

RULEMAKING ISSUE AFFIRMATION

June 2, 2003

SECY-03-0090

FOR: The Commissioners

FROM: William D. Travers
Executive Director for Operations

SUBJECT: FINAL RULE: 10 CFR PARTS 30, 40, AND 70: FINANCIAL ASSURANCE
FOR MATERIALS LICENSEES

PURPOSE:

To request Commission approval to publish in the Federal Register a final rule that amends financial assurance requirements for certain materials licensees in 10 CFR Parts 30, 40, and 70. The amendments would bring financial assurance requirements more in line with actual decommissioning costs for these materials licensees.

SUMMARY:

This paper contains a final rule amending financial assurance requirements for certain materials licensees. Eight comments were received on the proposed rule. Staff analysis of these comments concludes that the only recommended change from the proposed rule should be to use the existing definitions of *waste processor* and *waste collector* in 10 CFR Part 20, Appendix G, rather than introducing a new definition of waste broker in the regulations.

BACKGROUND:

The staff notified the Commission of its intent to develop a rulemaking to amend financial assurance requirements for materials licensees in SECY-01-0084 (May, 9, 2001). The staff

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provided the proposed rule to the Commission on June 27, 2002, in SECY-02-0116. The Commission approved publication of the proposed rule for a 75-day public comment period, in a Staff Requirements Memorandum dated August 27, 2002. The proposed rule was published on October 7, 2002 (67 FR 62403).

DISCUSSION:

A. Current Financial Assurance Requirements for Materials Licensees

Under current decommissioning regulations, materials licensees using quantities of nuclear materials above a threshold level must provide financial assurance for decommissioning. Most materials licensees are not required to provide financial assurance. Of approximately 4900 materials licensees, only about 10 percent require financial assurance. All but the largest licensees, such as fuel cycle licensees, may base the amount of financial assurance required on either a site-specific decommissioning cost estimate approved by NRC, or one of the certification amounts in NRC regulations.

The financial assurance requirements were promulgated in 1988 as part of the decommissioning rulemaking (53 FR 24018, June 27, 1988). Revisions to some of the financial assurance requirements for materials licensees are needed because there have been changes in decommissioning costs since that time. In addition, licensing experience has revealed that, for certain types of licensees, such as waste brokers, special considerations exist that require different treatment of these licensees.

B. Proposed Changes

The proposed changes were: (1) large sealed source licensees, i.e., large irradiators, would no longer be able to use certification amounts as a basis for financial assurance, and would have to base their financial assurance on site-specific decommissioning cost estimates; (2) all waste broker licensees would have to provide financial assurance and would not be permitted to use the certification amounts. They would have to base their financial assurance on site-specific decommissioning cost estimates; (3) all certification amounts would be increased by 50 percent; and (4) licensees using decommissioning cost estimates would have to update them at least every 3 years.

C. Public Comments and Staff Responses

Eight comment letters were received. Three were from industry organizations, four from corporations, and one from an individual health physics professional. The major comments and staff responses are summarized below:

(1) Large Irradiators. Some comments opposed the proposal to require large irradiators to base financial assurance on decommissioning cost estimates. These stated that the proposed new certification amount for a sealed source licensee of \$113,000 was adequate to cover decommissioning costs. The comments noted that sources have residual market values, and these values should be considered in determining decommissioning costs. An

additional objection was that decommissioning costs depend more on the size and complexity of the facility than the sources possessed.

Response. The staff agrees that the proposed rule does not take into account the residual market value of sealed sources. This approach is both appropriate and consistent with existing NRC policy. For example, current guidance in NUREG-1727 states the following:¹

The cost estimate should clearly state that it does not take credit for any salvage value that might be realized from the sale of potential assets (e.g., recovered materials or decontaminated equipment) during or after decommissioning. If estimated credits are taken for salvage value but are not fully realized at the time of decommissioning, the cost estimate (as well as the financial assurance) may be significantly low.

The staff believes that it would be inappropriate to incorporate salvage value into certification amounts when the actual residual value can vary substantially depending on the number and type of sources at a given facility, as well as on the curies present at the time of decommissioning (which generally is not known when a licensee's certification of financial assurance is put in place). Any residual value also would be subject to variability arising from changing market conditions. Therefore, it would be inappropriate to consider these characteristics when establishing generic certification levels.

If the potential salvage value of a source were to be used to offset the estimated cost of decommissioning, the effect would be to reduce the amount of funds guaranteed by financial instruments that possess a very high level of assurance, such as a prepaid escrow fund or an irrevocable letter of credit. However, the estimated salvage value of a source does not guarantee that funds will be available when needed. Even where a potential buyer provides a contractual promise to buy the source for a specified sum, the contract provides a lower level of assurance than the protection provided by the fiduciary obligations required of financial institutions that act as trustees or guarantors of funds. A contractual arrangement between the licensee and a buyer does not include the NRC as a beneficiary with the right to demand that funds be placed into a standby trust which restricts use of the funds for decommissioning only. In contrast, a letter of credit does establish the NRC as a beneficiary and gives the NRC the right to demand that funds be placed into a standby trust reserved for decommissioning. Therefore, permitting a licensee to reduce its decommissioning cost estimate by the potential salvage value of a source would decrease the level of financial assurance as compared to the financial instruments required by current regulations.

(2) Waste Brokers. Some comments objected to the proposed rule's definition of "waste broker." These comments noted that the proposed definition would include some activities not related to waste disposal. A comment noted that the proposed requirements for waste brokers should include waste collectors but does not. A comment noted that NRC does not have a clear standard definition of "waste," and thus a definition of waste broker is premature.

¹ NUREG-1727, "NMSS Decommissioning Standard Review Plan", Appendix F, September 2000, p. F26.

Response. The staff agrees that, as suggested by these comments, the proposed definition is problematic. The final rule does not include a definition of waste broker, but instead uses the existing definitions of waste processor and waste collector that are already in 10 CFR Part 20, Appendix G.

The staff believes that the potential problems being addressed by the rule are clear, regardless of whether the term “radioactive waste” is explicitly or consistently defined, and that it is unnecessary to define the term in this rulemaking. In addition, because the term has been used in current regulations and guidance in various contexts, defining it in this rulemaking could have unintended consequences.

(3) Frequency of Required Decommissioning Cost Updates. Several comments stated that the 3-year time frame for periodic decommissioning cost estimate updates is too frequent and that every 5 years would be more reasonable. One comment stated that cost estimates should be reassessed every 5 years in order to coincide with the license renewal process. This comment stated that, for irradiators, decommissioning does not involve disposal of materials as radioactive waste and, therefore, the stated impetus for the 3-year period (i.e., recent increases in radioactive waste disposal costs) does not apply. Another of these comments stated that NRC’s proposal will be burdensome and appears to be driven by short-term investment performance and anticipation of higher waste disposal costs. This comment countered that the history of investments over long periods of time (40 years or more of facility lifetime) is very positive, and that licensees have taken steps to lower their waste disposal costs by reducing the volume of decommissioning waste that will be generated and by increasing the recycling of materials to other nuclear facilities.

Response. The staff believes that the proposed requirement to update decommissioning cost estimates every 3 years will help to ensure that financial assurance obtained by licensees will not become inadequate as a result of changing disposal prices or other factors. Increasing waste disposal costs have been and continue to be an NRC concern. However, decommissioning costs also may change for a variety of licensee-specific reasons (e.g., because of changes in the size and scope of operations) as well as for other reasons that may be out of a licensee’s control (e.g., inflation). The proposed 3-year cost estimate updates are intended to capture changes in estimated costs regardless of cause, and to help ensure that the level of financial assurance required of each licensee is appropriate. The proposed requirement is appropriate, therefore, even for licensees that are not expecting to incur any significant waste disposal costs, as well as for licensees that may be taking steps to reduce the volume of decommissioning waste (which is only one component of decommissioning costs).

Although it would be less burdensome to require updates every 5 years as opposed to every 3 years, the staff believes that this would entail too great a risk that cost estimates could become significantly low.

CHANGES FROM THE PROPOSED RULE:

The definition of waste broker has been removed as discussed above. Section 30.35(c)(5) has been revised to require financial assurance of all waste processors and waste collectors. Implementation dates have been inserted in appropriate places in the rule.

STRATEGIC PLAN GOALS:

The rule would maintain safety by providing enhanced assurance of adequate/timely decommissioning. If a site is not decommissioned because of insufficient funds, there is an increased likelihood of contamination and/or exposure of members of the public. The rule would increase public confidence in NRC by reducing the likelihood that a State or local government would be forced to pay for decommissioning of a facility. It would make NRC financial assurance regulations more realistic and effective. Although the cost burden on licensees required to provide financial assurance would increase, the increase would be no more than necessary to maintain parity with increased decommissioning costs.

AGREEMENT STATE ISSUES:

No comments were received from Agreement States on the published proposed rule. The draft final rule was sent to Agreement States for review and comment on April 11, 2003, and no comments were received.

The Conference of Radiation Control Program Directors (CRCPD) has been developing amendments to the Suggested State Regulations for financial assurance. The staff has coordinated with CRCPD in preparing NRC's rule.

RESOURCES:

The staff estimates that 2.4 full time equivalents (FTE's) have been needed to develop this rulemaking. Implementation -- future guidance revision, and review of additional decommissioning cost estimates, will require an estimated 0.5 FTE. In addition, more frequent review of decommissioning cost estimate updates will require an estimated 0.1 FTE per year. Contractor support for the rulemaking is estimated at approximately \$160,000. These resources are within existing budget allocations.

COORDINATION:

In SECY-03-0069, "Results of the License Termination Rule Analysis," May 2, 2003, the staff made a number of recommendations, including additional changes to financial assurance requirements. The rule changes contained in this final rule address some decommissioning funding issues raised in SECY-03-0069. Financial assurance rule changes recommended in SECY-03-0069, if approved by the Commission, will be the subject of a separate, future rulemaking.

The Office of the General Counsel has no legal objection to the rulemaking. The Office of the Chief Financial Officer has reviewed this Commission Paper for resource implications and has no objections. The rule changes information collection requirements. The proposed rule was submitted to the Office of Management and Budget (OMB) before it was forwarded to the Federal Register for publication.

RECOMMENDATIONS:

That the Commission:

1. Approve for publication, in the Federal Register, the amendments to Parts 30, 40, and 70 (Attachment 1).
2. Note:
 - a. That the Chief Counsel for Advocacy of the Small Business Administration will be informed of the certification regarding economic impact on small entities and the reasons for it, as required by the Regulatory Flexibility Act, 5 U.S.C. 605(b);
 - b. That a Regulatory Analysis has been prepared for this rulemaking (Attachment 2);
 - c. That an Environmental Assessment is included in the Federal Register notice under “Environmental Assessment and Finding of No Significant Environmental Impact”;
 - d. That appropriate Congressional committees will be informed of this action;
 - e. That NRC has determined that this action is not a major rule, under the Small Business Regulatory Enforcement Fairness Act of 1996, and has confirmed this determination with OMB. This determination will be reflected in correspondence to the President of the Senate, the Speaker of the House of Representatives, and the General Counsel of the General Accounting Office (Attachment 3); and
 - f. That resources to complete and implement this rulemaking are included in the current budget.

/RA by William F. Kane Acting For/

William D. Travers
Executive Director
for Operations

Attachments:

1. Federal Register Notice
2. Regulatory Analysis
3. SBREFA Form

NUCLEAR REGULATORY COMMISSION

10 CFR Parts 30, 40, and 70

RIN 3150-AG85

Financial Assurance for Materials Licensees

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is amending its regulations for financial assurance for certain materials licensees, including all waste brokers, to bring the amount of financial assurance required more in line with current decommissioning costs. The objective of this action is to ensure that licensees maintain adequate financial assurance so that timely decommissioning can be carried out following shutdown of a licensed facility.

EFFECTIVE DATE: (Insert date 60 days after publication)

FOR FURTHER INFORMATION CONTACT: Clark Prichard, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone

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SUPPLEMENTARY INFORMATION:

Background

On October 7, 2002, the NRC published a proposed rule (67 FR 62403) that would amend the requirements for financial assurance for certain materials licensees. The proposed rule was developed in response to a need to update financial assurance requirements to ensure that licensees maintain adequate financial assurance coverage. The NRC regulations requiring financial assurance for decommissioning are designed to ensure that adequate funding will be available for timely decommissioning by licensees following shutdown of normal operations. The financial assurance regulations are part of the overall NRC strategy to maintain safety and protection of the public and the environment during and after decommissioning and decontamination of nuclear facilities.

Under current decommissioning regulations, materials licensees that use substantial quantities of nuclear materials must provide financial assurance for decommissioning (most materials licensees do not need to provide financial assurance because their possession limits are below the threshold for requiring financial assurance). NRC has approximately 4900 materials licensees, of which approximately 10 percent require financial assurance. The financial assurance requirements were established in 1988 as part of the decommissioning rulemaking (53 FR 24018; June 27, 1988). The amount of financial assurance that must be provided can be based on either: (1) a facility-specific decommissioning cost estimate provided by the licensee in a decommissioning funding plan;¹ or (2) one of several dollar amounts (certification amounts),

¹ For some types of licensees using very large amounts of radioactive material, a facility-specific cost estimate must be used.

that are based on possession limits. Revision to some of the financial assurance requirements for materials licensees are needed because there have been changes in decommissioning costs since that time. Also, experience has revealed that for certain types of licensees, such as waste brokers², special circumstances exist that require different financial assurance considerations.

The previous financial assurance regulations did not provide adequate coverage of decommissioning costs for certain types of materials licensees, mainly due to large increases in decommissioning costs since the financial assurance regulations were put in place. Allowing these financial assurance coverage shortfalls to remain could increase the likelihood of inadequate funding for timely decommissioning.

The changes to the regulations are focused on areas where the likelihood of inadequate funding relative to decommissioning costs is high. The changes address situations where currently required amounts of financial assurance appear to be substantially less than decommissioning costs. The changes would provide approximately \$80 million in additional financial assurance.³

These amendments were developed prior to recent heightened concerns about security of nuclear material. Because the objective of the amendments is to ensure that adequate funds are available to provide for the timely decommissioning of nuclear facilities with appropriate disposal of radioactive materials, these amendments should also enhance security of nuclear materials.

Changes are being made in four areas:

² Waste brokers are *waste processors* and *waste collectors* as defined in 10 CFR Part 20, Appendix G.

³ The estimate is based on numbers of licensees using each of the 3 certification amounts, and the differential between the revised certification amounts and former certification amounts for each of the 3 groups.

(1) Large sealed source licensees, i.e., large irradiators, would not be permitted to use the certification amounts, and would have to base their financial assurance on a site-specific decommissioning cost estimate;

(2) All waste broker licensees (waste processors and waste collectors) would have to provide financial assurance, would not be permitted to use the certification amounts, and would have to base their financial assurance on a site-specific decommissioning cost estimate;

(3) The certification amounts for licensees would be increased by 50 percent, and;

(4) Decommissioning cost estimates would have to be updated at least every 3 years.

Analysis of Public Comments

Eight comment letters were received. Three were from industry organizations, four from corporations, and one from an individual health physics professional. The comments and staff responses are summarized below:

A. Comments Regarding Requirements for Large Sealed Source Licensees

NRC's previous requirements allowed all sealed source licensees to use a certification amount as a basis for financial assurance. The proposed revisions modified this requirement by requiring sealed source licensees above a specified threshold (i.e., possession limits in excess of 10^{12} times the applicable quantities of Appendix B to Part 30) to prepare and submit site-specific decommissioning cost estimates in place of certifications of financial assurance. The comments raised three issues related to this proposed change.

1. Residual Market Value of Sealed Sources

Comment: Several commenters argued that NRC's proposed rule is based on an overestimate of large irradiator decommissioning costs because NRC fails to take into account the residual market value of sealed sources. The residual market value of the sources is substantial, and should be considered as an offset to decommissioning costs. The NRC is unjustified in ending the use of certification amounts by large irradiators because actual decommissioning costs for large irradiators, considering the residual value of sources, would still be less than the proposed certification amount for sealed source licensees of \$113K. With the cost of removal and transport being recovered from the resale or redistribution value of the sources, there is little difference in decommissioning costs of large versus small irradiators, and the \$113K figure should be adequate.

One commenter asserted that the cobalt-60 used in large irradiators sells for about \$1 per curie or more; therefore, a facility with 2 million curies should be able to sell its inventory for some significant fraction of its \$2 million market value. Decommissioning such a facility would likely result in little or no out of pocket cost (such as the supplier handling charge assumed by NRC in NUREG/CR-6280) and perhaps a positive cash flow. The commenter then provided two examples where the commenter decommissioned licensee facilities in part to obtain title to cobalt-60 worth between \$0.25-\$1 per curie or more. As a result of this residual value, NRC's proposal to require large irradiators to prepare a site-specific decommissioning cost estimate actually would result in reduced amounts of financial assurance (due to consideration of the value of the sources), while placing an unnecessary burden on licensees.

Another commenter extended a similar argument to items in finished goods inventory, other saleable goods in inventory, and active or contaminated equipment that could be used elsewhere. This commenter stated that it is unfair and beyond the boundaries of good business

practices to consider assets as liabilities just because they are radioactive, and NRC has not established within its regulations the difference between radioactive materials with residual value and radioactive materials as waste.

Response: The NRC agrees that the proposed rule does not take into account the residual market value of sealed sources. This approach is both appropriate and consistent with existing NRC policy. For example, current guidance in NUREG-1727 states the following:⁴

The cost estimate should clearly state that it does not take credit for any salvage value that might be realized from the sale of potential assets (e.g., recovered materials or decontaminated equipment) during or after decommissioning. If estimated credits are taken for salvage value but are not fully realized at the time of decommissioning, the cost estimate (as well as the financial assurance) may be significantly low.

The NRC believes that it would be inappropriate to incorporate salvage value into certification amounts when the actual residual value can vary substantially depending on the number and type of sources at a given facility, as well as on the curies present at the time of decommissioning (which generally is not known when a licensee's certification of financial assurance is put in place). Any residual value also would be subject to variability arising from changing market conditions. Therefore, it would be inappropriate to consider these characteristics when establishing generic certification levels.

Furthermore, NRC is concerned that it may be impossible at the time of decommissioning

⁴ NUREG-1727, "NMSS Decommissioning Standard Review Plan," Appendix F, September 2000, p. F26.

to realize (i.e., as cash) *any* inherent value contained in sealed sources, even if the sources have substantial value to the licensees that possess them. Irradiator licensees convert this inherent value into cash through the course of their business operations. However, these business operations cease at the time of decommissioning. Assuming that licensees decommission their facilities at the most economical point in time, then their sources will probably have decayed just to the point where they can no longer be used cost-effectively. In this case at least, the sources are unlikely to have value to anyone unless they can be re-processed.

Another significant concern to NRC is the possibility that some sources may have no residual value at all and may need to be disposed of as low-level waste (LLW). If sources must be disposed as LLW, then decommissioning costs would be considerably higher. For example, NUREG/CR-6280 concludes that decommissioning costs for a clean reference large irradiator facility may range (in 1993 dollars) from \$289,000, if the sources are returned to the supplier, up to \$3.0 million if it is necessary to dispose of the sources as LLW.⁵

If the potential salvage value of a source were to be used to offset the estimated cost of decommissioning, the effect would be to reduce the amount of funds guaranteed by financial instruments that possess a very high level of assurance, such as a prepaid escrow fund or an irrevocable letter of credit. However, the estimated salvage value of a source does not guarantee that funds will be available when needed. Even where a potential buyer provides a contractual promise to buy the source for a specified sum, the contract provides a lower level of assurance than the protection provided by the fiduciary obligations required of financial institutions that act as trustees or guarantors of funds. A contractual arrangement between the licensee and a buyer does not include the NRC as a beneficiary with the right to demand that funds be placed into a

⁵ NUREG/CR-6280, "Technology, Safety, and Costs of Decommissioning a Reference Large Irradiator and Reference Sealed Sources," Pacific Northwest Laboratory, January 1996.

standby trust which restricts use of the funds for decommissioning only. In contrast, a letter of credit, for example, does establish the NRC as a beneficiary and gives the NRC that right. Therefore, permitting a licensee to reduce its decommissioning cost estimate by the potential salvage value of a source would decrease the level of financial assurance as compared to the financial instruments required by current regulations.

For all these reasons, NRC concludes that its current approach not to permit credit for residual salvage value in setting certification amounts is reasonable.

2. Exemption Threshold Too Low

Comment: One commenter noted that, under the proposed rule, sealed source licensees are exempt from financial assurance requirements if the licensed material is less than or equal to 10^{10} times the applicable quantities of Appendix B to Part 30, which becomes 10,000 Ci for cobalt (10^{10} times 1.0 μ Ci). The commenter asserted that this causes problems for owners of cobalt teletherapy units, wherein a new source typically decays to below 10,000 Ci in the first 2 years of use. The complication, according to the commenter, is that financial assurance is initially required but then becomes unnecessary for the remainder of the source's life. The commenter requested that the exempted amount be raised to 5×10^{10} times the applicable Appendix B quantity as no teletherapy source exceeds 15,000 Ci.

Response: The certification levels and calculations described in the regulations are based on *licensed* possession limits, rather than actual possession. If a licensee for a cobalt teletherapy unit is allowed to possess cobalt in excess of 10,000 Ci under its license, then financial assurance is required even if the activity of the source decays to lower than that level. In fact, financial assurance must be maintained until NRC terminates the license, even if the licensee no longer possesses any radioactive material (unless the license is modified to reflect

different possession limits). This approach ensures that licensees maintain adequate financial assurance for activities that are authorized under the license. Also, requiring a constant amount of financial assurance avoids the complication of constantly adjusting financial assurance levels to account for decay, changing inventories, etc.

The commenter may be correct that an increase in the exemption threshold would benefit teletherapy unit licensees. However, it also would eliminate the added protections achieved by the financial assurance requirements (even in cases where decommissioning occurred before *any* significant decay of the radioactive sources).

3. "Arbitrary" Upper Certification Limit

Comment: One commenter stated that decommissioning costs are driven more by the size and complexity of the facility than the size or activity of the source used, e.g., a newer facility with twice as large a source as an older facility may require half the cost to decommission due to new design features. Therefore, the upper limit (of 10^{12} times the applicable quantities of Appendix B to Part 30) for sealed source certifications is arbitrary and should be removed.

Response: NRC agrees that both the size and complexity of a facility are important decommissioning cost drivers. Although newer facilities may be more likely to incorporate design features that will tend to reduce decommissioning costs, this correlation is untested and may only be true in general terms. There is no assurance that a new facility will cost less to decommission than an older facility or, conversely, that older facilities (which may have been remodeled) cost more to decommission. Moreover, research indicates that the characteristics of the sealed sources constitute an important and potentially critical cost driver. Therefore, the proposed activity-based upper limit is not arbitrary, but rather provides a reasonably effective and simple method for distinguishing those licensees for whom preparation of a facility-specific cost

estimate (including a discussion of the fate of the sealed sources) is warranted. NRC believes that an upper limit based on activity is considerably easier to implement than one that would account for additional or alternative factors.

B. Comments on Waste Broker Definition

Commenters raised three issues regarding NRC's proposed definition of "waste broker." The proposed definition stated that waste broker means any licensee that collects or accepts radioactive material from other entities for the purpose of processing, compacting, repackaging, or otherwise preparing it for disposal, or storage.

1. Applicability to Storage and Radioactive Materials

Comment: Two commenters stated that the proposed definition of waste broker should be reconsidered, particularly its applicability to storage activities and to radioactive *material* (as opposed to radioactive *waste*). Otherwise, these commenters stated, NRC's waste broker requirements will inadvertently subject some licensees that are not waste brokers to NRC's waste broker requirements, including the following:

- Manufacturers (who receive radioactive material from a supplier for storage and future use);
- Distributors (who receive radioactive material from a supplier for storage and distribution);
- Service companies (who are authorized to receive sources from a supplier to be used for source exchanges);
- Contractors (who receive radioactive material in generally-licensed devices as part of a turnkey job, then place them in storage until they are turned over to the user); and

- Carriers (who, as general licensees, store radioactive material or waste prior to delivery, or who deliver material or waste prior to storage by the recipient).

Response: The NRC agrees that the proposed definition is problematic as suggested by these commenters. The final rule does not establish a definition of waste broker, but instead uses the existing definitions of *waste processor* and *waste collector* in 10 CFR Part 20, Appendix G. Section 30.35 (c)(5) now requires *waste collectors* and *waste processors* to have financial assurance and base the amount of financial assurance on a site-specific decommissioning cost estimate.

2. Collectors vs. Processors

Comment: One commenter stated that the proposed rule's definition of waste broker appropriately covers waste processors and should, but does not, include waste collectors. There are certain licensees that have as their principal purpose to collect and consolidate packaged radioactive waste from others and transfer it to waste processors or disposal facilities. Facilities for interim storage of waste should have adequate financial assurance to cover decommissioning whether the licensee is a collector or processor.

Response: NRC agrees that the waste "collectors" described in the comment should be subject to the waste broker requirements. A change has been made to Section 30.35 (c)(5) to place requirements on *waste collectors* and *waste processors* as defined in 10 CFR Part 20, Appendix G.

3. Need to Define Radioactive "Waste"

Comment: One commenter stated that the proposed term "waste broker" cannot be

defined when there is no clear standard definition of "waste" anywhere in NRC regulation or statute. The commenter stated that, historically, the term "waste" has been generally applied to sealed sources at the end of intended use regardless of whether they can be reused by someone else or their contents recovered as feedstock or reworked to extend the useful life of the sources. The commenter noted that there are differing definitions in 10 CFR 63.2 and 10 CFR 110.2, with the latter specifically exempting sealed sources being returned to any qualified manufacturer from the waste import and export regulations. In other contexts, there is no meaningful definition of radioactive "waste" as it applies to sealed sources or other radioactive materials. The commenter asserted that regardless of the lack of a clear definition of radioactive "waste," there is also a conflict in NRC policy and regulation as, on one hand, some sealed sources are exempted from the definition of "waste" while, on the other hand, sources are included in the scope of licensed material subject to decommissioning financial assurance.

Response: The NRC has decided not to define "waste" or "waste broker" in this rule. Although "waste" is not defined in NRC regulations, it is used in other NRC regulations and guidance in various contexts; therefore, defining the term for this rulemaking could result in unintended consequences. The apparent conflict in NRC policy and regulations that was raised by one commenter regarding the inconsistency of the use of this term as applied to sealed sources, is easily resolved by placing in context the exemption the commenter cited in 10 CFR 110.2 (vs. the inclusion of sealed sources in the scope of licensed material subject to the decommissioning financial assurance in this rule). As the Statements of Consideration for the exemption explain (60 FR 37556, published on 7/21/95), the exemption refers to sealed sources that are being returned to the United States or another country for reconditioning, recycling, or reprocessing. These types of transfers help to ensure that the materials are handled responsibly and not left in dispersed and perhaps unregulated locations around the world. Therefore, the NRC

determined that they should not be subject to specific licensing, in this context, if the radioactive material involved would not be otherwise subject to such licensing. The disposition of sealed sources in this context, differs radically from the disposition of sealed sources addressed by the rule.

As noted in the Statement of Considerations accompanying the proposed rule, the waste broker provisions of the rule are intended to be applied to licensees that (1) are likely to have fluctuating amounts of radioactive waste generated by other licensees, and (2) have a financial interest in maximizing the amount of radioactive waste they handle (i.e., because their revenue is directly correlated to the amount of waste accepted). However, the existing definitions of “waste processor” and “waste collector” in 10 CFR Part 20, Appendix G, “Requirements for Transfers of Low-level Radioactive Waste Intended for Disposal at Licensed Land Disposal Facilities and Manifest,” encompass the activities of the licensees the proposed term “waste broker” sought to address. These activities, which are well understood by the regulated community, make such licensees stand out among other NRC licensees from a financial assurance perspective and support the inclusion of these licensees in this rule.

C. Comments on Requirements for Decommissioning Cost Updates

1. Three vs. Five Year Updates

Comment: Several commenters stated that the 3-year time frame for periodic decommissioning cost estimate updates is too frequent and that every 5 years would be more reasonable. One of the three stated that cost estimates should be reassessed every 5 years in order to coincide with the license renewal process. This commenter stated that, for irradiators, decommissioning does not involve disposal of materials as radioactive waste and, therefore, that

the stated impetus for the 3-year period (i.e., recent increases in radioactive waste disposal costs) does not apply. Another of these commenters stated that NRC's proposal will be burdensome and appears to be driven by short-term investment performance and anticipation of higher waste disposal costs. This commenter countered that the history of investments over long periods of time (e.g., 40-plus year facility lifetimes) is very positive, and that licensees have taken steps to lower their waste disposal costs by reducing the volume of decommissioning waste that will be generated and by increasing the recycling of materials to other nuclear facilities.

Response: The proposed requirement to update decommissioning cost estimates every 3 years will help ensure that financial assurance obtained by licensees will not become inadequate as a result of changing disposal prices or other factors. Increasing waste disposal costs have been and continue to be a concern for NRC. However, decommissioning costs also may change for a variety of licensee-specific reasons (e.g., due to changes in the size and scope of operations) as well as for other reasons that may be out of a licensee's control (e.g., inflation). The proposed 3-year cost estimate updates are intended to capture changes in estimated costs regardless of cause, and to help ensure that the level of financial assurance required of each licensee is appropriate. Therefore, the proposed requirement is appropriate even for licensees that are not expecting to incur any significant waste disposal costs, as well as for licensees that may be taking steps to reduce the volume of decommissioning waste (which is only one component of decommissioning costs).

Although it would be less burdensome to require updates every 5-years as opposed to every 3 years, the NRC believes that this would entail too great of a risk that cost estimates could become significantly low. The NRC's experience indicates that decommissioning cost estimates may fluctuate significantly in less than five years. In one case, a licensee increased its decommissioning cost estimate from \$55,000,000 to \$67,000,000 in one year. Even where site

conditions do not change as dramatically as in the case noted, inflation may increase costs significantly.

For example, if decommissioning costs were to rise by five percent annually (due to higher disposal costs, increased operations, inflation, and/or other factors), then in only 3 years a previously accurate estimate would understate current costs by 15 percent. As a result, financial assurance would be low by the same amount. This would create an unacceptable risk of unfunded decommissioning obligations. This risk would increase even further over a 5-year period.

2. Update Estimates Only When Warranted

Comment: One commenter asserted that the reason costs can change significantly has to do with "internal" factors such as the size and scope of operations (as opposed to "external" factors such as the cost of disposal). Therefore, this commenter suggested that whenever an application for a license amendment is submitted due to changes in operations or materials possession (or other factors specified by NRC), an updated cost estimate should be required and considered as part of the amendment process. If no license amendments are required prior to license renewal, then an updated estimate should be required only at the time of license renewal. The commenter also described two alternatives to this approach. Under the first alternative, NRC could arrange for updates on a case-by-case basis by category and default history for that segment. Under the second alternative, licensees would update their cost estimate if estimated costs exceed a required contingency included in the previous estimate.

Response: NRC agrees that internal factors are an important cause of significant changes to decommissioning costs. However, if the commenter's primary suggestion (i.e., to require an updated cost estimate as part of any license amendment application involving a

change in operations or materials possession, or at the time of license renewal if there are no amendments) were enacted, licensees would update their cost estimates only once every 5 years, assuming there were no license amendments or other “internal” trigger events that might be specified by NRC. This would be true regardless of cost increases due to “external” factors (e.g., increased disposal costs, inflation). As discussed in Section C.1 above, this approach is not acceptable to NRC because it could result in a substantial portion of decommissioning costs not being covered by financial assurance.

The first alternative approach would require that updates be provided by licensees on a case-by-case basis by “category” and “default history” for the relevant segment. NRC believes this approach would place an unreasonable administrative burden on NRC staff to analyze all changes and events applicable to each licensee individually, as well as to study default histories and other developments by segment. Even if NRC were to undertake such efforts, licensees still might be required to submit updated estimates (albeit on a case-by-case basis) with a frequency that approximates that of this rulemaking.

The second alternative approach suggested in the comment would require that cost estimates be updated only when the new estimate exceeds the required contingency in the previously-submitted cost estimate. As do other types of engineering cost estimates, decommissioning cost estimates include a contingency factor to account for unanticipated costs. This contingency factor is typically equal to 25 percent of the total of all known decommissioning costs. One problem with this alternative is that, if the contingency factor were allowed to cover recent increases in known costs, then the contingency would not be available to address the unanticipated costs for which it was intended. This means that the outdated estimate could be inadequate by 25 percent, which is not acceptable to NRC. A second problem with this alternative is that, in order to avoid updating the cost estimate, licensees would have to develop

an updated cost estimate so that they could determine whether costs have escalated to more than the contingency factor. Therefore, it would be more efficient and more protective of decommissioning funding for the licensee to submit the updated estimate to NRC as proposed in this rulemaking, using it as the most accurate basis for financial assurance.

D. General Comments

1. Rule is Arbitrary and Unwarranted

Comment: One commenter disagreed with the increase in certification amounts and with NRC's justification for the change, characterizing it as "arbitrary and unwarranted." The commenter stated that although disposal costs have indeed risen, waste liabilities actually have been reduced by efforts to reduce weights and volumes and eliminate sources of waste streams, and by considering ease of decommissioning in the design, construction, and operation of new facilities. The commenter stated that Barnwell has been unable to achieve South Carolina targets for generation of volume-driven revenue due to changes in waste management practices by generators over the years.

Response: NRC does not agree that the basis for the rulemaking is arbitrary or unwarranted. First, and as noted by the comment, disposal costs have indeed risen. Although some licensees have implemented waste reduction efforts, these efforts do not necessarily offset all (or even most) of the waste disposal cost increases for these licensees. Moreover, other licensees have not implemented such efforts. NRC believes that the greatest waste reduction efforts have been made by larger licensees, who are the least likely to use the certification amounts.

Second, increased disposal costs are not NRC's only justification for increasing the

certification amounts. Inflation that has occurred since the promulgation of the original certification amounts exceeds 50 percent, based on the Consumer Price Index.⁶ Specific information on decommissioning costs also shows a substantial increase. NRC regulations for decommissioning of nuclear power reactor licensees at 10 CFR 50.75 contain a cost adjustment factor for licensees to update the minimum amount of financial assurance required. This adjustment factor, which takes into account labor, energy, and waste disposal costs, shows a minimum increase of approximately 65 percent in reactor decommissioning costs from 1986 to 2000.⁷ Thus, inflation, by itself is more than adequate as a justification for the rule's 50 percent increase in the certification amounts. In addition, other research conducted by NRC for this rulemaking indicates that licensees using certifications have substantially less financial assurance than is warranted based on their estimated decommissioning costs.⁸

2. NRC's Financial Assurance Rules Too Complicated

Comment: One commenter stated that the regulations addressing decommissioning plans and financial assurance are unnecessarily complicated. The commenter suggested that the rules be consolidated within a single chapter of 10 CFR, instead of spread through four chapters and appendices. The commenter suggested listing requirements in simpler language instead of burying them in complicated prose. The commenter also offered assistance to NRC.

Response: The NRC agrees that plain language improvements may be needed.

This rulemaking makes changes in only a part of NRC's overall financial assurance

⁶ "CPI Inflation Calculator," U.S. Department of Labor, Bureau of Labor Statistics, <http://www.bls.gov/cpi>.

⁷ NUREG-1307, Revision 9, p. 6.

⁸ "Analysis of Decommissioning Certification Amounts for Materials Licensees (Parts 30, 40, and 70)," ICF Consulting, 2000.

requirements. Its objective is to bring financial assurance requirements more in line with actual decommissioning costs. NRC is trying to close any such gaps in a timely manner. Any future rulemakings covering more general changes in the financial assurance requirements will be carried out with a view toward clarification and simplification, where practical. As an aid to understanding its requirements, the NRC staff has developed a guidance document, “NMSS Decommissioning Standard Review Plan,” NUREG-1727⁹, that explains how licensees can meet decommissioning requirements, including financial assurance requirements.

3. Consider Costs to Agreement State Licensees

Comment: One commenter stated that it appears NRC considered the cost of the rule only to its own licensees, and not to Agreement State licensees. It is unrealistic to expect Agreement States not to adopt the rule (even though they are not required to do so based upon its category D rating), so NRC should consider costs to all licensees.

Response: NRC has considered these costs, and has provided several opportunities for Agreement States to comment. The comments that NRC has received from Agreement States have generally supported this rulemaking. However, NRC has revised the Regulatory Analysis for the rule to more clearly estimate costs to Agreement State licensees that adopt the rule.

4. Comment Period Should be Extended

⁹ NUREG-1727 is available in the NRC Public Document Room, Room O-1F23, 11555 Rockville Pike, Rockville, MD. The NRC maintains an Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC’s public documents. These documents may be accessed through the NRC’s Public Electronic Reading Room on the Internet at <http://www.nrc.gov/reading-rm/adams.html>. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC Public Document Room (PDR) Reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr@nrc.gov.

Comment: One commenter requested that the public comment period for the proposed rule be extended until 60 days after NUREG/CR-6477 is made available for review by the public.

Response: NUREG/CR-6477 was published in mid-January, and placed on the website for this rulemaking. A Federal Register notice of availability of the NUREG report, with a 30 day public comment period, was published on January 30, 2003 (68 FR 4801). No comments were received on the report.

Changes From the Proposed Rule

The definition of waste broker in Section 30.4 is being removed. In Section 30.35(c)(5), the terms *waste processors*¹⁰ and *waste collectors*¹¹, as defined in 10 CFR Part 20, Appendix G, are being used instead. Implementation dates have been inserted at appropriate places in the rule as described below.

Implementation

The NRC is implementing these requirements in a way intended to minimize the burden

¹⁰ *Waste processor* means an entity, operating under a Commission or Agreement State license, whose principal purpose is to process, repackage, or otherwise treat low-level radioactive material or waste generated by others prior to eventual transfer of waste to a licensed low-level radioactive waste land disposal facility.

¹¹ *Waste collector* means an entity, operating under a Commission or Agreement State license, whose principal purpose is to collect and consolidate waste generated by others, and to transfer this waste, without processing or repackaging the collected waste, to another licensed waste collector, licensed waste processor, or licensed land disposal facility.

on licensees and regulators. Licensees are being given a reasonable period of time to submit new decommissioning cost estimates and to obtain any additional financial assurance that may be required. The NRC is establishing different effective dates for revised financial assurance requirements, depending on the type of licensee, so that new financial assurance submittals would not all be filed at one time. Licensees currently using the \$750K certification amount are required to obtain additional financial assurance to comply with the revised \$1,125K certification amount within 12 months of the effective date of the final rule. Licensees currently using the \$75K or \$150K certification amounts are required to obtain additional financial assurance to comply with the revised \$113K or \$225K certification amounts within 18 months of the effective date of the final rule. In either case, these licensees could choose the option of basing financial assurance on a decommissioning cost estimate. Licensees that can no longer use the certification amounts, such as large irradiators and waste brokers, are allowed up to 24 months to submit a decommissioning cost estimate.

Discussion of Amendments by Section

Section 30.35 Financial assurance and recordkeeping for decommissioning.

Paragraph (a) is amended to require licensees possessing large numbers of sealed sources to base financial assurance on a decommissioning funding plan. Section 30.35(c)(2) revises the certification amount. A new Section 30.35(c)(5) requires waste processors and waste collectors to base financial assurance on a site-specific decommissioning cost estimate. Section 30.35(d) increases the certification amounts by 50 percent -- new certification amounts are \$113K, \$225K, and \$1,125K. Section 30.35(e) requires that decommissioning funding plans

be updated at least every 3 years.

10 CFR 40.36 Financial assurance and recordkeeping.

Section 40.36(b)(2) increases the applicable certification amount by 50 percent. Section 40.36(c)(2) revises the certification amount. Section 40.36(d) requires that decommissioning funding plans be updated at least every 3 years.

10 CFR 70.25 Financial assurance and recordkeeping for decommissioning.

Section 70.25(c)(2) revises the certification amount. Section 70.25(d) increases the applicable certification amounts by 50 percent. Section 70.25(e) requires that decommissioning funding plans be updated at least every 3 years.

Agreement State Compatibility

Under the “Policy Statement on Adequacy and Compatibility of Agreement State Programs” that became effective on September 3, 1997 (62 FR 46517), NRC program elements (including regulations) are placed into four compatibility categories. In addition, NRC program elements also can be identified as having particular health and safety significance or as being reserved solely to the NRC.

The sections of 10 CFR Parts 30, 40, and 70 dealing with financial assurance that are being changed and their respective compatibility categories are as follows:

§ 30.35 Financial assurance and recordkeeping for decommissioning.

Compatibility category D - paragraphs (c), (e), (f)

Health and Safety - paragraphs (a), (b), (d), and (g).

Compatibility category D for paragraphs (c), (e), and (f) is warranted because States are allowed the flexibility to specify different dollar amounts based on jurisdiction and local conditions. The Health and Safety designation for paragraphs (a), (b), and (d) is warranted because these paragraphs address decommissioning funding plans necessary to ensure that funding is available for timely decommissioning. The Health and Safety designation of paragraph (g) is warranted because of the requirement for transfer of certain records (e. g., spills or spread of contamination that could impact health and safety) important to subsequent licensees for decommissioning at the same facility.

§ 40.36 Financial assurance and recordkeeping for decommissioning

Compatibility category D - paragraphs (c) and (e).

Health and Safety - paragraphs (a), (b), (d), and (f).

Compatibility category D for paragraphs (c), and (e) is warranted because States are allowed the flexibility to specify different dollar amounts based on jurisdiction and local conditions. The Health and Safety designation for paragraphs (a), (b), and (d) is warranted because these paragraphs address decommissioning funding plans necessary to ensure that funding is available for timely decommissioning. The Health and Safety designation of paragraph (f) is warranted because of the requirement for transfer of certain records (e. g., spills or spread of

contamination that could impact health and safety) important to subsequent licensees for decommissioning at the same facility.

§ 70.25 Financial assurance and recordkeeping for decommissioning

Compatibility category D - paragraphs (c), (e), and (f)

NRC - paragraph (a)

Health and Safety - paragraphs (b), (d), and (g).

Compatibility category D for paragraphs (c), (e), and (f) is warranted because States are allowed the flexibility to specify different dollar amounts based on jurisdiction and local conditions. Paragraph (a) addresses areas reserved to the NRC because it concerns uranium enrichment facilities and special nuclear materials in quantities sufficient to form a critical mass. The Health and Safety designation for paragraphs (b) and (d) is warranted because these paragraphs address decommissioning funding plans necessary to ensure that funding is available for timely decommissioning. The Health and Safety designation of paragraph (g) is warranted because of the requirement for transfer of certain records (e. g., spills or spread of contamination that could impact health and safety) important to subsequent licensees for decommissioning at the same facility.

Plain Language

The Presidential Memorandum dated June 1, 1998, entitled “Plain Language in Government Writing” directed that the Government’s writing be in plain language. One comment on this rule specifically addressed the clarity and effectiveness of the language used in the financial assurance regulations. The NRC response to the comment is included in the “Analysis of Public Comments” section of this notice.

Voluntary Consensus Standards

The National Technology Transfer Act of 1995 (Pub. L. 104-113) requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies unless the use of such a standard is inconsistent with applicable law or otherwise impractical. In this rule, the NRC is making revisions to certain financial assurance requirements for materials licensees. Financial assurance requirements are not standards that have been established by any voluntary consensus organizations.

Environmental Assessment and Finding of No Significant Environmental Impact

The Commission has determined under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in Subpart A of 10 CFR Part 51, not to prepare an environmental impact statement for this rule because the Commission has concluded on the basis of the environmental assessment (contained in this notice below) that this rule is not a

major Federal action significantly affecting the quality of the human environment.

These amendments revise financial assurance requirements for certain materials licensees. The amendments require certain materials licensees to submit decommissioning cost estimates; increase the amount of financial assurance required by licensees using the certification amounts; and require updates of decommissioning cost estimates at least every 3 years. None of these actions have any adverse impact on the environment. The amendments would not lead to any increase in the effect on the environment of the decommissioning activities already considered in the final decommissioning rule published on June 27, 1988 (53 FR 24018), as analyzed in "Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities" (NUREG-0586, August 1988).¹² Actions conducted under this rule would not introduce any impacts on the environment not previously considered by the NRC.

The determination of this environmental assessment is that there will be no significant adverse impact to the quality of the human environment from this action. This action should have a positive impact on the quality of the human environment by providing additional assurance of timely decommissioning. Timely decommissioning should reduce the possibility of contamination of sites, and should enhance safety and protection of the environment. This discussion constitutes the environmental assessment upon which a finding of no significant impact has been found for this rule.

Paperwork Reduction Act Statement

¹² Copies of NUREG-0586 are available for inspection or copying for a fee from the NRC Public Document Room at O-1F23, 11555 Rockville Pike, Rockville, MD. Copies may be purchased at current rates from the U.S. Government Printing Office, P.O. Box 370892, Washington, DC 20402-9328 (telephone (202) 512-2249); or from the National Technical Information Service by writing NTIS at 5285 Port Royal Road, Springfield, VA 22161.

This final rule contains information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq). These requirements were approved by the Office of Management and Budget, approval numbers 3150-0009, -0017, and -0020.

The burden to the public for the information collections contained in 10 CFR Part 30 is estimated to average 10.4 hours per response, the burden for the information collections contained in 10 CFR Part 40 is estimated to average 7.3 hours per response, and the burden for the information collections contained in 10 CFR Part 70 is estimated to average 7.5 hours per response. This includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. Send comments on any aspect of these information collections, including suggestions for reducing the burden, to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet electronic mail to INFOCOLLECTS@NRC.GOV; and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0009, - 0017, and -0020), Office of Management and Budget, Washington, DC 20503.

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid OMB control number.

Regulatory Analysis

The Commission has prepared a regulatory analysis on this regulation. The analysis examines the costs and benefits of the alternatives considered by the Commission. The analysis is available for inspection and copying in the NRC Public Document Room at O-1F23, 11555 Rockville Pike, Rockville, MD. Single copies of the regulatory analysis are available from Clark Prichard, telephone (301) 415-6203, e-mail, cwp@nrc.gov of the Office of Nuclear Material Safety and Safeguards.

Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the Commission certifies that this rule would not have a significant economic impact on a substantial number of small entities. Some licensees affected by this action may fall within the definition of "small entities" set forth in the Regulatory Flexibility Act or the Small Business Size Standards set out in regulations issued by the Small Business Administration at 13 CFR Part 121. However, while the rule would change the financial assurance requirements for these licensees, such licensees may base their financial assurance on a site-specific decommissioning cost estimate. No licensee would be required to provide financial assurance in excess of what is needed to cover decommissioning costs. Increases in financial assurance amounts required are only the amounts necessary to maintain adequate financial assurance to cover increased decommissioning costs. The regulatory analysis cited for this action contains estimates of cost impacts on different types of licensees.

Backfit Analysis

There are no backfit requirements in 10 CFR Parts 30 and 40, and, in accordance with the “Effective Date Note” regarding implementation of § 70.76, the provisions of 10 CFR 70.76 on backfitting have not yet gone into effect. Therefore, a backfit analysis is not required. However, the burdens and the benefits associated with this rule are addressed in the Regulatory Analysis.

Small Business Regulatory Enforcement Fairness Act

In accordance with the Small Business Regulatory Enforcement Fairness Act of 1996, the NRC has determined that this action is not a major rule and has verified this determination with the Office of Information and Regulatory Affairs of OMB.

List of Subjects

10 CFR Part 30

Byproduct material, Criminal penalties, Government contracts, Intergovernmental relations, Isotopes, Nuclear materials, Radiation protection, Reporting and recordkeeping requirements.

10 CFR Part 40

Criminal penalties, Government contracts, Hazardous materials transportation, Nuclear materials, Reporting and recordkeeping requirements, Source material, Uranium.

10 CFR Part 70

Criminal penalties, Hazardous materials transportation, Material control and accounting, Nuclear materials, Packaging and containers, Radiation protection, Reporting and recordkeeping requirements, Scientific equipment, Security measures, Special nuclear material.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974, as amended; and 5 U.S.C. 552 and 553; the NRC is adopting the following amendments to 10 CFR Parts 30, 40, and 70.

PART 30- RULES OF GENERAL APPLICABILITY TO DOMESTIC LICENSING OF BYPRODUCT MATERIAL

1. The authority citation for Part 30 continues to read as follows:

AUTHORITY: Secs. 81, 82, 161, 182, 183, 186, 68 Stat. 935, 948, 953, 954, 955, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2111, 2112, 2201, 2232, 2233, 2236, 2282); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846).

Section 30.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 as amended by Pub. L. 102-486, sec. 2902, 106 Stat. 3123, (42 U.S.C. 5851). Section 30.34(b) also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 30.61 also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

2. In § 30.35, paragraphs (a), (c)(2), (d), and (e) are revised and a new paragraph (c)(5) is added to read as follows:

§ 30.35 Financial assurance and recordkeeping for decommissioning.

(a)(1) Each applicant for a specific license authorizing the possession and use of unsealed byproduct material of half-life greater than 120 days and in quantities exceeding 10^5 times the applicable quantities set forth in appendix B to part 30 shall submit a decommissioning funding plan as described in paragraph (e) of this section. The decommissioning funding plan must also be submitted when a combination of isotopes is involved if R divided by 10^5 is greater than 1 (unity rule), where R is defined here as the sum of the ratios of the quantity of each isotope to the applicable value in appendix B to part 30.

(2) Each holder of, or applicant for, any specific license authorizing the possession and use of sealed sources or plated foils of half-life greater than 120 days and in quantities exceeding 10^{12} times the applicable quantities set forth in appendix B to part 30 (or when a combination of isotopes is involved if R , as defined in § 30.35(a)(1), divided by 10^{12} is greater than 1), shall submit a decommissioning funding plan as described in paragraph (e) of this section. The decommissioning funding plan must be submitted to NRC by (Insert date 24 months after effective date of this rule).

* * * * *

(c) * * *

(2) Each holder of a specific license issued before July 27, 1990, and of a type described in paragraph (a) of this section shall submit a decommissioning funding plan as described in

paragraph (e) of this section or a certification of financial assurance for decommissioning in an amount at least equal to \$1,125,000 in accordance with the criteria set forth in this section. If the licensee submits the certification of financial assurance rather than a decommissioning funding plan, the licensee shall include a decommissioning funding plan in any application for license renewal.

* * * * *

(5) Waste collectors and waste processors, as defined in 10 CFR Part 20, Appendix G, must provide financial assurance in an amount based on a decommissioning funding plan as described in paragraph (e) of this section. The decommissioning funding plan must include the cost of disposal of the maximum amount (curies) of radioactive material permitted by license, and the cost of disposal of the maximum quantity, by volume, of radioactive material which could be present at the licensee's facility at any time, in addition to the cost to remediate the licensee's site to meet the license termination criteria of 10 CFR Part 20. The decommissioning funding plan must be submitted by (Insert date 24 months after effective date).

(d) Table of required amounts of financial assurance for decommissioning by quantity of material. Licensees required to submit the \$1,125,000 amount must do so by (Insert date 12 months from effective date). Licensees required to submit the \$113,000 or \$225,000 amount must do so by (Insert date 18 months from effective date of this rule). Licensees having possession limits exceeding the upper bounds of this table must base financial assurance on a decommissioning funding plan.

greater than 10^4 but less than or equal to 10^5 times the applicable quantities of appendix B to part 30 in unsealed form. (For a combination of isotopes, if R, as defined in §30.35(a)(1), divided by 10^4 is greater than 1 but R divided by 10^5 is less than or equal to 1).\$1,125,000

greater than 10^3 but less than or equal to 10^4 times the applicable quantities of appendix B to part 30 in unsealed form. (For a combination of isotopes, if R, as defined in

§30.35(a)(1), divided by 10^3 is greater than 1 but R divided by 10^4 is less than or equal to 1).\$225,000

greater than 10^{10} but less than or equal to 10^{12} times the applicable quantities of appendix B to part 30 in sealed sources or plated foils. (For a combination of isotopes, if R, as defined in §30.35(a)(1), divided by 10^{10} is greater than 1, but R divided by 10^{12} is less than or equal to 1).\$113,000

(e) Each decommissioning funding plan must contain a cost estimate for decommissioning and a description of the method of assuring funds for decommissioning from paragraph (f) of this section, including means for adjusting cost estimates and associated funding levels periodically over the life of the facility. Cost estimates must be adjusted at intervals not to exceed 3 years. The decommissioning funding plan must also contain a certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning and a signed original of the financial instrument obtained to satisfy the requirements of paragraph (f) of this section.

* * * * *

PART 40 - DOMESTIC LICENSING OF SOURCE MATERIAL

3. The authority citation for Part 40 continues to read as follows:

AUTHORITY: Secs. 62, 63, 64, 65, 81, 161, 182, 183, 186, 68 Stat. 932, 933, 935, 948, 953, 954, 955, as amended, secs. 11e(2), 83, 84, Pub. L. 95-604, 92 Stat. 3033, as amended, 3039, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2014(e)(2), 2092, 2093, 2094, 2095, 2111, 2113, 2114, 2201, 2232, 2233, 2236, 2282); sec. 274, Pub. L. 86-373, 73 Stat. 688 (42 U.S.C. 2021); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846); sec. 275, 92 Stat. 3021, as amended by Pub. L. 97-415, 96 Stat. 2067 (42

U.S.C. 2022); sec. 193, 104 Stat. 2835, as amended by Pub. L. 104-134, 110 Stat. 1321, 1321-349 (42 U.S.C. 2243).

Section 40.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 40.31(g) also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Section 40.46 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 40.71 also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

4. In § 40.36, paragraphs (b)(2), (c)(2), and (d) are revised to read as follows:

§ 40.36 Financial assurance and recordkeeping for decommissioning.

* * * * *

(b) * * *

(2) Submit a certification that financial assurance for decommissioning has been provided in the amount of \$225,000 by (Insert date 18 months after effective date of this rule) using one of the methods described in paragraph (e) of this section. For an applicant, this certification may state that the appropriate assurance will be obtained after the application has been approved and the license issued but before the receipt of licensed material. If the applicant defers execution of the financial instrument until after the license has been issued, a signed original of the financial instrument obtained to satisfy the requirements of paragraph (e) of this section must be submitted to NRC prior to receipt of licensed material. If the applicant does not defer execution of the financial instrument, the applicant shall submit to NRC, as part of the certification, a signed original of the financial instrument obtained to satisfy the requirements of paragraph (e) of this section.

(c) * * *

(2) Each holder of a specific license issued before July 27, 1990, and of a type described in paragraph (a) of this section shall submit a decommissioning funding plan as described in paragraph (d) of this section or a certification of financial assurance for decommissioning in an amount at least equal to \$1,125,000 in accordance with the criteria set forth in this section. If the licensee submits the certification of financial assurance rather than a decommissioning funding plan, the licensee shall include a decommissioning funding plan in any application for license renewal. Licensees required to submit the \$1,125,000 amount must do so by (Insert date 12 months from effective date of this rule).

* * * * *

(d) Each decommissioning funding plan must contain a cost estimate for decommissioning and a description of the method of assuring funds for decommissioning from paragraph (e) of this section, including means for adjusting cost estimates and associated funding levels periodically over the life of the facility. Cost estimates must be adjusted at intervals not to exceed 3 years. The decommissioning funding plan must also contain a certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning and a signed original of the financial instrument obtained to satisfy the requirements of paragraph (e) of this section.

* * * * *

PART 70 - DOMESTIC LICENSING OF SPECIAL NUCLEAR MATERIAL

5. The authority citation for Part 70 continues to read as follows:

AUTHORITY: Secs. 51, 53, 161, 182, 183, 68 Stat. 929, 930, 948, 953, 954, as amended, sec. 234, 83 Stat. 444, as amended, (42 U.S.C. 2071, 2073, 2201, 2232, 2233, 2282, 2297f); secs. 201, as amended, 202, 204, 206, 88 Stat. 1242, as amended, 1244, 1245, 1246 (42 U.S.C. 5841, 5842, 5845, 5846). Sec. 193, 104 Stat. 2835 as amended by Pub.L. 104-134, 110 Stat. 1321, 1321-349 (42 U.S.C. 2243).

Sections 70.1(c) and 70.20a(b) also issued under secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241 (42 U.S.C. 10155, 10161). Section 70.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 70.21(g) also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Section 70.31 also issued under sec. 57d, Pub. L. 93-377, 88 Stat. 475 (42 U.S.C. 2077). Sections 70.36 and 70.44 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 70.81 also issued under secs. 186, 187, 68 Stat. 955 (42 U.S.C. 2236, 2237). Section 70.82 also issued under sec. 108, 68 Stat. 939, as amended (42 U.S.C. 2138).

6. In § 70.25, paragraphs (c)(2), (d), and (e) are revised to read as follows:

§ 70.25 Financial assurance and recordkeeping for decommissioning.

* * * * *

(c) * * *

(2) Each holder of a specific license issued before July 27, 1990, and of a type described in paragraph (a) of this section shall submit a decommissioning funding plan as described in paragraph (e) of this section or a certification of financial assurance for decommissioning in an amount at least equal to \$1,125,000 in accordance with the criteria set forth in this section. If the licensee submits the certification of financial assurance rather than a decommissioning funding

plan, the licensee shall include a decommissioning funding plan in any application for license renewal.

* * * * *

(d) Table of required amounts of financial assurance for decommissioning by quantity of material. Licensees required to submit the \$1,125,000 amount must do so by (Insert date 12 months from effective date). Licensees required to submit the \$225,000 amount must do so by (Insert date 18 months from effective date of this rule). Licensees having possession limits exceeding the upper bounds of this table must base financial assurance on a decommissioning funding plan.

greater than 10^4 but less than or equal to 10^5 times the applicable quantities of appendix B to part 30. (For a combination of isotopes, if R, as defined in §70.25(a), divided by 10^4 is greater than 1 but R divided by 10^5 is less than or equal to 1.)\$1,125,000

greater than 10^3 but less than or equal to 10^4 times the applicable quantities of appendix B to part 30. (For a combination of isotopes, if R, as defined in §70.25(a), divided by 10^3 is greater than 1 but R divided by 10^4 is less than or equal to 1.)\$225,000

(e) Each decommissioning funding plan must contain a cost estimate for decommissioning and a description of the method of assuring funds for decommissioning from paragraph (f) of this section, including means for adjusting cost estimates and associated funding levels periodically over the life of the facility. Cost estimates must be adjusted at intervals not to exceed 3 years. The decommissioning funding plan must also contain a certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning and a signed original of the financial instrument obtained to satisfy the requirements of paragraph (f) of this section.

* * * * *

Dated at Rockville, Maryland, this _____ day of _____, 2003.

For the Nuclear Regulatory Commission.

Annette Vietti-Cook,
Secretary of the Commission.

REGULATORY ANALYSIS

FINANCIAL ASSURANCE FOR MATERIALS LICENSEES

I. Regulatory Problems to be Addressed by This Rule

The NRC regulations requiring financial assurance for decommissioning are designed to assure that adequate funding will be available for timely decommissioning by licensees. The financial assurance regulations are part of the overall NRC strategy to maintain safety and protection of the environment during decommissioning and decontamination of nuclear facilities.

Financial assurance is composed of several parts: (1) appropriate identification of licensees for which financial assurance should be required; (2) the amount of financial assurance required for each licensee must be adequate to fund current decommissioning costs; and (3) appropriate financial assurance mechanisms (surety bonds, escrow accounts, parent or self-guarantee, etc.) must be required.

The NRC is amending its financial assurance requirements for certain materials licensees to bring required financial assurance amounts more in line with actual current decommissioning costs. The objective of this rulemaking is to maintain adequate financial assurance by addressing gaps in the current regulatory framework regarding (1) and (2) above.

Under current regulations, materials licensees using substantial quantities of nuclear materials must provide financial assurance for decommissioning (most materials licensees do not need to provide financial assurance because their possession limits are below the threshold for requiring financial assurance). Approximately 490, or about 10 percent, of the NRC's materials licensees require financial assurance. The financial assurance requirements were promulgated in 1988 as part of the decommissioning rulemaking (53 FR 24018, June 27, 1988). Revision to some of the financial assurance requirements for materials licensees are needed because there have been changes in decommissioning costs since that time, and experience

has revealed that for certain types of licensees, such as waste brokers, special considerations exist which require different treatment.

II. Current Rule Requirements

A. 10 CFR Part 30

10 CFR Part 30 requires a licensee authorized to possess very large quantities of unsealed byproduct material to submit a decommissioning funding plan which includes a site-specific decommissioning cost estimate.

Part 30 licensees authorized to possess lesser amounts of unsealed byproduct material, but above the threshold for financial assurance, may either submit a decommissioning funding plan, or submit a certification that financial assurance for decommissioning has been provided. Certification amounts of \$750,000, or \$150,000, depending on the quantity of material the licensee is authorized to possess, are applicable to Part 30 licensees.

Part 30 licensees authorized to possess certain quantities of byproduct material in sealed sources or plated foils may either submit a decommissioning funding plan or submit a certification that financial assurance has been provided in the amount of \$75,000.

B. 10 CFR Part 40

Section 40.36 requires a licensee authorized to possess large quantities of material to submit a decommissioning funding plan which includes a site-specific decommissioning cost estimate. Section 40.36 licensees authorized to possess lesser amounts of material, but above the threshold for financial assurance, may either submit a decommissioning funding plan, or submit a certification that financial assurance for decommissioning has been provided in the amount of \$150,000.

C. 10 CFR Part 70

10 CFR Part 70 requires a uranium enrichment facility licensee, or a licensee authorized to possess large quantities (based on applicable quantities in Appendix B to Part 30) of unsealed special nuclear material having a half-life greater than 120 days to submit a decommissioning funding plan, which includes a site-specific decommissioning cost estimate.

Part 70 licensees, other than uranium enrichment facility licensees, authorized to possess lesser amounts of such special nuclear material, but above the threshold for financial assurance, may either submit a decommissioning funding plan, or submit a certification that financial assurance for decommissioning has been provided. Certification amounts of \$750,000 or \$150,000, depending on the quantity of material the licensee is authorized to possess, are applicable to Part 70 licensees.

III. Changes

The changes being made are in four areas: (1) Large sealed source licensees--large irradiators-- are no longer able to use the certification amount as a basis for financial assurance, and would have to base their financial assurance on a site-specific decommissioning cost estimate; (2) Waste broker licensees¹ are required to provide financial assurance and would not be permitted to use the certification amounts. They would have to base their financial assurance on a site-specific decommissioning cost estimate; (3) The certification amounts for all licensees are being increased by 50 percent; and (4) Licensees using a decommissioning cost estimate must update it at least every 3 years.

IV. Alternatives

The two alternatives considered here are (A) no action, and (B) carrying out the rulemaking described in this regulatory analysis.

¹ Waste brokers are those licensees covered by the definitions of “waste processor” and “waste collector” in 10 CFR Part 20, Appendix G.

(A) No Action

Under this alternative, no rulemaking would be done. The amount of financial assurance required would not be adequate to fully fund decommissioning activities for a large number of licensees. This gap in funding would increase the likelihood that decommissioning of some facilities would not be carried out in a timely manner. This could result in adverse impacts on public health and safety, and also could have adverse environmental effects. It would also increase the likelihood that State or local governments and/or the general public would have to bear the costs of decommissioning.

No costs to licensees or NRC would be involved for this alternative. Licensees would not be subject to any cost increases, and NRC would not incur costs associated with developing and implementing the rulemaking.

(B) Rulemaking to Revise the Financial Assurance Requirements for Materials Licensees

Under this alternative, large irradiator and waste broker licensees would have to base financial assurance on a site-specific decommissioning cost estimate. All waste brokers would have to provide financial assurance. The certification amounts would be raised by 50 percent, providing approximately \$80 million in additional financial assurance.² Decommissioning cost estimates would have to be updated at least every 3 years. A rulemaking to revise the financial assurance requirements for materials licensees would increase the assurance of adequate funding for decommissioning activities. This increased assurance would make timely decommissioning more likely, contributing to maintaining public health and safety and protection of the environment. This action would also decrease the likelihood that State and local governments and/or the general public would have to bear the costs of decommissioning, should a licensee be unable to do so.

² Estimate based on current numbers of licensees using each certification amount.

The benefit of the rulemaking is enhanced assurance of adequate funding for timely decommissioning. As stated above, there are gaps in the current financial assurance regulations, mainly due to large increases in decommissioning costs since the financial assurance regulations were put in place. Allowing these gaps to remain could increase the likelihood of inadequate funding for timely decommissioning.

The effect of inadequate/untimely funding of decommissioning may have adverse impacts on public health and safety. If a site is not decommissioned due to insufficient funds there is an increased likelihood of contamination and/or exposure of members of the public. The changes to the regulations are concentrated in areas where the likelihood of inadequate funding relative to decommissioning costs appears to be relatively high. First, the financial assurance requirements are imposed only on those licensees having the highest possession limits, and thus the potential for highest doses. Only about 10 percent of materials licensees must provide financial assurance. Second, the changes in this plan address situations where risk of inadequate funding of decommissioning obligations is greatest -- where required amounts of financial assurance appear to be substantially less than decommissioning costs.

Failure to provide adequate financial assurance for decommissioning also has equity considerations. The potential public costs involved in cleanup of contaminated facilities where financial assurance is inadequate must be considered. Equity considerations call for adequate financial assurance so that a licensee's decommissioning costs are borne by the licensee.

Large Irradiators

Large irradiator licensees are licensees that are engaged in the irradiation of food products and medical equipment. These large irradiators operate facilities that have a large number of sealed sources, with possession limits ranging up to several million curies. The NRC has approximately 10 large irradiator licensees (licensees authorized for 1 million curies or more). Estimated decommissioning costs for an irradiator facility with 1 million curies of source activity are at least \$128K; for a facility with 2 million curies, estimated costs are at least \$231K.

These cost estimates are for the least costly decommissioning scenarios, with all sources being returned to the supplier and no leakage contamination.³

Revision of the possession limits under which a sealed source licensee may use the \$75K certification amount would make large irradiator licensees base financial assurance on the alternative of a site-specific decommissioning cost estimate. This facility-specific cost estimate is likely to be higher than \$75K, and the licensee would incur higher financial assurance costs. The NRC believes that the increased financial burden on licensees is necessary to provide an adequate amount of financial assurance. The facility-specific cost estimate should provide a more accurate estimate of decommissioning costs, but would involve more effort on the part of licensees to prepare such an estimate.

Cost impacts on licensees would consist of: (1) the cost of preparing a decommissioning cost estimate; and (2) the cost of additional financial assurance required if the decommissioning cost estimate were above the applicable certification amount that could formerly be used.

The cost of preparing a site-specific decommissioning cost estimate could vary considerably depending on type of operations conducted by the licensee. It should be noted that a decommissioning cost estimate is only a part of an overall decommissioning plan. An actual database on costs is lacking. For the purposes of this regulatory analysis, a potential range of costs is given, based on a lower assumption of 2 professional staff weeks of effort to prepare a decommissioning cost estimate, and a higher assumption of 4 professional staff weeks of effort. Labor rate assumed is \$77 per staff hour.

³Technology, Safety, and Costs of Decommissioning a Reference Large Irradiator and Reference Sealed Sources, NUREG/CR-6820, Pacific Northwest National Laboratory, 1996, p.4.7.

Large Irradiators
 Estimated Cost of Preparing Decommissioning Cost Estimate
 10 Licensees

	Cost per Licensee	Total Costs All Licensees
Lower	\$6,200	\$62,000
Higher	\$12,400	\$124,000

The higher cost estimate per licensee would represent approximately 5 percent of a total decommissioning cost of \$250K, which seems a reasonable percentage.

Cost impacts from the additional amount of financial assurance required if based on a decommissioning cost estimate are estimated using the \$75K certification amount currently used by these licensees as a baseline. The estimated cost of basing financial assurance on a decommissioning cost estimate is taken from the decommissioning cost estimates for large irradiators in NUREG/CR-6280. For a large irradiator, NUREG/CR-6280 gives estimated decommissioning costs of \$231K for the most likely decommissioning option. The additional financial assurance required by the change would be \$231K less \$75K, or \$156K per licensee. Financial assurance instruments, such as letters of credit and surety bonds, typically cost approximately 1.5 percent of the amount of financial assurance covered per year. Added costs per licensee would thus be \$2.3K per year. Total added costs for all 10 licensees would be \$23K per year.

3) Waste Broker Licensees

Waste broker licensees are those licensees that handle radioactive waste associated with or generated under other licenses. There is no definition of “waste broker” in existing NRC regulations -- in this rulemaking waste brokers are considered to be “waste processors” and “waste collectors” as defined in 10 CFR Part 20, Appendix G. The NRC has approximately 15

waste broker licensees, of which 8 require financial assurance.⁴ Many waste broker licensees also conduct other types of licensed activities as part of their overall business. The NRC financial assurance regulations formerly treated waste brokers in the same way as other materials licensees; there were no special financial assurance requirements applicable only to waste brokers.

From the viewpoint of financial assurance, waste broker activities are unique in that: (1) waste brokers are likely to have radioactive wastes generated by other licensees, and the inventory of waste a broker will have on site at any time may fluctuate considerably and be difficult to predict, decommissioning options are mainly limited to waste disposal; and (2) waste brokers have a financial interest in maximizing the amount of radioactive waste that they handle - waste broker revenues are directly correlated to the amount of waste accepted.

The disposal costs of waste inventories are very high - much greater than when the decommissioning regulations were promulgated. The cost of disposal of 100 drums of waste is estimated to be approximately \$300K to \$400K.⁵ The current financial assurance regulations do not consider the costs of disposing of significant volumes of waste generated outside the decommissioning process, such as inventories of brokered waste. Waste brokers currently may maintain a level of financial assurance which is inadequate for disposal of waste inventories. Charges for disposal of waste at low-level waste disposal facilities are based on the volume of waste disposed, and also on level of activity and characteristics of the waste. The possession limits that determine what level of financial assurance a waste broker licensee must have are based on the quantity of curies of material possessed, not volume of material possessed. A waste broker that must dispose of large volumes of relatively low activity waste would be subject to substantial waste disposal charges. However, that same waste broker

⁴ "Assessment of the Financial Assurance Requirements for Waste Broker Material Licensees", ICF Consulting, 1999, p. 6.

⁵ "Assessment of the Financial Assurance Requirements for Waste Broker Material Licensees", ICF Consulting, 1999, p. 3.

might be required to have an inadequate amount of financial assurance to pay these charges because the financial assurance requirements are based only on curie level.

Cost impacts on licensees would consist of: (1) the cost of preparing a decommissioning cost estimate; (2) the cost of providing financial assurance for licensees not now required to do so; and (3) the cost of additional financial assurance required if the decommissioning cost estimate were above the applicable certification amount that could formerly be used.

The cost of preparing a site-specific decommissioning cost estimate could vary considerably depending on type of operations conducted by the licensee. An actual database on costs is lacking. For the purposes of this regulatory analysis, a potential range of costs is given, based on a lower assumption of 2 professional staff weeks of effort to prepare a decommissioning cost estimate, and a higher assumption of 4 professional staff weeks of effort. Of NRC's 8 waste broker licensees that presently require financial assurance, 5 use a decommissioning cost estimate and 3 use the certification amount. The 3 licensees using the certification amount and the 7 licensees that presently do not require financial assurance -- a total of 10 additional licensees -- would have to prepare a decommissioning cost estimate.

Waste Brokers
 Estimated Cost of Preparing Decommissioning Cost Estimate
 10 waste broker licensees

	Cost per Licensee	Total Costs All Licensees
Lower	\$6,200	\$62,000
Higher	\$12,400	\$124,000

Most waste brokers are organizations primarily engaged in other activities. What part of the organization's decommissioning costs, and its current financial assurance requirements, are attributable to its waste broker activities is not known. This makes estimates of

decommissioning costs for a “typical” waste broker difficult. These licensees would face larger financial assurance requirements, but an estimate of added costs cannot be made.

Certification Amounts

The amount of financial assurance which must be provided can be based on either: (1) a facility-specific decommissioning cost estimate provided by the licensee in a decommissioning funding plan⁶; or (2) one of several dollar amounts (certification amounts) specified in the regulations at 10 CFR 30.35. The certification amounts are based on possession limits, and range from \$75,000 for sealed source licensees to \$750,000 for licensees possessing large quantities of unsealed material. At present, about 60 percent of materials licensees required to have financial assurance use the certification amounts. Which certification amount is required of a licensee depends on the possession limits for radioactive materials applicable to that license.

The present certification amounts are based on decommissioning cost estimates that are now approximately 15 years old. When the decommissioning rule was established, it was expected that periodic adjustments to the certification amounts would be needed as decommissioning costs changed over time. General inflation since 1988, as measured by the Gross Domestic Product price deflator, has resulted in current prices that are approximately 40 percent higher than they were when the final decommissioning rule was published. Specific information on decommissioning costs also shows a substantial increase.⁷ NRC has reviewed the current decommissioning cost information,⁸ and is making adjustments to the certification amounts. The revisions to the certification amounts in this notice are aimed at keeping the

⁶For some types of licensees using very large amounts of unsealed radioactive material, a facility specific cost estimate must be used.

⁷Revised Analysis of Decommissioning Reference Non-Fuel Cycle Facilities, draft NUREG/CR-6477, Pacific Northwest National Laboratories, 1998.

⁸“Analysis of Decommissioning Certification Amounts for Materials Licensees (Parts 30, 40, and 70)”, ICF Consulting, 2000.

certification amounts reasonably in accordance with current decommissioning costs for a typical licensee that has possession limits that allow it to use that particular certification amount.

Approximately 300 NRC materials licensees required to have financial assurance use the certification amounts rather than a facility-specific decommissioning funding plan. These licensees would face increased costs of obtaining financial assurance if an increase in the certification amounts were made. However, all licensees using the certification amounts would continue to have the option of submitting a facility-specific decommissioning funding plan. If a licensee believed that the certification amounts were excessive for its decommissioning obligations, it could use the alternative of a facility-specific decommissioning funding plan.

An estimate of costs to licensees of increasing the certification amounts by 50 percent can be made assuming the number of licensees using certification amounts does not change, and annual costs of financial assurance are 1.5 percent of the amount of financial assurance provided. Per licensee annual costs of providing the additional financial assurance would range from a low of \$0.6K per year for licensees presently using the lowest amount to a high of \$5.6K per year for licensees using the highest amount. Total estimated additional annual financial assurance costs for all the 300 licensees are \$1,175K.

The estimated cost impacts presented here can be regarded as upper limits. Actual total cost impacts on licensees using the certification amounts can be expected to be less than these estimates, for several reasons: (1) a licensee facing an increased certification amount may decide to stop using the certification amounts as a basis for financial assurance, and instead, base financial assurance on a decommissioning funding plan. This would be expected if a licensee's actual decommissioning cost estimates were lower than the applicable certification amount; and (2) approximately 30 percent of licensees using the certification amounts can use virtually costless financial assurance mechanisms, such as statements of intent, and parent guarantees or self guarantees. A government licensee, such as a Federal military facility or certain State universities, can use a statement of intent -- a commitment by a government agency that it will seek appropriations for decommissioning. Some qualifying private licensees can use a self guarantee or a parent company guarantee, which also do not involve any direct expense for the licensee.

Requirement for Updating Decommissioning Cost Estimates

The rule contains a requirement that decommissioning cost estimates be updated at least every three years. Current requirements call for updating periodically, but do not specify a time limit. NRC guidance calls for updating every 5 years. Approximately 210 licensees would be affected. Based on a staff estimate of 15 hours needed for each update at \$77 per hour, cost per licensee for each update is \$1,155. If updating were done every 5 years, on an annual basis cost per licensee would be \$231 -- every 3 years it would be \$385. The additional annual cost to each licensee of increasing the frequency of updating from every 5 to every 3 years would be approximately \$150. Total additional costs for all 210 licensees of imposing a 3 year updating requirement would be approximately \$32K per year.

Summary of Cost Impacts on Licensees

Cost impacts are of 2 types, one-time costs, such as preparing an initial decommissioning cost estimate, or recurring costs, such as for financial assurance, or updating a decommissioning cost estimate. Total estimated additional costs for all of the affected licensees are: (1) one-time costs of \$124K-\$248K for preparing initial decommissioning cost estimates; (2) recurring annual costs of providing additional financial assurance -- \$1,198K; and (3) recurring costs of updating the decommissioning cost estimate -- \$32K on an annual basis. The major cost impact is the approximately \$1.2 million annual cost of providing the additional approximately \$80 million in financial assurance required by raising the certification amounts.

Resource Cost to NRC of Planned Rulemaking

NRC costs are the immediate costs of developing a rulemaking, and any subsequent implementation costs. NRC estimates that this rulemaking requires 2.4 full time equivalent person-years. At present labor rates of \$137K per year, this amounts to \$329K. In addition, direct contractor support for the rulemaking is estimated at \$159K. The total direct cost of the rule is thus \$488K. Some portion of the studies of decommissioning costs carried out by PNNL

can also be considered an indirect cost (these reports are used for other purposes in addition to supporting a basis for this rulemaking).

Implementation costs would be the cost of revising guidance documents, principally the “NMSS Decommissioning Standard Review Plan,” NUREG-1727, and additional costs involved in reviewing a larger number of decommissioning funding plans. NRC would also need to review decommissioning cost updates on a more frequent basis. At \$77 per hour, the estimated cost of these activities would be approximately \$35K (460 staff hours) in one-time costs and \$11K (140 staff hours) in annualized recurring costs.

Decision Rationale

As stated previously, the benefit of the rulemaking is the continuation of assurance of adequate funding for timely decommissioning. There are gaps in the current financial assurance regulations that could increase the likelihood of inadequate funding for timely decommissioning. The effect of inadequate/untimely funding of decommissioning may have adverse impacts on public health and safety. If a site is not decommissioned due to insufficient funds there is an increased likelihood of contamination and/or exposure of members of the public. In addition, adequate financial assurance would prevent situations where Federal, State, or local governments would bear the cost of decommissioning, rather than site operators. This action would provide an additional approximately \$80 million in financial assurance coverage.

The total costs of this action are one-time costs to licensees and NRC of approximately \$650-\$770K, and recurring annual costs of approximately \$1,240K. These costs appear reasonable to achieve the objectives stated above.

Impacts on Agreement States and Agreement State Licensees

Agreement State Compatibility

Under the “Policy Statement on Adequacy and Compatibility of Agreement State Programs” that became effective on September 3, 1997 (62 FR 46517), NRC program elements (including regulations) are placed into four compatibility categories. In addition, NRC program elements also can be identified as having particular health and safety significance or as being reserved solely to the NRC.

The sections of 10 CFR Parts 30, 40, and 70 dealing with financial assurance that are being changed and their respective compatibility categories are as follows:

§ 30.35 Financial assurance and recordkeeping for decommissioning.

Compatibility category D - paragraphs (c), (e), (f)

Health and Safety - paragraphs (a), (b), (d), and (g).

Compatibility category D for paragraphs (c), (e), and (f) is warranted because States are allowed the flexibility to specify different dollar amounts based on jurisdiction and local conditions. The Health and Safety designation for paragraphs (a), (b), and (d) is warranted because these paragraphs address decommissioning funding plans necessary to ensure that funding is available for timely decommissioning. The Health and Safety designation of paragraph (g) is warranted because of the requirement for transfer of certain records (e. g., spills or spread of contamination that could impact health and safety) important to subsequent licensees for decommissioning at the same facility.

§ 40.36 Financial assurance and recordkeeping for decommissioning

Compatibility category D - paragraphs (c) and (e).

Health and Safety - paragraphs (a), (b), (d), and (f).

Compatibility category D for paragraphs (c), and (e) is warranted because States are allowed the flexibility to specify different dollar amounts based on jurisdiction and local conditions. The Health and Safety designation for paragraphs (a), (b), and (d) is warranted because these paragraphs address decommissioning funding plans necessary to ensure that funding is available for timely decommissioning. The Health and Safety designation of paragraph (f) is warranted because of the requirement for transfer of certain records (e. g., spills or spread of contamination that could impact health and safety) important to subsequent licensees for decommissioning at the same facility.

§ 70.25 Financial assurance and recordkeeping for decommissioning

Compatibility category D - paragraphs (c), (e), and (f)

NRC - paragraph (a)

Health and Safety - paragraphs (b), (d), and (g).

Compatibility category D for paragraphs (c), and (e) is warranted because States are allowed the flexibility to specify different dollar amounts based on jurisdiction and local conditions. Paragraph (a) addresses areas reserved to the NRC because it concerns uranium enrichment facilities and special nuclear materials in quantities sufficient to form a critical mass. The Health and Safety designation for paragraphs (b) and (d) is warranted because these paragraphs address decommissioning funding plans necessary to ensure that funding is available for timely decommissioning. The Health and Safety designation of paragraph (g) is warranted because of the requirement for transfer of certain records (e. g., spills or spread of contamination that could impact health and safety) important to subsequent licensees for decommissioning at the same facility.

Certain materials licensees in Agreement States will have increased costs of providing financial assurance when this rule becomes effective, and Agreement States make conforming changes. Impacts on Agreement State licensees will be of the same types as presented here for NRC licensees. NRC does not have sufficient data on Agreement State licensees to make direct estimates of cost impacts. However, indirect estimates of total Agreement State licensee cost impacts can be made using the relative numbers of NRC and Agreement State licensees.

The NRC has approximately 4900 materials licensees, while Agreement States have approximately 16,000. Total cost impacts on NRC licensees are estimated at one-time costs of \$124K-\$248K, and recurring annual costs of \$1,230K. Multiplying these costs by the ratio of Agreement State to NRC licensees (3.265) gives an estimate of one-time Agreement State licensee costs of \$405K-\$810K, and recurring annual costs of \$4,016K.

Implementation

NRC's schedule for completion of this rulemaking calls for a final rule to be published in 2003. Applicable guidance material, the "NMSS Decommissioning Standard Review Plan," NUREG-1727, would be revised as part of the next general revision of this document.

The rule provides for staggered implementation dates for different types of licensees so as to ease the burden on regulators of reviewing many financial assurance submissions at one time.

Implications for Other Federal Agencies

Promulgation of this rule would have no adverse effects on other Federal agencies. If financial assurance enhancements prevented future situations where inadequate decommissioning funding resulted in sites being added to the Environmental Protection Agency's Superfund list, EPA's obligations would be reduced.

References

1. Technology, Safety, and Costs of Decommissioning a Reference Large Irradiator and Reference Sealed Sources, NUREG/CR-6820, Pacific Northwest National Laboratory, 1996.

2. "Analysis of Decommissioning Certification Amounts for Materials Licensees (Parts 30, 40, and 70)", ICF Consulting, 2000.

3. "Assessment of the Financial Assurance Requirements for Waste Broker Material Licensees", ICF Consulting, 1999.

4. Revised Analysis of Decommissioning Reference Non-Fuel Cycle Facilities, draft NUREG/CR-6477, Pacific Northwest National Laboratories, 2002.

Submission of Federal Rules Under the Congressional Review Act

 President of the Senate

 Speaker of the House of Representatives

 GAO

Please fill the circles electronically or with black pen or #2 pencil.

1. Name of Department or Agency U.S. Nuclear Regulatory Commission	2. Subdivision or Office Office of Nuclear Material Safety and Safeguards
3. Rule Title 10 CFR Parts 30, 40, and 70: Financial Assurance Amendments for Materials Licensees	
4. Regulation Identifier Number (RIN) or Other Unique Identifier (if applicable) RIN 3150-AG85	
5. Major Rule <input type="checkbox"/> Non-major Rule <input checked="" type="checkbox"/>	
6. Final Rule <input checked="" type="checkbox"/> Other <input type="checkbox"/>	
7. With respect to this rule, did your agency solicit public comments? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
8. Priority of Regulation (fill in one) <input checked="" type="checkbox"/> Economically Significant; or Significant; or Substantive, Non Significant <input type="checkbox"/> Routine and Frequent or Informational/Administrative/Other <small>(Do not complete the other side of this form if filled in above.)</small>	
9. Effective Date (if applicable) 60 days after publication in the Federal Register	
10. Concise Summary of Rule (fill in one or both) attached <input type="checkbox"/> stated in rule <input checked="" type="checkbox"/>	

Submitted by: _____ (signature)

Name: **Dennis Rathbun**

Title: **Director, Office of Congressional Affairs**

For Congressional Use Only:

Date Received: _____

Committee of Jurisdiction: _____



24722

	Yes	No	N/A
A. With respect to this rule, did your agency prepare an analysis of costs and benefits?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
B. With respect to this rule, by the final rulemaking stage, did your agency			
1. certify that the rule would not have a significant economic impact on a substantial number of small entities under 5 U.S.C. § 605(b)?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. prepare a final Regulatory Flexibility Analysis under 5 U.S.C. § 604(a)?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
C. With respect to this rule, did your agency prepare a written statement under § 202 of the Unfunded Mandates Reform Act of 1995?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
D. With respect to this rule, did your agency prepare an Environmental Assessment or an Environmental Impact Statement under the National Environmental Policy Actg (NEPA)?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
E. Does this rule contain a collection of information requiring OMB approval under the Paperwork Reduction Act of 1995?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
F. Did you discuss any of the following in the preamble to the rule?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
• E.O. 12612, Federalism	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
• E.O. 126630, Government Actions and Interference with Constitutionally Protected Property Rights	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
• E.O. 12866, Regulatory Planning and Review	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
• E.O. 12875, Enhancing the Intergovernmental Partnership	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
• E.O. 12988, Civil Justice Reform	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
• E.O. 13045, Protection of Children from Environmental Health Risks and Safety Risks	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
• Other statutes or executive orders discussed in the preamble concerning the rulemaking process (please specify) Small Business Regulatory Enforcement Act of 1996			
National Technology Transfer and Advancement Act			
Paperwork Reduction Act of 1995			



24722

Submission of Federal Rules Under the Congressional Review Act

President of the Senate

Speaker of the House of Representatives

GAO

Please fill the circles electronically or with black pen or #2 pencil.

1. Name of Department or Agency U.S. Nuclear Regulatory Commission	2. Subdivision or Office Office of Nuclear Material Safety and Safeguards
3. Rule Title 10 CFR Parts 30, 40, and 70: Financial Assurance Amendments for Materials Licensees	
4. Regulation Identifier Number (RIN) or Other Unique Identifier (if applicable) RIN 3150-AG85	
5. Major Rule <input type="radio"/> Non-major Rule <input checked="" type="radio"/>	
6. Final Rule <input checked="" type="radio"/> Other <input type="radio"/>	
7. With respect to this rule, did your agency solicit public comments? Yes <input checked="" type="radio"/> No <input type="radio"/> N/A <input type="radio"/>	
8. Priority of Regulation (fill in one) <input checked="" type="radio"/> Economically Significant; or Significant; or Substantive, Non Significant <input type="radio"/> Routine and Frequent or Informational/Administrative/Other (Do not complete the other side of this form if filled in above.)	
9. Effective Date (if applicable) 60 days after publication in the Federal Register	
10. Concise Summary of Rule (fill in one or both) attached <input type="radio"/> stated in rule <input checked="" type="radio"/>	

Submitted by: _____ (signature)

Name: **Dennis Rathbun**

Title: **Director, Office of Congressional Affairs**

For Congressional Use Only:

Date Received: _____

Committee of Jurisdiction: _____

	Yes	No	N/A
A. With respect to this rule, did your agency prepare an analysis of costs and benefits?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
B. With respect to this rule, by the final rulemaking stage, did your agency			
1. certify that the rule would not have a significant economic impact on a substantial number of small entities under 5 U.S.C. § 605(b)?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. prepare a final Regulatory Flexibility Analysis under 5 U.S.C. § 604(a)?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
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Submission of Federal Rules Under the Congressional Review Act

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Name: **Dennis Rathbun**

Title: **Director, Office of Congressional Affairs**

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24722

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3/23/99