, address, and current cost estimates for the specified activities.]

This firm guarantees, through the parent company guarantee submitted to demonstrate compliance under 10 CFR Part 50, the decommissioning of the following facility(ies) owned or operated by subsidiary(ies) of this firm. The current cost estimates or certified amounts for decommissioning, and the amounts being guaranteed, are shown for each facility:

Name of Facility	Location of Facility	Current Cost Estimates	Amount Being Guaranteed

This firm [insert "is required" or "is not required"] to file a Form 10K with the U.S. Securities and Exchange Commission for the latest fiscal year.

This fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements and footnotes for the latest completed fiscal year, ended [date].

[Insert completed Alternative I or Alternative II.]

I hereby certify that the content of this letter is true and correct to the best of my knowledge.
[Signature]
[Name]
[Title]
[Date]

APPENDIX A-6.2

FINANCIAL TEST: ALTERNATIVE I

1.	Decommissioning cost estimates or guaranteed amount for facility [insert license number] (total of all cost estimates shown in paragraph above)	$_____
*2.	Total liabilities (if any portion of the cost estimates for decommissioning is included in total liabilities on your firm's financial statements, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4)	$_____
*3.	Tangible net worth**	$_____
*4.	Net worth	$_____
*5.	Current assets	$_____
*6.	Current liabilities	$_____
*7.	Net working capital (line 5 minus line 6)	$_____
*8.	The sum of net income plus depreciation, depletion, and amortization	$_____
*9.	Total assets in United States (required only if less than 90 percent of firm's assets are located in the United States)	$_____

		Yes	No
10.	Is line 3 at least $10 million?	____	____
11.	Is line 3 at least 6 times line 1?	____	____
12.	Is line 7 at least 6 times line 1?	____	____
13.	Are at least 90 percent of firm's assets located in the United States? If not, complete line 14.	____	____
14.	Is line 9 at least 6 times line 1?	____	____

Guarantor must meet two of the following three ratios:

15.	Is line 2 divided by line 4 less than 2.0?	____	____
16.	Is line 8 divided by line 2 greater than 0.1?	____	____
17.	Is line 5 divided by line 6 greater than 1.5?	____	____

_____

* Denotes figures derived from financial statements.

** Tangible net worth is defined as net worth minus goodwill, patents, trademarks, and copyrights.

APPENDIX A-6.3

FINANCIAL TEST: ALTERNATIVE II

1. Decommissioning cost estimates or guaranteed amount for facility [insert license number] (total cost of all cost estimates should be stated in paragraphs above) $_____

2. Current bond rating of most recent unsecured issuance of this firm
   Rating _____
   Name of rating service _____

3. Date of issuance of bond _____

4. Date of maturity of bond _____

*5. Tangible net worth** (if any portion of estimates for decommissioning is included in total liabilities on your firm's financial statements, you may add the amount of that portion to this line) $_____

*6. Total assets in United States (required only if less than 90 percent of firm's assets are located in the United States)

		Yes	No
7.	Is line 5 at least $10 million?	____	____
8.	Is line 5 at least 6 times line 1?	____	____
9.	Are at least 90 percent of firm's assets located in the United States? If not, complete line 10.	____	____
10.	Is line 6 at least 6 times line 1?	____	____
11.	Is the rating specified on line 2 "BBB" or better (if issued by Standard & Poor's) or "Baa" or better (if issued by Moody's)?	____	____

_____

* Denotes figures derived from financial statements.

** Tangible net worth is defined as net worth minus goodwill, patents, trademarks, and copyrights.

APPENDIX A-6.4

EXAMPLE OF AUDITOR'S SPECIAL REPORT BY CERTIFIED PUBLIC ACCOUNTANT

CONFIRMATION OF CHIEF FINANCIAL OFFICER'S LETTER

We have examined the financial statements of [company name] for the year ended [date], and have issued our report thereon, dated [date]. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary.

The [company name] has prepared documents to demonstrate its financial responsibility under the NRC's financial assurance regulations, under Title 10, Part 50, of the *Code of Federal Regulations*. This letter is furnished to assist the licensee, [insert NRC license number and name], in complying with these regulations and should not be used for other purposes.

The attached schedule reconciles the specified information furnished in the chief financial officer's (CFO's) letter in response to the regulations with the company's financial statements. In connection therewith, we have

confirmed that the amounts in the column "Per Financial Statements" agree with amounts contained in the company's financial statements for the year ended [date];

confirmed that the amount in the column "Per CEO's Letter" agrees with the letter prepared in response to the NRC's request;

confirmed that the amount in the column "Reconciling Items" agrees with analyses prepared by the company setting forth the indicated items; and

recomputed the totals and percentages.

Because the procedures in 1–4 above do not constitute a full examination made in accordance with generally accepted auditing standards, we do not express an opinion on the manner in which the amounts were derived in the items referred to above. In connection with the procedures referred to above, no matters came to our attention that cause us to believe that the chief financial officer's letter and supporting information should be adjusted.

_____
Signature

_____
Date

APPENDIX A-6.4.1

EXAMPLE OF SCHEDULE RECONCILING AMOUNTS CONTAINED IN CFO'S LETTER WITH AMOUNTS IN FINANCIAL STATEMENTS

This illustrates the form of schedule that is contemplated. Details and reconciling items will differ in specific situations.

XYZ COMPANY
YEAR ENDED DECEMBER 31, 20XX

Line Number in CFO's Letter	Per Financial Statements	Reconciling Items	Per CFO's Letter
Total current liabilities	X		
Long-term debt	X		
Deferred income taxes	X		
	XX		
Accrued decommissioning costs included in current liabilities	X		
Total liabilities (less accrued decommissioning costs)	X		
Net worth	X		
Less: Cost in excess of value of tangible assets acquired	X		
	X		
Accrued decommissioning costs included in current liabilities	X		
Tangible net worth (plus decommissioning costs)	XX		

(Balance of schedule is not illustrated.)

APPENDIX A-6.5

EXAMPLE OF PARENT COMPANY GUARANTEE

PARENT COMPANY GUARANTEE

Guarantee made this [date] by [name of guaranteeing entity], a [insert "proprietorship," "joint venture," "partnership," or "corporation"] organized under the laws of the State of [insert name of State], herein referred to as "Guarantor," to our subsidiary [licensee] of [business address], obligee.

Recitals

(1) The Guarantor has full authority and capacity to enter into this guarantee [if Guarantor is a corporation, add the following phrase "under its bylaws, articles of incorporation, and the laws of the State of [insert Guarantor's State of incorporation], its State of incorporation"]. [If the Guarantor has a Board of Directors, insert the following: "Guarantor has approval from its Board of Directors to enter into this guarantee."]

(2) This guarantee is being issued so that [the licensee] will be in compliance with regulations issued by the U.S. Nuclear Regulatory Commission (NRC), an agency of the U.S. Government, pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974. The NRC has promulgated regulations in Title 10, Part 50, of the *Code of Federal Regulations* (10 CFR Part 50), which require that a holder of, or an applicant for, a license issued pursuant to 10 CFR Part 50 provide assurance that funds will be available when needed for required decommissioning activities.

(3) This guarantee is issued to provide financial assurance for decommissioning activities for [identify licensed facility(ies)] as required by 10 CFR Part 50, the decommissioning costs and guarantee amount for which are as follows: [insert amount of decommissioning cost guaranteed for each identified facility].

(4) The Guarantor meets or exceeds the following financial test criteria [insert statement indicating which financial test is being used] and agrees to notify [the licensee] and the NRC of any changes in its ability to meet the criteria, in compliance with the notification requirements as specified in 10 CFR Part 50.

The Guarantor meets one of the following two financial tests:

(a)(i) a current rating of its most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as rated by Moody's; and

(ii) tangible net worth is at least $10 million and at least 6 times the current decommissioning cost estimate or guarantee amount (or prescribed amount if a certification is used); and

(iii) assets located in the United States amounting to at least 90 percent of its total assets or at least 6 times the current decommissioning cost or guarantee amount (or prescribed amount if certification is used). or

(b)(i) net working capital and tangible net worth each at least 6 times the current decommissioning cost estimates or guarantee amounts (or prescribed amount if certification is used); and

(ii) assets located in the United States amounting to at least 90 percent of its total assets or at least 6 times the amount of the current decommissioning cost estimates or guarantee amounts (or prescribed amount if certification is used); and

(iii) meets two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities that is greater than 0.1; and a ratio of current assets to current liabilities that is greater than 1.5; and

(iv) tangible net worth of at least $10 million.

(5) The Guarantor has majority control of the voting stock for the following licensee(s) covered by this guarantee. (List for each licensee: name, address, the facility(ies) owned or operated by each licensee, and the corresponding license number(s).)

(6) "Decommissioning activities," as used below, refers to the activities required by 10 CFR Part 50 for decommissioning the facility(ies) identified above.

(7) For value received from [licensees] (if the Guarantor is a corporation, add "and pursuant to the authority conferred upon the Guarantor by ("the unanimous resolution of its directors" or "the majority vote of its shareholders"), a certified copy of which is attached"), the Guarantor guarantees that if the licensee fails to perform the required decommissioning activities, as required by License No. [insert license number], caused by lack of funds, the Guarantor shall

(a) provide all funds necessary, up to the amount of this guarantee [in 20__ dollars and as adjusted for inflation], to carry out the required activities, or

(b) set up a trust fund in favor of [the licensee] in the amount of these current cost estimates or guarantee amount for these activities.

(8) The Guarantor agrees to submit revised financial statements, financial test data, and a special auditor's report and reconciling schedule to the NRC annually within 90 days of the close of the parent Guarantor's fiscal year.

(9) The Guarantor and the licensee agree that if the Guarantor fails to meet the financial test criteria at any time after this guarantee is established, the Guarantor and the licensee shall send, within 90 days of the end of the fiscal year in which the Guarantor fails to meet the financial test criteria, by certified mail, notice to the NRC. If [the licensee] fails to provide alternative financial assurance, as specified in 10 CFR Part 50, as applicable, and obtain written approval of such assurance from the NRC within 180 days of the end of such fiscal year, the Guarantor shall provide such alternative financial assurance in the name of [licensee] or make full payment under the guarantee to a standby trust established by [licensee].

(10) Independent of any notification under paragraph 8 above, if the NRC determines for any reason that the Guarantor no longer meets the financial test criteria or that it is disallowed from continuing as a Guarantor for the facility under License No. [insert license number], the Guarantor agrees that, within 90 days after being notified by the NRC of such determination, an

alternative financial assurance mechanism, as specified in 10 CFR Part 50, as applicable, shall be established by the Guarantor in the name of [licensee] unless [licensee] has done so.

(11) The Guarantor, as well as its successors and assigns, shall remain bound jointly and severally under this guarantee, notwithstanding any or all of the following: amendment or modification of license or NRC-approved decommissioning funding plan for that facility, the extension or reduction of the time of performance of required activities, or any other modification or alteration of an obligation of the licensee pursuant to 10 CFR Part 50.

(12) The Guarantor agrees that it will be liable for all litigation costs incurred by [the licensee] or the NRC in any successful effort to enforce the agreement against the Guarantor.

(13) The Guarantor agrees to remain bound under this guarantee for as long as [licensee] must comply with the applicable financial assurance requirements of 10 CFR Part 50, for the previously listed facility(ies), except that the Guarantor may cancel this guarantee by sending notice by certified mail to the NRC and to [licensee], such cancellation to become effective no earlier than 120 days after receipt of such notice by both the NRC and [licensee], as evidenced by the return receipts. If the licensee fails to provide alternative financial assurance as specified in 10 CFR Part 50, as applicable, and to obtain written approval of such assurance within 120 days after the sending of the above notice by the Guarantor, the Guarantor shall provide such alternative financial assurance.

(14) The Guarantor expressly waives notice of acceptance of this guarantee by the NRC or by [licensee]. The Guarantor also expressly waives notice of amendments or modification of the decommissioning requirements and of amendments or modifications of the license.

(15) If the Guarantor files financial reports with the U.S. Securities and Exchange Commission, then it shall promptly submit them to the NRC during each year in which this guarantee is in effect.

I hereby certify that this guarantee is true and correct to the best of my knowledge.

Effective date: _____

[Name of Guarantor]

[Authorized signature for Guarantor]

[Name of person signing]

[Title of person signing]

Signature of witness or notary: _____

[Name of licensee]

[Authorized signature for licensee]

[Title of person signing]

Signature of witness or notary: _____