

UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20555-0001

August 27, 2002

COMMISSION VOTING RECORD

DECISION ITEM:

SECY-02-0116

TITLE:

PROPOSED RULE: 10 CFR PARTS 30, 40, AND

70: FINANCIAL ASSURANCE AMENDMENTS

FOR MATERIALS LICENSEES

The Commission (with all Commissioners agreeing) approved the subject paper as recorded in the Staff Requirements Memorandum (SRM) of August 27, 2002.

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Commission.

Annette L. Vietti-Cook Secretary of the Commission

Attachments:

1. Voting Summary

2. Commissioner Vote Sheets

cc:

Chairman Meserve Commissioner Dicus

Commissioner Diaz

Commissioner McGaffigan Commissioner Merrifield

OGC

EDO

PDR

VOTING SUMMARY - SECY-02-0116

RECORDED VOTES

| | NOT APRVD DISAPRVD ABSTAIN PARTICIP | COMMENTS | DATE |
|------------------|--|----------|---------|
| CHRM. MESERVE | X | X | 8/14/02 |
| COMR. DICUS | X | X | 8/20/02 |
| COMR. DIAZ | X | X | 8/13/02 |
| COMR. McGAFFIGAN | X | X | 7/26/02 |
| COMR. MERRIFIELD | X | X | 8/12/02 |

COMMENT RESOLUTION

In their vote sheets, all Commissioners approved the staff's recommendation and provided some additional comments. Subsequently, the comments of the Commission were incorporated into the guidance to staff as reflected in the SRM issued on August 27, 2002.

NOTATION VOTE .

RESPONSE SHEET

| | A · · · |
|-------------------|--|
| TO: | Annette Vietti-Cook, Secretary |
| FROM: | CHAIRMAN MESERVE |
| SUBJECT: | SECY-02-0116 - PROPOSED RULE: 10 CFR PARTS 30, 40 AND 70: FINANCIAL ASSURANCE AMENDMENTS FOR MATERIALS LICENSEES |
| Approved xw/e | dit Disapproved Abstain |
| Not Participating |] |
| COMMENTS: | - |
| See attached | edits. |
| | |
| | SIGNATURE Agrit 19, 2m2 DATE |

Entered on "STARS" Yes ____ No ____

SUPPLEMENTARY INFORMATION:

Background

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 environment during and decommissioning and decontamination of nuclear facilities.

Financial assurance is composed of several parts: (1) licensees for which financial assurance should be required must be identified; (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 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 decommissioning 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). 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). 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

different

licensees, such as waste brokers, special considerations exist that require more appropriate treatment.

Discussion

This proposed rule would maintain assurance of adequate funding for timely decommissioning. The current financial assurance regulations do not provide adequate coverage of potential 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.

Inadequate/untimely funding of decommissioning could have adverse impacts on public health and safety, and protection of the environment. 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 proposed here are focused on areas where the likelihood of inadequate funding relative to decommissioning costs is high. The proposed changes address situations where currently required amounts of financial assurance appear to be substantially less than decommissioning costs. The proposed changes would provide approximately \$80 million in additional financial assurance.

These proposed amendments were developed prior to recent heightened concerns about security of nuclear material. Because the objective of the amendments is timely decommissioning of nuclear facilities with appropriate disposal of radioactive materials, these

¹ Staff estimate based on numbers of licensees using each of the 3 certification amounts.

amendments should also enhance security of nuclear materials.

Failure to provide adequate financial assurance for decommissioning also has equity considerations. The potential costs to the public when it is required to cover the expense of 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 that licensee, not the Federal, State, or local government.

The NRC has completed studies of financial assurance requirements for materials licensees. The studies were carried out by ICF, Inc., a contractor with extensive experience in financial assurance. The studies, "Assessment of the Financial Assurance Requirements for Waste Broker Material Licensees," ICF, Inc., July 1999, and "Analysis of Decommissioning Certification Amounts for Materials Licensees - Parts 30, 40, and 70," ICF Consulting,

December 2000, provide information that has been used to develop this proposed rulemaking. In addition, Pacific Northwest National Laboratory (PNNL), which has extensive experience in analyzing decommissioning costs, has completed several reports on current decommissioning costs for various types of nuclear facilities. The PNNL reports, Revised Analysis of Decommissioning Reference Non-Fuel Cycle Facilities, draft NUREG/CR-6477, PNNL, 1996, and Technology, Safety, and Costs of Decommissioning a Reference Large Irradiator and Reference Sealed Sources, NUREG/CR-6280, PNNL, January 1996, also form a basis for this proposed rule².

Proposed Changes

² For availability of these documents see the ADDRESSES section.

However, it is now clear that the activities of a waste broker licensee have very different implications for decommissioning costs than is the case for other types of materials licensees. For example, a laboratory using radioactive materials in making products will have a licensed possession limit based on the amount of radioactive materials in use at the facility. Most of the inventory of radioactive material will pass out of the licensee's possession as products are sold and shipped to users. Even in the case of bankruptcy and abrupt shutdown of operations, the product of the laboratory can most likely be sold or transferred. Decommissioning activities will consist of decontamination of the facility and some limited waste disposal. On the other hand, a waste broker having similar possession limits has limited options to reduce its inventory of radioactive material (waste) usually by disposal at a radioactive waste disposal facility. Thus, decommissioning costs are substantially higher for a waste broker than for another type of licensee with similar possession limits.

The NRC is proposing that all waste broker licensees be required to have financial assurance, and to base financial assurance on a facility-specific decommissioning cost estimate that takes into account other factors such as actual volume of material in addition to possession limits in curies.

Certification Amounts

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 plan³; or (2), one of several dollar amounts (certification amounts) specified in the

³For some types of licensees using very large amounts of unsealed radioactive material, a facility-specific cost estimate must be used.

increase is waste disposal charges, which have gone up by at least 120 percent during this period. The increase is much greater in certain geographic areas -- disposal costs vary considerably according to disposal site⁶.

A study by PNNL for NRC on costs of decommissioning for six different types of reference non-fuel cycle nuclear materials licensees concludes that decommissioning costs increased by 34-66 percent between 1986 and 1996. An ICF study found that estimates of decommissioning costs for a majority of a sample of Part 30 licensees using certification amounts exceed the applicable certification amount by a substantial margin.⁸

The NRC is proposing to raise all certification amounts by 50 percent. The proposed certification amounts would be \$113K for sealed source licensees, and \$225K and \$1,125K for licensees using unsealed sources. The revisions to the certification amounts proposed in this notice are aimed at keeping the 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.

The certification amounts were never intended to be an exact measure of decommissioning costs for all licensees. The universe of materials licensees required to have financial assurance is composed of very diverse types of operations. Actual decommissioning costs vary considerably, depending on extent and type of activities, and quantities and types of radionuclides in use. The NRC recognizes that the applicable certification amounts for any one particular licensee may be greater than the amount required to decommission that licensee's

⁶NUREG-1307, Revision 9, p. 6.

⁷ "Revised Analysis of Decommissioning Reference Non-Fuel Cycle Facilities, draft NUREG/CR-6477, Pacific Northwest National Laboratories, 1996, p.iv.

⁸ "Analysis of Decommissioning Certification Amounts for Materials Licensees (Parts 30, 40, and 70)," ICF Consulting, 2000, p. 36.

adequate funding for timely decommissioning. Updates are needed in the current financial assurance regulations that would decrease 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 bear the cost of decommissioning, rather than site operators. This proposed action would require licensees to provide an additional approximately \$80 million in financial assurance coverage.

<u>Implementation</u>

The NRC plans to implement these requirements, if finalized, in a way that minimizes the burden on licensees and regulators. Licensees would be 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 considering having different effective dates for revised financial assurance requirements, depending on the type of licensee, so that new financial assurance submittals would not all eccur at one time, causing problems for regulators. The NRC encourages public comments on implementation issues and concerns.

Discussion of Proposed Amendments by Section

Section 30.4 Definitions.

A definition of the term "waste broker" is added.

Section 30.35 Financial assurance and recordkeeping for decommissioning.

Paragraph (a) is amended to require licensees possessing very large quantities of sealed sources to base financial assurance on a decommissioning funding plan. Amended § 30.35(c)(2) revises the certification amount. A new § 30.35(c)(5) would require waste broker licensees to base financial assurance on a site-specific decommissioning cost estimate.

Amended §30.35(d) would increase the certification amounts by 50 percent and put an upper limit on use of the size of sealed source licensees allowed to use the certification amount.

Amended §30.35(e) would require that decommissioning funding plans be updated at least every 3 years.

10 CFR 40.36 Financial assurance and recordkeeping.

Amended §40.36(b)(2) would increase the applicable certification amount by 50 percent. Amended §40.36(c)(2) revises the certification amount. Amended §40.36(d) would require that decommissioning funding plans be updated at least every 3 years.

10 CFR 70.25 Financial assurance and recordkeeping for decommissioning.

Amended §70.25(c)(2) revises the certification amount. Amended §70.25(d) would increase the applicable certification amount by 50 percent. Revised §70.25(e) would require 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

4. In § 30.35, paragraph (c)(2) is revised to read as follows: § 30.35 Financial assurance and recordkeeping. (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 on or before July 27, 1990, 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. In § 30.35, new paragraph (c)(5) is added, and paragraphs (d) and (e) are revised to read as follows: § 30.35 Financial assurance and recordkeeping. (c) (5) Waste brokers, i.e., each applicant or holder of a specific license that collects or accepts radioactive material from other entities for the purpose of processing, compaction, repackaging,

or otherwise preparing it for disposal, or for storage, must provide financial assurance in an

(b) * * *

(2) Submit a certification that financial assurance for decommissioning has been provided in the amount of \$225,000 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, on or before July 27, 1990, 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.

(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

9. 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 on or before July 27, 1990, 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 having possession limits exceeding the upper bounds of this table must base financial assurance on a decommissioning funding plan.

greater than 10⁴ but less than or equal to 10⁵ 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 10⁴ is greater

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 health and safety effects, and could also 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%, providing approximately \$80 million in additional financial assurance. 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.

The benefit of the planned rulemaking is the continuation of 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.

¹ Staff estimate based on current numbers of licensees using each certification amount.

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 proposed are concentrated in areas where the likelihood of inadequate funding relative to decommissioning costs appear 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 proposed 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?

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

²Technology, Safety, and Costs of Decommissioning a Reference Large Irradiator and Reference Sealed Sources, NUREG/CR-6820, Pacific Northwest National Laboratory, 1996.

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% 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 and the term is commonly used to describe several different activities. However, NRC practice has been that waste broker refers to any licensee that engages in the following activities: waste collection and consolidation; waste storage; waste processing, repackaging, or other treatment (e.g., decay in storage, compaction); or transfer to another waste broker or to a licensed low-level radioactive waste land disposal facility. The NRC has approximately 15 waste broker licensees, of which 8 require financial assurance. Many waste broker licensees also conduct other types of licensed activities as part of their overall business. The NRC financial assurance regulations treat waste brokers in the same way as other materials licensees; there are 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

³ "Assessment of the Financial Assurance Requirements for Waste Broker Material Licensees", ICF Consulting, 1999, p. 6.

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 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 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.

⁴ "Assessment of the Financial Assurance Requirements for Waste Broker Material Licensees", ICF Consulting, 1999, p. 3.

NRC has 3 waste broker licensees that use the certification amount and 7 that do not now require financial assurance so that a total of 10 additional licensees would have to prepare a decommissioning cost estimate.

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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 if this proposed rule became final, 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 plan⁵; 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% of materials licensees required to have

⁵For some types of licensees using very large amounts of unsealed radioactive material, a facility specific cost estimate must be used.

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 show a substantial increase. NRC has reviewed the current decommissioning cost information, and is proposing adjustments to the certification amounts. The revisions to the certification amounts proposed in this notice are aimed at keeping the 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 certification amounts resulted from this proposed rulemaking. 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% can be made assuming the number of licensees using certification amounts does not change, and

⁶Revised Analysis of Decommissioning Reference Non-Fuel Cycle Facilities, draft NUREG/CR-6477, Pacific Northwest National Laboratories, 1998.

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

annual costs of financial assurance are 1.5% 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 using the \$75K amount to a high of \$5.6K per year for licensees using the \$750K amount. Total estimated additional annual financial assurance costs for all of 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% 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 proposed 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.

NOTATION VOTE

RESPONSE SHEET

| TO: | Annette Vietti-Cook, Secretary | |
|----------------------------|--|--|
| FROM: | COMMISSIONER DICUS | |
| SUBJECT: | SECY-02-0116 - PROPOSED RULE: 10 CFR PARTS 30, 40 AND 70: FINANCIAL ASSURANCE AMENDMENTS FOR MATERIALS LICENSEES | |
| Approved X | Disapproved Abstain | |
| Not Participating | | |
| COMMENTS: | | |
| Subject to attached edits. | | |
| | | |
| | | |
| | Mosta Dan Discip | |

Entered on "STARS" Yes x No ____

licensees, such as waste brokers, special considerations exist that require more appropriate treatment financial assurance considerations.

X

Discussion

This proposed rule would maintain assurance of adequate funding for timely decommissioning. The current financial assurance regulations do not provide adequate coverage of potential 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.

Inadequate/untimely funding of decommissioning could have adverse impacts on public health and safety, and protection of the environment. 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 proposed here are focused on areas where the likelihood of inadequate funding relative to decommissioning costs is high. The proposed changes address situations where currently required amounts of financial assurance appear to be substantially less than decommissioning costs. The proposed changes would provide approximately \$80 million in additional financial assurance1.

These proposed amendments were developed prior to recent heightened concerns about security of nuclear material. Because the objective of the amendments is timely decommissioning of nuclear facilities with appropriate disposal of radioactive materials, these

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¹ Staff estimate based on numbers of licensees using each of the 3 certification amounts.

amendments should also enhance security of nuclear materials.

Failure to provide adequate financial assurance for decommissioning also has equity considerations. The potential costs to the public when it is required to cover the expense of 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 that licensee, not the Federal, State, or local government.

The NRC has completed studies of financial assurance requirements for materials licensees. The studies were carried out by ICF, Inc., a contractor with extensive experience in financial assurance. The studies, "Assessment of the Financial Assurance Requirements for Waste Broker Material Licensees," ICF, Inc., July 1999, and "Analysis of Decommissioning Certification Amounts for Materials Licensees - Parts 30, 40, and 70," ICF Consulting, December 2000, provide information that has been used to develop this proposed rulemaking. In addition, Pacific Northwest National Laboratory (PNNL), which has extensive experience in analyzing decommissioning costs, has completed several reports on current decommissioning costs for various types of nuclear facilities. The PNNL reports, Revised Analysis of Decommissioning Reference Non-Fuel Cycle Facilities, draft NUREG/CR-6477, PNNL, 1996, and Technology, Safety, and Costs of Decommissioning a Reference Large Irradiator and Reference Sealed Sources, NUREG/CR-6280, PNNL, January 1996, also form a basis for this proposed rule.

Proposed Changes

R-20-02

For availability of these documents see the ADDRESSES section.

source activity are at least \$128,000; for a facility with 2 million curies, estimated costs are at least \$231,000. These cost estimates are for the least costly decommissioning scenarios, with all sources being returned to the supplier and no leakage of contamination.

The NRC is proposing to put an upper limit on the size of a sealed source licensee able to continue to use the \$75,000 certification amount. This proposed change would require a sealed source licensee with possession limits of over 1 million curies of Co-60, the radioactive material generally used by large irradiators, to base financial assurance on a decommissioning cost estimate. This facility-specific cost estimate is likely to be higher than \$75,000, and the licensee would incur higher financial assurance costs. However, the facility-specific cost estimate should provide a more accurate estimate of decommissioning costs.

Waste Brokers

brokers.

Waste broker licensees handle radioactive waste associated with or generated by other licensees and non-licensed entities. There is no definition of "waste broker" in existing NRC regulations and the term is commonly used to describe several different activities. These amendments would add a definition of "waste broker" to cover licensees that accept radioactive material for the purpose of processing, compaction, repackaging, or otherwise preparing it for disposal, or for storage. The NRC has approximately 15 waste broker licensees, of which about one half-require financial assurance under current regulations. Many waste broker licensees also conduct other types of licensed activities as part of their overall business. The NRC financial assurance regulations treat waste brokers in the same way as other materials licensees; there are no special financial assurance requirements applicable only to waste

The NRC has conducted an analysis of the adequacy of financial assurance

add (FV) Assessment of the Financial 7 Assurance Requirements for premoti: Waste Broker Material Licensees, "ICF Consulting, 1999, p. Co.

gjol 8-20-02 X

4. In § 30.35, paragraph (c)(2) is revised to read as follows:

§ 30.35 Financial assurance and recordkeeping.

* * *

(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, en or before July 27, 1990, 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. In § 30.35, new paragraph (c)(5) is added, and paragraphs (d) and (e) are revised to read as follows:

§ 30.35 Financial assurance and recordkeeping.

* * * * *

(c) * * *

(5) Waste brokers, i.e., each applicant or holder of a specific license that collects or accepts radioactive material from other entities for the purpose of processing, compaction, repackaging, or otherwise preparing it for disposal, or for storage, must provide financial assurance in an

(b)

(2) Submit a certification that financial assurance for decommissioning has been provided in the amount of \$225,000 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, on or before July 27, 1990, 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.

(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

9. 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, en or before July 27, 1990, 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.

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(d) Table of required amounts of financial assurance for decommissioning by quantity of

material. Licensees having possession limits exceeding the upper bounds of this table must

base financial assurance on a decommissioning funding plan.

greater than 10⁴ but less than or equal to 10⁵ 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 10⁴ is greater

NOTATION VOTE

RESPONSE SHEET

| TO: | Annette Vietti-Cook, Secretary | |
|-------------------|--|--|
| FROM: | COMMISSIONER DIAZ | |
| SUBJECT: | SECY-02-0116 - PROPOSED RULE: 10 CFR PARTS 30, 40 AND 70: FINANCIAL ASSURANCE AMENDMENTS FOR MATERIALS LICENSEES | |
| Approved _xv/ca | Disapproved Abstain | |
| Not Participating | 9 <u></u> | |
| COMMENTS: | | |
| See attached. | | |
| | | |
| | | |
| | SIGNATURE) Aug 13,02 DATE | |

Entered on "STARS" Yes X No ____

COMMENTS OF COMMISSIONER DIAZ ON SECY-02-0116, PROPOSED RULE: 10 CFR PARTS 30, 40, AND 70: FINANCIAL ASSURANCE AMENDMENTS FOR MATERIALS LICENSEES

I approve staff's recommendation to publish for comment the proposed financial assurance amendments for materials licensees. However, neither the paper nor the referenced studies provide support for the statement in the <u>Federal Register</u> that "the effect of inadequate funding of decommissioning may have adverse impacts on public health and safety." At a time when many of the materials licensees have decreasing resources, the agency must ensure that these limited resources are directed to actions and programs that best protect the public health and safety. By publishing this proposed rulemaking, the Commission will have the benefit of additional stakeholder comments to better assess the costs and benefits associated with this rulemaking. Thus, I recommend that the <u>Federal Register Notice</u> (FRN) solicit more expressly stakeholders' comments on the analysis of the estimated benefits and costs for each class of affected licensee.

Before publication of the proposed rule, the Implementation section of the FRN should be expanded to provide more detail on the agency's proposed plan for implementing the amended requirements. In order to receive useful comments from our stakeholders on the impact of this rulemaking, the FRN should clarify what is being proposed as "a reasonable period of time" to submit new decommissioning cost estimates and "different effective dates" for the revised financial assurance requirements. Even if specific details are not known at this time, the staff should provide stakeholders some idea of what the proposed implementation schedule might be.

NUCLEAR REGULATORY COMMISSION

10 CFR Parts 30, 40, and 70

RIN 3150-AG85

Financial Assurance Amendments for Materials Licensees

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

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

DATES: The comment period expires (insert 75 days from date of publication). Comments received after this date will be considered if it is practical to do so, but the NRC is able to assure consideration only for comments received on or before this date.

ADDRESSES: Submit comments to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attn: Rulemakings and Adjudications Staff.

Deliver comments to 11555 Rockville Pike, Rockville, MD, between 7:30 a.m. and 4:15 p.m. on Federal workdays.

source activity are at least \$128,000; for a facility with 2 million curies, estimated costs are at least \$231,000. These cost estimates are for the least costly decommissioning scenarios, with all sources being returned to the supplier and no leakage of contamination.

The NRC is proposing to put an upper limit on the size of a sealed source licensee able to continue to use the \$75,000 certification amount. This proposed change would require a sealed source licensee with possession limits of over 1 million curies of Co-60, the radioactive material generally used by large irradiators, to base financial assurance on a decommissioning cost estimate. This facility-specific cost estimate is likely to be higher than \$75,000, and the licensee would incur higher financial assurance costs. However, the facility-specific cost estimate should provide a more accurate estimate of decommissioning costs.

Waste Brokers

Waste broker licensees handle radioactive waste associated with or generated by other licensees and non-licensed entities. There is no definition of "waste broker" in existing NRC regulations and the term is commonly used to describe several different activities. These amendments would add a definition of "waste broker" to cover licensees that accept radioactive Compacting material for the purpose of processing, eempaction, repackaging, or otherwise preparing it for disposal, or for storage. The NRC has approximately 15 waste broker licensees, of which about one half require financial assurance under current regulations. Many waste broker licensees also conduct other types of licensed activities as part of their overall business. The NRC financial assurance regulations treat waste brokers in the same way as other materials licensees; there are no special financial assurance requirements applicable only to waste brokers.

The NRC has conducted an analysis of the adequacy of financial assurance

facility. In these cases, the NRC encourages a licensee to submit a facility specific decommissioning cost estimate as a basis for financial assurance.

The certification amounts are designed to provide qualifying licensees a method for establishing a basis for the amount of financial assurance needed without devoting the resources needed to develop detailed decommissioning cost estimates. The NRC believes that the certification amounts serve a useful purpose by allowing certain licensees using relatively small quantities of radioactive materials to establish financial assurance in a simple, cost-effective way. At issue is the assurance of timely funding of decommissioning and the cost burden on licensees of providing this assurance. In comparing the relative merits of using a culture possible decommissioning cost estimate or a certification amount, the tradeoff involved is the benefit of having the amount of financial assurance required more closely track actual decommissioning costs against the additional expense of developing a decommissioning cost estimate. The NRC would also require more resources for review of a financial assurance submission based on a decommissioning cost estimate than for review of a submission based on a certification amount.

Requirement for Updating Decommissioning Cost Estimates

The existing financial assurance regulations do not contain a specific requirement for updating cost estimates in decommissioning funding plans after a certain number of years.

Existing regulatory language only refers to "adjusting cost estimates and associated funding levels periodically over the life of the facility." The NRC believes that a more specific requirement is warranted and is proposing to require updated decommissioning cost estimates at least every 3 years. Decommissioning costs, especially waste disposal costs, can change

adequate funding for timely decommissioning. Updates are needed in the current financial assurance regulations that would decrease 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 bear the cost of decommissioning, rather than site operators. This proposed action would require licensees to provide an additional approximately \$80 million in financial assurance coverage.

<u>Implementation</u>

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The NRC plans to implement these requirements, if finalized, in a way that minimizes the burden on licensees and regulators. Licensees would be 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 considering having different effective dates for revised financial assurance requirements, depending on the type of licensee, so that new financial assurance submittals would not all occur at one time, causing problems for regulators. The NRC encourages public comments on implementation issues and concerns.

Discussion of Proposed Amendments by Section

Section 30.4 Definitions.

A definition of the term "waste broker" is added.

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Waste broker means any licensee that collects or accepts radioactive material from other compacting entities for the purpose of processing, compaction; repackaging, or otherwise preparing it for disposal, or for storage.

X

3. In § 30.35, paragraph (a) is revised to read as follows:

§ 30.35 Financial assurance and recordkeeping for decommissioning.

- (a)(1) Each applicant for a specific license authorizing possession and use of unsealed byproduct material of half-life greater than 120 days and in quantities exceeding 10⁵ 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 10⁵ 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 possession and use of sealed sources or plated foils of half-life greater than 120 days and in quantities exceeding 10¹² 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 10¹² is greater than 1), shall submit a decommissioning funding plan as described in paragraph (e) of this section.

4. In § 30.35, paragraph (c)(2) is revised to read as follows:

§ 30.35 Financial assurance and recordkeeping.

X

* * *

(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, on or before July 27, 1990, 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. In § 30.35, new paragraph (c)(5) is added, and paragraphs (d) and (e) are revised to read as follows:

§ 30.35 Financial assurance and recordkeeping.

* * * * *

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(5) Waste brokers, i.e., each applicant or holder of a specific license that collects or accepts radioactive material from other entities for the purpose of processing, compaction, repackaging, or otherwise preparing it for disposal, or for storage, must provide financial assurance in an

(b) * * *

(2) Submit a certification that financial assurance for decommissioning has been provided in the amount of \$225,000 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.

* * *

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(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, on or before July 27, 1990, 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.

X

(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

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

§ 70.25 Financial assurance and recordkeeping for decommissioning.

* * * *

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X

* * *

(d) Table of required amounts of financial assurance for decommissioning by quantity of material. Licensees having possession limits exceeding the upper bounds of this table must base financial assurance on a decommissioning funding plan.

greater than 10⁴ but less than or equal to 10⁵ 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 10⁴ is greater

NOTATION VOTE

RESPONSE SHEET

| TO: | Annette Vietti-Cook, Secretary |
|-------------------|--|
| FROM: | COMMISSIONER MCGAFFIGAN |
| SUBJECT: | SECY-02-0116 - PROPOSED RULE: 10 CFR PARTS 30, 40 AND 70: FINANCIAL ASSURANCE AMENDMENTS FOR MATERIALS LICENSEES |
| Approved ×w/c | comments Disapproved Abstain |
| Not Participating | l |
| COMMENTS: | |
| Approve | ed subject to attached comments. |
| | |
| | SIGNATURE DATE |

Entered on "STARS" Yes X No ____

Commissioner McGaffigan's Comments on SECY-02-0116

I approve the staff's recommendation to publish in the <u>Federal Register</u> the proposed amendments to the financial assurance requirements in Parts 30, 40, and 70. I believe these amendments are necessary to ensure that adequate funding is available for the remediation of these facilities when they terminate operations. I also agree with the staff that these requirements should be reviewed every three years so that the amount of financial assurance required keeps pace with inflation and the rising costs of disposal of radioactive material.

I do have one change to the proposed rule language contained in the <u>Federal Register</u> notice. On page 26, Section 30.35(c)(2) states

"Each holder of a specific license issued before July 27, 1990, and of a type described in paragraph (a) of this section shall submit, on or before July 27, 1990, a decommissioning funding plan...in an amount at least equal to \$1,125,000."

This section originally specified an funding amount of \$750,000. The only proposed change to this section is to increase the funding requirement to \$1,125,000. However, as worded every licensee subject to this section would immediately be in violation once it became effective. No licensee could increase their financial assurance to \$1,125,000 on or before July 27, 1990. This section should be edited as follows:

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

I recognize the staff may wish to require licensees to submit revised decommissioning plans by a specific date and may choose to insert a new date into this paragraph. This is acceptable as long as than date is some point in the future after the rule becomes effective and gives the licensees adequate time to comply. Similar changes should be made to the proposed rule language in Sections 40.36(c)(2) and 70.25(c)(2).

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NOTATION VOTE

RESPONSE SHEET

| TO: | Annette Vietti-Cook, Secretary |
|-------------------|--|
| FROM: | COMMISSIONER MERRIFIELD |
| SUBJECT: | SECY-02-0116 - PROPOSED RULE: 10 CFR PARTS 30, 40 AND 70: FINANCIAL ASSURANCE AMENDMENTS FOR MATERIALS LICENSEES |
| Approved/_ | Disapproved Abstain |
| Not Participating | l |
| COMMENTS: | See assachel connects. |
| | SIGNATURE 8/4/05 DATE |

Entered on "STARS" Yes V No ____

Comments from Commissioner Merrifield on SECY-02-0116:

I approve the staff recommendations in SECY-02-0116 concerning financial assurance amendments for materials licensees as revised by Commissioner McGaffigan's vote on this SECY paper. Maintaining adequate levels of financial assurance for our materials licensees is an important issue that needs to be addressed. Commissioner McGaffigan's vote raises a valid issue concerning the implementation and it is now appropriate to issue this proposed rule for public comments.