

July 6, 2005

MEMORANDUM TO: Dr. John Larkins, Chairman  
Advisory Committee on Reactor Safeguards

FROM: Catherine Haney, Program Director /RA/  
Policy and Rulemaking Program  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

SUBJECT: PROPOSED RULEMAKING TO AMEND 10 CFR PARTS 19 AND 20:  
COLLECTION, REPORTING, AND LABELING REQUIREMENTS,  
AND CLARIFICATION OF DOSE DETERMINATION  
METHODOLOGY

Attached is the draft Commission paper and Federal Register Notice (FRN) for the proposed rulemaking to reduce unnecessary regulatory burden in 10 CFR Parts 19 and 20. The proposed rulemaking is scheduled to be transmitted to the Office of the Executive Director no later than September 23, 2005. We recommend that the Committee postpone its review until the staff has addressed the public comments to the proposed rule.

The staff has prepared a proposed rulemaking to (1) amend the provisions of 10 CFR 19.13 to require licensees to provide annual occupational dose reports only to workers if they meet certain criteria; (2) revise 10 CFR 20.1905 to add an exemption from the requirements in 10 CFR 20.1904, for the labeling of certain containers within posted areas in nuclear power reactor facilities; (3) remove the requirement in 10 CFR 20.2104 that requires licensees to attempt to obtain the records of cumulative occupational radiation doses for all employees, except in the case of a planned special exposure; and (4) change the definition of total effective dose equivalent (TEDE) in 10 CFR 20.1003 to be more consistent with the technical basis for the requirements in Part 20 by clarifying that TEDE is the sum of the effective dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures). As a result, administrative and paperwork requirements would be reduced without adverse impact on occupational or public exposure limits. The effect of this action would allow NRC licensees to change selected procedures to reduce the administrative burdens associated with the current regulations. The subject proposed rule does not have any safety implications.

The attachments contain pre-decisional information and should not be released to the public.

Attachments: Draft Commission Paper  
and FRN for Proposed Rule

cc: Jennifer Dixon-Herrity/EDO  
Mary Glenn Crutchley/NRR

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cc: Jennifer Dixon-Herrity/EDO  
Mary Glenn Crutchley/NRR

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RULEMAKING ISSUE  
NOTATION VOTE

SECY-05-XXXX

FOR: Chairman Diaz  
Commissioner McGaffigan  
Commissioner Merrifield  
Commissioner Jaczko  
Commissioner Lyons

FROM: Luis A. Reyes  
Executive Director for Operations

SUBJECT: PROPOSED RULEMAKING TO AMEND 10 CFR PARTS 19 AND 20:  
COLLECTION, REPORTING, AND LABELING REQUIREMENTS, AND  
CLARIFICATION OF DOSE DETERMINATION METHODOLOGY  
(RIN: 3150-AH40)

PURPOSE:

To obtain Commission approval to publish in the Federal Register, for public comment, a proposed rule to amend the requirements for radiation exposure related to the collection, reporting, and labeling of information and the dose determination methodology in 10 CFR 19.13, 20.1003, 20.1905, 20.2104, and 20.2205.

SUMMARY:

The staff has prepared a proposed rulemaking to 1) amend the provisions of 10 CFR 19.13 to require licensees to provide annual occupational dose reports only to workers if they meet certain criteria; 2) revise 10 CFR 20.1905 to add an exemption from the requirements in 10 CFR 20.1904, for the labeling of certain containers within posted areas in nuclear power reactor facilities; (3) remove the requirement in 10 CFR 20.2104 that requires licensees to attempt to obtain the records of cumulative occupational radiation doses for all employees; and (4) change the definition of total effective dose equivalent (TEDE) in 10 CFR 20.1003 to be more consistent with the technical basis for the requirements in Part 20 by clarifying that TEDE is the sum of the effective dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures). As a result, administrative and paperwork

Attachment 1

CONTACT: Stewart Schneider, NRR/DRIP/RPRP  
301-415-1323

requirements would be reduced without adverse impact on occupational or public exposure limits. The effect of this action would allow NRC licensees to change selected procedures to reduce the administrative burdens associated with the current regulations.

BACKGROUND:

The NRC Strategic Plan, Fiscal Year 2000-Fiscal Year 2005, included, among NRC performance goals for nuclear reactor safety, that of reducing unnecessary regulatory burden on stakeholders. In order to further this goal, the staff conducted a public workshop and solicited public comments from stakeholders.

In SECY-02-0081, "Staff Activities Related to the NRC Goal of Reducing Unnecessary Regulatory Burden on Power Reactor Licensees," dated May 13, 2002, the staff described its interactions with stakeholders regarding ways to reduce unnecessary regulatory burden, and requested Commission approval of its plans to meet this goal.

In Staff Requirements Memorandum (SRM)-SECY-02-0081 dated June 25, 2002, the Commission approved, subject to certain comments, the staff's proposal of reducing unnecessary regulatory burden on power reactor licensees by initiating and developing proposed rulemakings arising from short-term, limited scope initiatives without formal rulemaking plans.

The NRC staff considered the suggestions from industry and other stakeholders and identified the following regulations to be changed in this proposed rulemaking to reduce regulatory burden..

- 10 CFR 19.13, "Notifications and reports to individuals", and related regulations in 10 CFR Part 20, "Standards for Protection Against Radiation."
- 10 CFR 20.1904, "Labeling containers" and 10 CFR 20.1905, "Exemptions to labeling requirements."
- 10 CFR 20.2104, "Determination of prior occupational dose."

In addition, in connection with this effort, the staff also determined that the definition of "total effective dose equivalent" (TEDE) in 10 CFR 20.1003 should be changed to clarify the use of the effective dose equivalent in place of deep dose equivalent in dose assessment.

As part of the development of the proposed rule, the staff drafted proposed rule language. The staff requested comments from the States on the draft rule language in All Agreement State Letter State and Tribal Programs (STP)-04-002 dated January 9, 2004. Comments were received from the States of Illinois and Washington. Subsequently, the draft rule language was published in the Federal Register (69 FR 8350; February 24, 2004) to solicit public comment. Comments were received from power reactor licensees, a fuel facility licensee, an individual, and two industry organizations (the Nuclear Energy Institute (NEI)<sup>I</sup> and the Council on Radionuclides and Radiopharmaceuticals.

DISCUSSION:

The proposed changes to the Commission's regulations involve changes in four general areas. The following is a discussion of the proposed changes by area, including a summary of the major comments received and the staff's proposed resolution of these comments:

(1) Annual Dose Report to Workers

The first change being proposed affects 10 CFR 19.13 and 10 CFR 20.2205. In accordance with 10 CFR 19.13(b), licensees are currently required to advise workers annually of received doses as shown in records maintained by the licensee pursuant to 10 CFR 20.2106. That regulation requires maintaining records of doses received by individuals for whom monitoring was required under 10 CFR 20.1502, which requires monitoring of occupational radiation exposure for workers likely to receive a dose in excess of 10 percent of the limits specified in 10 CFR 20.1201. Licensees make this determination prospectively so that many of the workers monitored by licensees actually receive no measurable exposure or only a small fraction of the doses specified in 10 CFR 20.1502. As a result, the recordkeeping and reporting requirements have unnecessarily applied to a large number of workers, thereby increasing administrative costs to licensees.

The NRC staff is proposing a change to the notification requirement in § 19.13(b) so that licensees would continue the current reporting for adult workers who receive more than two percent of the limits specified in 10 CFR 20.1201 (this would generally translate to exceeding a TEDE of 1 millisievert (mSv) (100 millirem (mrem)) dose in one year but would not be required to provide unsolicited annual dose reports to workers who receive less than two percent of those limits. In addition, licensees would still provide an annual dose report for workers who are younger than 18 years of age, or have declared themselves pregnant. The number of workers in these categories is small. This continued small burden is justified given the radio sensitivity and lower dose limits. The staff's initial criterion of 1 mSv (100 mrem) was selected because it corresponds to the annual public dose limit in 10 CFR 20.1301, "Dose limits for individual members of the public," and is also the threshold for requiring employee training pursuant to 10 CFR 19.12, "Instruction to workers."

The staff received several comments from industry regarding the proposed change. Several commenters questioned the use of two percent of the annual dose limit as the threshold and proposed using the same criteria established in 10 CFR 20.1502 for monitoring individuals (i.e., ten percent of the dose limits or 5 mSv (500 mrem)). It is the staff's position that setting the criteria at 1 mSv (100 mrem), consistent with the annual dose limit for members of the public and employee training requirements, reasonably balances reducing unnecessary regulatory burden and the need to keep individual workers informed of their occupational dose. The threshold is to be applied to a dosimetry program whether it covers a single facility or multiple facilities owned by the licensee. Licensees need not consider radiation exposure from employment by a prior licensee when applying this criterion in that monitoring year. In response to another comment concerning the reporting criteria, the staff clarified that the doses to be considered for this reporting criteria are the occupational doses received in the work place.

The publication of the draft rule language in the Federal Register (69 FR 8350; February 24, 2004), did not address minors subject to the dose limits in 10 CFR 20.1207 and declared pregnant women subject to the dose limits of 10 CFR 20.1208. Accordingly, the draft rule language in 10 CFR 19.13 was revised to include these conditions.

Industry stakeholders also provided comments on worker training as it relates to the notification and reporting requirements. While several commenters stated that individual workers should receive training on their rights to request an annual report of their occupational exposure, some of the commenters suggested that existing regulations adequately address this issue. The staff is proposing to consolidate the reporting requirements as presented in the draft language and agrees with the commenters that the NRC regulations at 10 CFR 19.12(a)(6) provide adequate requirements for the training of workers regarding their right to request reports about their occupational exposure. Consequently, NRC Form 3, "Notice to Employees," would need to be revised to reflect the changes if this proposed rule is adopted as a final rule.

(2) Labeling Containers

The second change under consideration would revise 10 CFR 20.1905 to include an exemption from labeling containers in accordance with 10 CFR 20.1904 for certain containers within facilities licensed under Parts 50 or 52. The exempted containers would need to satisfy conditions such as being located within an area posted in accordance with 10 CFR 20.1902, being conspicuously marked, and being accessible only to trained individuals.

The staff received three comments on the proposed change. One commenter favored the creation of a new exemption in 10 CFR 20.1905; while two commenters favored placing the exemption in 10 CFR Part 50. It is the staff's position that it would be more appropriate to add a new exemption to 10 CFR 20.1905 (applicable only to nuclear power reactor licensees), which specifically establishes exemptions from the container labeling requirements.

NEI also commented that the rule should require the labeling of containers before they are removed from a restricted area instead of a posted area and that container markings are required only when the container was in an area not otherwise adequately posted and controlled. The staff's position is that the language, as previously published in draft form, is appropriate for the control of containers and has maintained the language in this proposed rule. While the requirements proposed by the staff do not provide as much regulatory relief as the Nuclear Energy Institute (NEI) suggestions, the staff's position is that the proposed draft language affords significant relief to the licensees while maintaining necessary controls on radioactive materials to protect workers from preventable contaminations or exposures. The staff did not receive any comments indicating that this exemption should be applied to other than Part 50 licensees. Therefore, the proposed draft language is being retained.

(3) Cumulative Occupational Radiation Dose

The third proposed change revises the requirement in 10 CFR 20.2104(a)(2) that licensees attempt to obtain the records of cumulative occupational radiation dose for each worker requiring monitoring pursuant to 10 CFR 20.1502. The staff is proposing to change 10 CFR 20.2104 to require that licensees obtain the records of cumulative occupational

radiation dose only for those individuals being authorized to receive a planned special exposure. The information on occupational doses in years other than the current year is not used except in performing evaluations required by 10 CFR 20.1206, "Planned special exposures."

The majority of industry comments favored the proposed change. One commenter expressed a concern that the proposed rule change would give workers the impression that lifetime dose is not important. The NRC justified in its final rule revising Part 20 published in the Federal Register on May 21, 1991 (56 FR 23360), the adoption of a fixed annual dose limit and elimination of a separate lifetime dose limit. The staff's position is that the proposed changes do not reduce the NRC emphasis that licensees should keep radiation exposures as low as is reasonably achievable and will not increase annual or lifetime radiation doses to workers.

(4) Definition of Total Effective Dose Equivalent (TEDE)

The fourth change proposed by the staff is to revise the definition of TEDE in 10 CFR 20.1003 to be more consistent with the technical basis for the requirements in Part 20 (e.g., the recommendations of the International Commission on Radiological Protection (ICRP)). The proposed change resolves a source of possible confusion in the current regulation by clarifying that the TEDE is the sum of the effective dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures). If a licensee is not using a method approved by the NRC for determining effective dose equivalent with radiation measuring devices, the deep dose equivalent (DDE) will be substituted for the effective dose equivalent (for external exposures). When DDE is used to determine compliance with the TEDE limit in 10 CFR 20.1201(a)(1)(I), the requirement to determine that DDE for the part of the body receiving the highest exposure, in 10 CFR 20.1201(c), will still apply. Regulatory Issue Summary (RIS) 2003-04, "Use of the Effective Dose Equivalent in Place of the Deep Dose Equivalent in Dose Assessments" (dated February 13, 2003) and RIS 2004-01, "Method for Estimating Effective Dose Equivalent from External Radiation Sources Using Two Dosimeters" (dated February 17, 2004) provide a discussion of the regulatory basis and approved methods for using the effective dose equivalent from external exposures in complying with the regulatory requirements, and limits, on TEDE.

Industry comments favored the proposed change. The language used in this proposed rule is the same as previously published in draft for comment.

AGREEMENT STATE ISSUES:

Prior to publication of the draft rule language in the Federal Register (69 FR 8350; February 24, 2004), the staff solicited comments from the States in All Agreement State Letter STP-04-002 dated January 9, 2004. We received comments from the States of Illinois and Washington on this letter. Both States provided general comments which overall agreed with the four proposed changes.

Regarding the relaxation of the requirements in 10 CFR Parts 19 and 20 for licensees to provide annual radiation exposure reports to workers receiving exposures below the existing regulatory limits, Washington indicated that the reporting threshold should be ten percent of the

dose limit. On the proposed revision of 10 CFR 20.1904, for the labeling of certain containers within posted areas in nuclear power reactor facilities, Illinois commented that it would be less confusing if the exemption was included in Part 50. It is the staff's position that it logically fits with the other exemptions listed in 10 CFR 20.1905. For the revision of 10 CFR 20.2104 to require that licensees obtain the records of cumulative occupational radiation doses only for those individuals being authorized to receive a planned special exposure, Illinois indicated that the change is appropriate. Finally, on the change to the definition of TEDE in 10 CFR 20.1003, Washington agreed that the revised definition is technically valid and more consistent with the International Commission on Radiological Protection (ICRP) recommendations.

The NRC staff has analyzed the proposed rule in accordance with the procedures established within Part III, "Categorization Process for NRC Program Elements," of Handbook 5.9 to Management Directive 5.9, "Adequacy and Compatibility of Agreement State Programs." The staff has determined that the compatibility categories for the sections amended in this proposed rule would be the same as for the sections in the current regulations, except for the new exemption (g) added to 10 CFR 20.1905. This exemption is classified as Compatibility Category D. A Compatibility Category "D" designation means the Agreement State is not required for purposes of compatibility to adopt the requirement.

RESOURCES:

The staff estimates that the resources needed to complete this rulemaking is XX FTE for the Office of Nuclear Reactor Regulation (NRR) spread across FY2005 and FY2006. These resources are budgeted.

COORDINATION:

The Office of the General Counsel has no legal objection to this paper.

The Office of the Chief Financial Officer has reviewed this Commission paper for resource implications and has no objection.

The Advisory Committee on Reactor Safeguards has.....

The Committee to Review Generic Requirements has been informed of the staff's intention to publish this rule and has....

RECOMMENDATIONS:

That the Commission:

Approve for publication in the Federal Register the proposed amendments to 10 CFR Parts 19 and 20 (Attachment).

Certify that based on the information currently available, the proposed rule, if adopted, is not likely to have a significant economic impact on a substantial number of small entities.

Note:

1. That the proposed amendments will be published in the Federal Register, allowing 75 days for public comment.
2. That the Chief Counsel for Advocacy of the Small Business Administration will be informed of the certification and the reasons for it, as required by the Regulatory Flexibility Act, 5 U.S.C. 605(b).
3. That the Federal Register notice contains an Environmental Assessment with a finding of no significant environmental impact and a Regulatory Analysis.
4. That the appropriate Congressional committees will be informed of this action.
5. That a press release will be issued by the Office of Public Affairs when the proposed rulemaking is filed with the Office of the Federal Register.
6. That an Office of Management and Budget information collection clearance package is required.

Luis A. Reyes  
Executive Director  
for Operations

Attachment: As stated

**NUCLEAR REGULATORY COMMISSION**

10 CFR Parts 19 and 20

RIN 3150 - AH40

**Collection, Reporting, and Labeling Requirements, and Clarification of  
Dose Determination Methodology**

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is proposing to amend its regulations for radiation exposure related to the collection, reporting, and labeling of information and the dose determination methodology. The proposed rule would require annual occupational dose reports under certain circumstances and limit the scope of the records to be obtained pertaining to cumulative radiation dose to an individual. The proposed rule would also modify labeling requirements for certain containers in nuclear power facilities. Finally, the proposed rule would change the definition of total effective dose equivalent (TEDE) to be more consistent with the technical basis for the requirements in 10 CFR Part 20, "Standards for Protection Against Radiation." As a result, administrative and paperwork requirements would be reduced without adverse impact on occupational or public exposure limits. The effect of this action would allow NRC licensees to change selected procedures to reduce the administrative burdens associated with the current regulations.

Attachment 2

**\*\*\* DRAFT - PREDECISIONAL INFORMATION \*\*\***

DATES: Submit comments on the rule by (**INSERT DATE 75 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER**). Submit comments specific to the information collections aspects of this rule by (**INSERT DATE 75 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER**). Comments received after this date will be considered if it is practical to do so, but the Commission is able to ensure consideration only for comments received on or before this date.

ADDRESSES: You may submit comments by any one of the following methods. Please include the following number RIN 3150-AH40 in the subject line of your comments. Comments on rulemakings submitted in writing or electronic form will be made available to the public in their entirety on the NRC rulemaking website. Personal information will not be removed from your comments.

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

E-mail comments to: [SECY@nrc.gov](mailto:SECY@nrc.gov). If you do not receive a reply e-mail confirming that we have received your comments, contact us directly at (301) 415-1966. You may also submit comments via the NRC's rulemaking web site at <http://ruleforum.llnl.gov>. Address questions about our rulemaking website to Carol Gallagher, (301) 415-5905; e-mail [CAG@nrc.gov](mailto:CAG@nrc.gov). Comments can also be submitted via the Federal Rulemaking Portal <http://www.regulations.gov>.

Hand deliver comments to: 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 a.m. and 4:15 p.m. Federal workdays. (Telephone (301) 415-1966).

Fax comments to Secretary, U.S. Nuclear Regulatory Commission at (301) 415-1101.

You may submit comments on the information collections by the methods indicated in the Paperwork Reduction Act Statement.

Publically available documents created or received at the NRC after November 1, 1999, are available electronically at the NRC's Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. From this site, the public can gain entry into the NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents. 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 email to [pdr@nrc.gov](mailto:pdr@nrc.gov).

FOR FURTHER INFORMATION CONTACT: Stewart Schneider, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-4123, e-mail [sxs4@nrc.gov](mailto:sxs4@nrc.gov).

**SUPPLEMENTARY INFORMATION:**

- I. Background
- II. Discussion
- III. Section-by-Section Analysis
- IV. Agreement State Issues
- V. Agreement State Compatibility
- VI. Plain Language
- VII. Voluntary Consensus Standards

VIII. Finding of No Significant Environmental Impact: Environmental Assessment

IX. Paperwork Reduction Act Statement

X. Public Protection Notification

XI. Regulatory Analysis

XII. Regulatory Flexibility Certification

XIII. Backfit Analysis

## **I. Background**

The NRC Strategic Plan, Fiscal Year 2000-Fiscal Year 2005, included, among NRC performance goals for nuclear reactor safety, reducing unnecessary regulatory burden on stakeholders. The Strategic Plan defines unnecessary regulatory burden as requirements that go beyond what is necessary and sufficient to provide reasonable assurance that the public health and safety, environment, and common defense and security will be protected.

To further this goal, the staff published a notice of public workshop and request for comments in the *Federal Register* on May 3, 2001, (66 FR 22134) and sponsored a workshop on May 31, 2001. In response to this workshop, the Nuclear Energy Institute (NEI) submitted a letter dated July 2, 2001, providing a list of suggestions from its members for possible changes to various categories of the regulations that could reduce regulatory burden. Under the category "Radiation Protection," NEI proposed changes to 10 CFR 19.13, "Notifications and reports to individuals," 10 CFR 20.1904, "Labeling containers," and 10 CFR 20.2104, "Determination of prior occupational dose."

The NRC staff reported to the Commission on its interactions with stakeholders regarding ways to reduce unnecessary regulatory burden in SECY-02-0081, "Staff Activities Related to the NRC Goal of Reducing Unnecessary Regulatory Burden on Power Reactor Licensees," dated May 13, 2002. In that document, the NRC staff requested approval of its plans to meet this goal. By a Staff Requirements Memorandum (SRM) dated June 25, 2002, the Commission approved, subject to certain qualifications,<sup>1</sup> the staff's proposal of reducing unnecessary regulatory burden on power reactor licensees by initiating and developing proposed rulemakings arising from short-term, limited scope initiatives without formal rulemaking plans.

The NRC staff considered the comments from industry and other stakeholders provided in response to the earlier cited notice of public workshop and request for comments. This proposed rulemaking addresses those regulatory changes suggested by NEI under the category of "Radiation Protection" as described above and the resulting conforming changes to 10 CFR 20.1905, "Exemptions to labeling requirements" and 10 CFR 20.2205, "Reports to individuals of exceeding dose limits. The NRC staff's assessment is that the regulations suggested for revision by NEI impose a regulatory burden on licensees beyond what is necessary to protect workers and the public. Additional changes proposed by NEI to other areas of the Commission's regulations have been or are being assessed by the NRC under different regulatory actions.

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<sup>1</sup> Among other things, the Commission directed the staff not to pursue certain regulatory changes and directed the staff to provide certain additional information and establish a method for measuring the results of its efforts.

Another component of this action to reduce unnecessary regulatory burden, is the NRC staff's proposal to change 10 CFR 20.1003, "Definitions," to clarify the use of the effective dose equivalent in place of the deep dose equivalent in the definition of total effective dose equivalent (TEDE).<sup>2</sup>

As part of the development of the proposed rule, the NRC solicited comments from the States on the draft rule language in All Agreement State Letter STP-04-002 dated January 9, 2004. Comments were received from the States of Illinois and Washington. The draft rule language was referenced in the *Federal Register* (69 FR 8350; February 24, 2004) to solicit public comment. Comments were received from several power reactor licensees, a fuel facility licensee, an individual, and two industry organizations (NEI and the Council on Radionuclides and Radiopharmaceuticals). Based on the comments received, the language included in this proposed rulemaking did not change significantly from that provided to the States in All Agreement State Letter STP-04-002, or that published in the *Federal Register* on February 24, 2004.

## **II. Discussion**

There are four general changes being considered as part of this proposed rulemaking. The proposed changes are discussed below along with the public comments received on the draft rule language. State comments are addressed separately in Section V, "Agreement State Issues."

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<sup>2</sup> See Regulatory Issue Summary (RIS) 2004-01, "Method for Estimating Effective Dose Equivalent from External Radiation Sources Using Two Dosimeters," dated February 17, 2004, and RIS 2003-04, "Use of the Effective Dose Equivalent in Place of the Deep Dose Equivalent in Dose Assessments," dated February 13, 2003.

Annual dose report to workers

The first change being considered would affect 10 CFR 19.13 and related regulations in 10 CFR Part 20. NRC licensees are currently required to advise each worker annually of the worker's received dose as shown in records maintained by the licensee pursuant to 10 CFR 20.2106, "Records of individual monitoring results." Licensees are required by 10 CFR 20.2106 to maintain records of doses received by all individuals for whom monitoring was required pursuant to 10 CFR 20.1502, "Conditions requiring individual monitoring of external and internal occupational dose." Under 10 CFR 20.1502, licensees are required to monitor occupational radiation exposure for workers likely to receive a dose in excess of ten percent of the limits specified in 10 CFR 20.1201, "Occupational dose limits for adults," or for workers who enter a high or very high radiation area. Licensees make this determination prospectively so that many of the workers monitored by licensees actually receive no measurable exposure or only a small fraction of the doses specified in 10 CFR 20.1502. As a result, the recordkeeping and reporting requirements have applied to a large number of workers, thereby increasing administrative costs to licensees.

The NRC staff is proposing a change to the reporting requirement so that licensees would continue the current reporting for workers who receive more than two percent of the limits specified in 10 CFR 20.1201 (this would generally translate to exceeding a TEDE of 1 millisievert (mSv) (100 millirem) dose in one year), but licensees would not be required to provide unsolicited annual dose reports to workers who receive less than two percent of those limits. The staff's initial criterion of 1 mSv (100 millirem) was selected because it corresponds to the annual public dose limit in 10 CFR 20.1301, "Dose limits for individual members of the public," and is also the threshold for requiring employee training pursuant to 10 CFR 19.12,

"Instruction to workers." The proposed changes to the regulations are consistent with the Presidential guidance issued in 1987 because the results of dosimetry are continually made available to workers on-site and if the two percent reporting threshold is exceeded the summary of the annual individual cumulative dose is reported to the individual.

The NRC received several industry comments regarding the draft rule language and the use of two percent of annual dose limit (1 mSv (100 millirem)) as the threshold for requiring licensees to provide an annual report to the affected worker. Several commenters questioned the threshold and proposed using the same criteria established in 10 CFR 20.1502 for monitoring individuals (i.e., ten percent of the dose limits or 5 mSv (500 millirem)). It is the staff's position that setting the criteria at 1 mSv (100 millirem), consistent with the annual dose limit for members of the public and employee training requirements, is a reasonable balance between efforts to reduce unnecessary regulatory burden and the need to keep individual workers informed of their occupational dose. The threshold is to be applied to a stand-alone dosimetry program whether it covers a single or multiple facilities owned by the licensee. Licensee need not consider radiation exposure from employment by a prior licensee when applying this criterion in that monitoring year. In response to another comment concerning the reporting criteria, the staff clarified that the doses to be considered for this reporting criteria are the occupational doses received in the work place.

Following the publication of the draft rule language in the *Federal Register* (69 FR 8350; February 24, 2004), the NRC staff identified two additional conditions warranting a required annual report to individuals. These conditions address minors subject to the dose limits in 10 CFR 20.1207 and declared pregnant women subject to the dose limits of 10 CFR 20.1208.

Accordingly, the draft rule language in 10 CFR 19.13 was revised to include these conditions.

In response to the published draft rule language, stakeholders provided comments on worker training as it relates to the notification and reporting requirements. While several commenters stated that individual workers should receive training on their rights to request an annual report of their occupational exposure, some of the commenters suggested that existing regulations adequately address this issue. The staff is proposing to consolidate the reporting requirements as presented in the draft language and agrees with the commenters that the NRC regulations at 10 CFR 19.12(a)(6) provide adequate requirements for the training of workers regarding their right to request reports about their occupational exposure. Consequently, NRC Form 3, "Notice to Employees," would need to be revised to reflect the changes if this proposed rule is adopted as a final rule.

#### Labeling containers

The second change under consideration would revise 10 CFR 20.1905 to define an exemption from 10 CFR 20.1904 for certain containers within facilities with licenses issued under Parts 50 or 52. The exempted containers would need to satisfy conditions such as being located within an area posted in accordance with 10 CFR 20.1902, being conspicuously marked, and being accessible only to trained individuals.

The NRC staff received three comments from industry on the 10 CFR 20.1905 draft rule language. One commenter favored the creation of a new exemption in 10 CFR 20.1905; while two commenters favored placing the exemption in 10 CFR Part 50. It is the staff's position that

it would be clearer to add a new exemption to 10 CFR 20.1905 (applicable only to nuclear power reactor licensees), which exists for the specific purpose of defining exemptions from the container labeling requirements.

NEI commented that the rule should require the labeling of containers before they are removed from a restricted area instead of a posted area and that container markings are required only when the container was in an area not otherwise adequately posted and controlled. The staff's position is that the language, as previously published in draft form, is appropriate for the control of containers and has maintained the language in this proposed rule. While the requirements proposed by the staff will introduce constraints and some costs compared to the NEI suggestions, the staff's position is that the proposed draft language affords relief to the licensees while maintaining necessary controls on radioactive materials to protect workers from preventable contaminations or exposures. In response to the specific question on applicability to material licensees (69 FR 8350; February 24, 2004), the staff did not receive any comments indicating that this exemption should be applied to other than Part 50 licensees. Therefore, the proposed draft language is being retained.

#### Cumulative occupational radiation dose

This proposed change revises the requirement in 10 CFR 20.2104(a)(2) for licensees to attempt to obtain the records of cumulative occupational radiation dose for each worker requiring monitoring pursuant to 10 CFR 20.1502. The information on occupational doses in years other than the current year is not used except in performing evaluations required by 10 CFR 20.1206, "Planned special exposures." Requirements related to obtaining information, performing evaluations, maintaining records, and making reports to individuals and the NRC

about planned special exposures are codified in 10 CFR 20.1206 and 20.2104(b). The NRC staff is proposing to change 10 CFR 20.2104 to require that licensees obtain the records of cumulative occupational radiation dose only for those individuals being authorized to receive a planned special exposure.

The majority of industry comments received favored the proposed language. One commenter expressed a concern that the proposed rule change would give workers the impression that lifetime dose is not important. The NRC justified in its final rule revising Part 20 published in the *Federal Register* on May 21, 1991 (56 FR 23360), the adoption of a fixed annual dose limit and elimination of a separate lifetime dose limit. The staff's position is that the proposed changes do not reduce the NRC emphasis that licensees should keep radiation exposures as low as is reasonably achievable and will not increase annual or lifetime radiation doses to workers. None of the commenters suggested alternate language and the staff is proposing the same language in this proposed rule as was previously published in draft for public comment.

#### Definition of total effective dose equivalent

The fourth change proposed by the NRC staff is to revise the definition of TEDE in 10 CFR 20.1003 to be more consistent with the technical basis for the requirements in Part 20 (e.g., the recommendations of the International Commission on Radiological Protection (ICRP)). The proposed change resolves a source of possible confusion in the current regulation by clarifying that the TEDE is the sum of the effective dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures). If a licensee is not using a method approved by the NRC for determining effective dose equivalent with

radiation measuring devices, the deep dose equivalent, determined for the highest exposed part of the whole body, will be substituted for the effective dose equivalent (for external exposures). Regulatory Issue Summary (RIS) 2003-04, "Use of the Effective Dose Equivalent in Place of the Deep Dose Equivalent in Dose Assessments" (dated February 13, 2003) and RIS 2004-01, "Method for Estimating Effective Dose Equivalent from External Radiation Sources Using Two Dosimeters" (dated February 17, 2004) provide a discussion of the regulatory basis, and approved methods, for using the effective dose equivalent from external exposures in complying with the regulatory requirements, and limits, on TEDE.

The industry comments received favored the proposed change. The commenters did not provide suggestions for alternative language. The language used in this proposed rule is the same as previously published in draft for comment.

### **III. Section-by-Section Analysis**

Each of the proposed changes is discussed below. The changes are displayed with strikeout of current text being deleted and bold for text added as part of the proposed rule.

#### **Annual report to workers**

The NRC proposes to revise 10 CFR 19.13(b) as follows:

§19.13(b)                  Each licensee shall advise each worker annually of the worker's  
make available to workers information regarding their dose as shown

**\*\*\* DRAFT - PREDECISIONAL INFORMATION \*\*\***

in records maintained by the licensee pursuant to the provisions of §20.2106 of 10 CFR part 20. **On an annual basis, the licensee shall provide a report to each individual monitored pursuant to §20.1502(a) of 10 CFR part 20, the dose received in that monitoring year, if:**

(1) **The individual's occupational dose exceeds 2 percent of the dose limits in §20.1201(a) of 10 CFR part 20;**

(2) **The individual is a minor subject to the dose limit in §20.1207 of 10 CFR part 20;**

(3) **The individual is a declared pregnant woman subject to the dose limit in §20.1208(a) of 10 CFR part 20; or**

(4) **The individual makes a request for a report of the individual's annual dose.**

The current requirement to report radiation dose to individuals on an annual basis is repeated in three separate regulations (i.e., 10 CFR 19.13(b), 19.13(d), and 20.2205). The NRC staff is proposing to consolidate this requirement in a single revised 10 CFR 19.13(b). The requirements currently in 10 CFR 19.13(d) are very similar to the requirements in 10 CFR 20.2205, “Reports to individuals of exceeding dose limits,” and therefore, the NRC staff is proposing to remove 10 CFR 19.13(d). All requirements in 10 CFR 19.13(d) are captured by adding to 10 CFR 20.2205 a requirement for licensees to provide to individuals copies of reports sent to the NRC pursuant to 10 CFR 20.2202, “Notifications of incidents.” The requirement currently in 10 CFR 20.2205 for providing individuals copies of reports sent to the

NRC pursuant to 10 CFR 20.2206, "Reports of individual monitoring," is removed to reflect the proposed changes in 10 CFR 19.13(b). The following changes are proposed for 10 CFR 19.13(d) and 20.2205:

**§19.13(d) Notifications and reports to individuals.**

Paragraph (d) is removed.

**§20.2205 Reports to individuals of exceeding dose limits.**

When a **specific** licensee is required, pursuant to the provisions of §§ **20.2202**, 20.2203 or **20.2204**, or **20.2206**, to report to the Commission any exposure of an identified occupationally exposed individual, or an identified member of the public, to radiation or radioactive material, the licensee shall also provide ~~a copy of the report submitted to the Commission to the individual a report on his or her exposure data included therein.~~

This report must be transmitted at a time no later than the transmittal to the Commission.

**Labeling containers**

The NRC proposes to add the following new exemption (g) to 10 CFR 20.1905:

**20.1905(g) Containers holding licensed material at a nuclear power facility that are within an area posted pursuant to the requirements of §20.1902 if they are:**

- (1) Conspicuously marked (such as by providing a system of color coding, labeling, or tagging of containers) commensurate with the radiological hazard;**
- (2) Accessible only to individuals who have sufficient instructions to minimize radiation exposure while handling, or working in the vicinity of, the containers; and**
- (3) Subject to plant procedures to ensure they are appropriately labeled, pursuant to §20.1904, before being removed from the posted area.**

**Cumulative occupational radiation dose**

The NRC is proposing the following change to 10 CFR 20.2104:

- §20.2104(a) **(1) For each individual who is likely to receive in a year, an occupational dose requiring monitoring pursuant to §20.1502, the licensee shall**
- (1) ~~D~~determine the occupational radiation dose received during the current year; and**
  - (2) ~~Attempt to~~ For any individual being authorized to receive a planned special exposure, the licensee shall obtain the records of cumulative occupational radiation dose.**

**Definition of total effective dose equivalent**

The NRC proposes the following change to the definition of TEDE in 10 CFR 20.1003:

*Total Effective Dose Equivalent (TEDE) means the sum of the ~~deep-dose effective dose~~ equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures). When the external exposure is determined by measurement with an external personal monitoring device, the deep dose equivalent shall be used in place of the effective dose equivalent, unless the effective dose equivalent is determined by a dosimetry method approved by the NRC.*

**IV. Agreement State Issues**

Prior to publication of the draft rule language in the *Federal Register* (69 FR 8350; February 24, 2004), the NRC staff solicited comments from the States in All Agreement State Letter STP-04-002 dated, January 9, 2004. Comments were received from the States of Illinois and Washington on this letter. Both States provided general comments which overall agreed with the four proposed changes.

Regarding the relaxation of the requirements in 10 CFR Parts 19 and 20 for licensees to provide annual radiation exposure reports to workers receiving exposures below the existing regulatory limits, Washington indicated that the reporting threshold should be ten percent of the dose limit. On the proposed revision of 10 CFR 20.1904, for the labeling of certain containers

within posted areas in nuclear power reactor facilities, Illinois commented that it would be less confusing if the exemption was included in Part 50. It is the staff's position that it logically fits with the other exemptions listed in 10 CFR 20.1905. For the revision of 10 CFR 20.2104 to require that licensees obtain the records of cumulative occupational radiation doses only for those individuals being authorized to receive a planned special exposure, Illinois indicated that the change is appropriate. Finally, on the change to the definition of TEDE in 10 CFR 20.1003, Washington agreed that the revised definition is technically valid and more consistent with the ICRP recommendations.

## **V. Agreement State Compatibility**

Under the "Policy Statement on Adequacy and Compatibility of Agreement State Programs," approved by the Commission on June 30, 1997, and published in the *Federal Register* on September 3, 1997 (62 FR 46517), this proposed rule would be a matter of compatibility between NRC and the Agreement States, thereby providing consistency among Agreement State and NRC requirements. The NRC staff analyzed the proposed rule in accordance with the procedure established within Part III, "Categorization Process for NRC Program Elements," of Handbook 5.9 to Management Directive 5.9, "Adequacy and Compatibility of Agreement State Programs" (a copy of which may be viewed at <http://www.hsrn.ornl.gov/nrc/home.html>). The NRC staff has determined that the Compatibility Categories for the sections amended in this proposed rule would be the same as for the sections in the current regulations, except for the new exemption (g) added to § 20.1905.

The revision to § 20.1003 is classified as Compatibility Category A. A Compatibility

Category "A" designation means the requirement is a basic radiation protection standard or related definitions, signs, labels or terms necessary for a common understanding of radiation protection principles. Compatibility Category "A" designated Agreement State requirements should be essentially identical to that of NRC.

The revisions to §§ 19.13 and 20.2205 are classified as Compatibility Category C. A Compatibility Category "C" designation means the Agreement State should adopt the essential objectives of the requirement to avoid conflicts, duplications or gaps.

The revision to § 20.2104(a) and the new exemption (g) added to § 20.1905 are classified as Compatibility Category D. A Compatibility Category "D" designation means the Agreement State is not required for purposes of compatibility to adopt the requirement.

## **VI. 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. This memorandum was published on June 10, 1998 (63 FR 31883). In complying with this directive, editorial changes have been made in these proposed revisions to improve the organization and readability of the existing language of the paragraphs being revised. These types of changes are not discussed further in this document. The NRC requests comments on the proposed rule specifically with respect to the clarity and reflectiveness of the language used. Comments should be sent to the address listed under the ADDRESSES caption of the preamble.

## **VII. Voluntary Consensus Standards**

The National Technology Transfer and Advancement 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 using such a standard is inconsistent with applicable law or is otherwise impractical. The NRC is revising specific requirements related to the collection, reporting, and posting of information. This action does not constitute the establishment of a standard that contains generally applicable requirements.

## **VIII. Finding of No Significant Environmental Impact: Environmental Assessment**

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, that this rule, if adopted, would not be a major Federal action significantly affecting the quality of the human environment and, therefore, an environmental impact statement is not required. The basis for this determination reads as follows:

This action endorses existing requirements and establishes regulations that reduce regulatory burdens for nuclear reactor licensees. The proposed changes may also affect some other NRC and Agreement State licensees but to a lesser degree than expected for the power reactor licensees. This action stems from the Commission's ongoing effort to reduce paperwork requirements and eliminate obsolete regulations. The proposed rule would reduce the regulatory burdens on present and future licensees by eliminating the need to collect, report, and post certain information.

The proposed action relates to the collection, reporting, and posting of information and would not, therefore, significantly increase the probability or consequences of an accident. No changes are being made in the types or quantities of radiological effluents that may be released and there is no significant increase in public radiation exposure since there is no change to facility operations that could create a new or affect a previously analyzed accident or release path. With regard to non-radiological impacts, no changes are being made to non-radiological effluent releases and there are no changes in activities that would adversely affect the environment. Therefore, there are no significant non-radiological impacts associated with the proposed action.

The primary alternative to this action would be the no action alternative. The no action alternative would continue to impose unwarranted regulatory burdens for which there would be no safety, risk, or environmental benefit.

The NRC has sent a copy of this proposed rule to every State Liaison Officer and requested their comments on this environmental assessment.

The determination of this environmental assessment is that there will be no significant offsite impact to the public from this action. However, the general public should note that the NRC is seeking public participation. Comments on any aspect of the environmental assessment may be submitted to the NRC as indicated under the ADDRESSES heading.

## **IX. Paperwork Reduction Act Statement**

This proposed rule amends information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq). This rule has been submitted to the Office of Management and Budget for review and approval of the information collection requirements.

The annual savings to industry for these information collections is estimated to be 13,700 hours and \$100,000.

The U.S. Nuclear Regulatory Commission is seeking public comment on the potential impact of the information collections contained in this proposed rule and on the following issues:

1. Is the proposed information collection necessary for the proper performance of the functions of the NRC, including whether the information will have practical utility?
2. Is the estimate of burden accurate?
3. Is there a way to enhance the quality, utility, and clarity of the information to be collected?

4. How can the burden of the information collection be minimized, including the use of automated collection techniques?

A copy of the OMB clearance package may be viewed free of charge at the NRC Public Document Room, One White Flint North, 11555 Rockville Pike, Room O-1 F21, Rockville, MD 20852. The OMB clearance package and rule are available at the NRC worldwide Web site: <http://www.nrc.gov/public-involve/doc-comment/omb/index.html> for 60 days after the signature date of this notice and are also available at the rule forum site, <http://ruleforum.llnl.gov>.

Send comments on any aspect of these proposed information collections, including suggestions for reducing the burden and on the above issues, by (INSERT DATE 30 DAYS AFTER PUBLICATION IN THE *FEDERAL REGISTER*) to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet electronic mail to [INFOCOLLECTS@NRC.GOV](mailto:INFOCOLLECTS@NRC.GOV) and to the Desk Officer, John A. Asalone, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0011), Office of Management and Budget, Washington, DC 20503. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given to comments received after this date. You may also e-mail comments to [John\\_A.\\_Asalone@omb.eop.gov](mailto:John_A._Asalone@omb.eop.gov) or comment by telephone at (202) 395-4650.

## X. 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.

## XI. Regulatory Analysis

The Commission has prepared a draft regulatory analysis on this proposed regulation that is provided as a part of this *Federal Register* notice. The analysis examines the costs and benefits of the alternatives considered by the Commission. Each element of the analysis is discussed in terms of the following four changes:

- (1) 10 CFR 19.13, "Notifications and reports to individuals," and related regulations in 10 CFR Part 20, "Standards for protection against radiation," to relax the requirements for licensees to provide annual radiation exposure reports to workers receiving exposures below the existing regulatory limits.
- (2) 10 CFR 20.1905, "Exemptions to labeling requirements," to add an exemption from 10 CFR 20.1904, "Labeling containers," for certain containers within posted areas in nuclear power reactor facilities.
- (3) 10 CFR 20.2104, "Determination of prior occupational dose," to require that licensees obtain the records of cumulative occupational radiation doses only for

those individuals being authorized to receive a planned special exposure.

- (4) 10 CFR 20.1003, "Definitions," to change the definition of total effective dose equivalent (TEDE) to be more consistent with the technical basis for the requirements in Part 20 as discussed in RIS 2004-01 and RIS 2003-04.

#### 1. Statement of the Problem and Objective

The objective of the rulemaking activity is to revise requirements for licensees to reduce unnecessary regulatory burden while maintaining requirements needed to protect workers and the public from exposure to radioactive materials. The specific changes in this proposed rulemaking were identified as part of a broader initiative to reduce unnecessary regulatory burden as specified in the NRC Strategic Plan for fiscal years 2000 through 2005. The Commission responded to SECY-02-0081 in a staff requirements memorandum dated June 25, 2002, which directed the staff to evaluate and develop the appropriate proposed rulemakings. The initiative is also consistent with the goal to ensure NRC actions are effective, efficient, realistic, and timely as described in the NRC Strategic Plan for fiscal years 2004 through 2009. This proposed rulemaking relates to the specific effectiveness strategy to improve NRC regulation by adding needed requirements (or clarifications as in the proposed definition of TEDE) and eliminating unnecessary requirements.

2. Identification and Preliminary Analysis of Alternative Approaches

The staff's assessment identified two alternatives related to the requirements. The first option would be to simply maintain the status quo. The second option involves the changes described in this proposed rulemaking.

(A) Maintain the status quo

The first option is to maintain the status quo. This option will be used as the base case in evaluating the benefits of the proposed rulemaking.

(B) Proposed Rulemaking

The rulemaking option was considered relative to the following goals of the NRC: ensure protection of public health and safety and the environment; ensure the secure use and management of radioactive materials; ensure openness in our regulatory process; ensure that NRC activities are effective, efficient, realistic, and timely; and ensure excellence in agency management.

The proposed rulemaking involves changes to administrative or procedural requirements for collecting, reporting, and posting information and has no direct bearing on facility designs or operating practices. The proposed rulemaking is therefore neutral in terms of the NRC goals of maintaining safety and securing radioactive materials. The proposed rulemaking maintains the current reports which are provided to the NRC and available in the

public domain. The proposed rulemaking is therefore neutral in terms of the goal to ensure openness in our regulatory process. The proposed rulemaking was initiated to achieve the goal stated in NRC's strategic plan for fiscal years 2000 through 2005 to reduce unnecessary regulatory burdens. In terms of the current NRC strategic plan, the proposed changes relate to the goal of ensuring that NRC actions are effective, efficient, realistic, and timely. Specifically, the proposed rulemaking is intended to modify requirements related to collecting, reporting and posting of information to more efficiently achieve the agency's mission. The proposed rulemaking does not change the NRC's internal processes or responsibilities and, therefore, is neutral in terms of the NRC goal of ensuring excellence in agency management. Additional information is provided in the following value-impact assessment.

### 3. Value-Impact Assessment

The proposed rulemaking involves a change to an NRC administrative process and would not affect attributes related to public health, property, or environmental considerations. The potentially affected attributes are discussed below:

#### 3.1 Occupational Health

##### 3.1.1 Annual Exposure Report

The proposed change is limited to the requirements to provide an annual report of occupational dose to workers whose dose is a small fraction of the regulatory limits. The proposed regulations are not expected to change the number of workers exposed to radiation or change the dose incurred by workers, individually or collectively, and

would, therefore, not adversely affect the health of the workers involved in NRC licensed activities.

### 3.1.2 Labeling Containers

The proposed change is limited to the requirements to label certain containers within areas posted inside nuclear power plants. The provisions for using the added exemption include the need to mark containers posing a radiological hazard and limit accessibility to trained individuals. These provisions are intended to ensure that the proposed regulation does not change the number of workers exposed to radiation or change the dose incurred by workers, individually or collectively, and to avoid adversely affecting the health of the workers at nuclear power plants.

### 3.1.3 Prior Occupational Dose

The information on occupational doses in years other than the current year is not used except in performing evaluations required by 10 CFR 20.1206, "Planned special exposures." The proposed rule does not affect the regulatory limits established for radiation dose. Thus, the proposed regulation will not result in a change to the number of workers exposed to radiation or change the dose incurred by workers, individually or collectively, and would not adversely affect the health of the workers involved in NRC licensed activities.

### 3.1.4 TEDE

The proposed change in the definition of TEDE is intended to clarify the regulations and does not affect the regulatory limits established for radiation dose. The

proposal would not change the number of workers exposed to radiation or change the dose incurred by workers, individually or collectively, and would not adversely affect the health of the workers involved in NRC licensed activities.

### 3.2 Industry Implementation

#### 3.2.1 Annual Exposure Report

Industry implementation of the proposed changes would involve some changes to procedures, postings, and training. The NRC staff's position is that preparing revisions to procedures and training could be included into the ongoing maintenance of those programs and, therefore, have minimal additional costs to licensees for nuclear power plants. Comments from nuclear power plant licensees provided in response to the solicitation of comments on draft language for this proposed rulemaking confirmed that the implementation of the changes would not involve significant costs. For this analysis, the NRC staff estimates that the changing of procedures and training modules would require approximately 40 hours for each of the approximately 70 reactor sites or 2800 person-hours for the nuclear power industry. Assuming a staff rate of \$88 per hour, the one-time cost of implementing the proposed rule would be \$250,000 for the nuclear power industry.

The implementation costs for the materials licensees will vary because of differences in the sizes of work forces and the diversity of licensed activities. This analysis assesses the likely costs for licensees as they are categorized in Volume 24 of NUREG-0713, "Occupational Radiation Exposure at Commercial Nuclear Power

Reactors and Other Facilities," as (1) fuel cycle facilities, (2) independent spent fuel storage installations (ISFSIs), (3) low-level waste disposal, (4) manufacturing and distribution, and (5) industrial radiography. For this analysis, fuel cycle facilities and ISFSIs are combined into one group based on the similarity in their procedures and programs for monitoring and reporting information to individuals. Likewise, the analysis assumes comparable implementation costs for low-level waste disposal (Agreement State licensees), manufacturing and distribution licensees, and industrial radiography licensees. These categories have a greater range of monitored individuals and more varied programs in terms of procedures and programs.

The implementation costs related to the proposed changes for annual radiation exposure reports for fuel cycle facilities and ISFSIs is expected to be similar to power reactor licensees. Comparable numbers of employees and similar procedures and controls translate into comparable costs to implement the proposed change. The 10 facilities referred to in NUREG-0713 would therefore have an implementation cost of approximately \$35,000 (40 staff hours at \$88 per hour for 10 licenses).

The implementation costs for the second grouping (consisting of low-level waste disposal, manufacturing and distribution, and industrial radiography) will depend on the number of monitored individuals and the programs and procedures used by each licensee. The average number of monitored individuals in this group is about 40 per license and the number of licenses (NRC and Agreement States) is estimated to be several hundred. Estimating the implementation costs for this diverse group of licensees is further complicated by the fact that licensees need not change their

programs and procedures to adopt the reduced reporting requirement in the proposed rule. It is possible that licensees will maintain their current practices since the proposed change is a relaxation of requirements and compliance with current requirements would also satisfy the proposed regulation. Licensees would not be expected to change their procedures and practices unless they determined it was cost effective to take advantage of the revised regulation. The implementation cost for an individual licensee would be expected to range from nothing for those licensees maintaining the status quo to approximately \$3,500 (40 staff hours times \$88 per hour) for those licensees adopting the revised reporting requirement. Assuming the higher cost estimate, only those licensees with hundreds of employees would likely implement the changes allowed by the proposed rulemaking. Using data from NUREG-0713 and increasing the number to account for Agreement State licensees, the NRC staff estimates the number of licensees in this grouping likely to implement the change to be 20. The total implementation cost would, therefore, range from practically zero if few licensees implemented the change to approximately \$70,000 if the larger licensees adopted the reduced reporting requirement.

### 3.2.2 Labeling Containers

This proposed change is only applicable to nuclear power plant licensees. Industry implementation of the proposed changes would involve some changes to procedures, postings, and training. It is the NRC staff's position that preparing revisions to procedures and training could largely be included in the ongoing maintenance of those programs and, therefore, have minimal additional costs to licensees for nuclear power plants. In addition, the rulemaking adds an exemption for the posting

requirements in 10 CFR 20.1904 but licensees are not required to adopt it and may continue their current practices. Licensees choosing not to adopt the exemption would not incur implementation costs associated with the proposed rule. The NRC staff estimates that most licensees will choose to use the exemption and that the related changes to procedures and training modules would require approximately 80 hours for each of the approximately 70 reactor sites or 5600 person-hours for the nuclear power industry. Assuming a staff rate of \$88 per hour, the one-time cost of implementing the proposed rule would be \$500,000 for the nuclear power industry.

### 3.2.3 Prior Occupational Dose

Industry implementation of the proposed changes would involve some changes to procedures, postings, and training. The NRC staff's position is that preparing revisions to procedures and training could be included into the ongoing maintenance of those programs and, therefore, have minimal additional costs to licensees for nuclear power plants. Accounting for the changes as a separate activity, the NRC staff estimates that the changing of procedures and training modules would require approximately 40 hours for each of the approximately 70 reactor sites or 2800 person-hours for the nuclear power industry. Assuming a staff rate of \$88 per hour, the one-time cost of implementing the proposed rule would be \$250,000 for the nuclear power industry.

The implementation costs related to the proposed changes for annual radiation exposure reports for fuel cycle facilities and ISFSIs is expected to be similar to power reactor licensees. The 10 facilities referred to in NUREG-0713 would therefore have an

implementation cost of approximately \$35,000 (40 staff hours at \$88 per hour for 10 licenses).

The implementation costs for the second grouping (consisting of low-level waste disposal, manufacturing and distribution, and industrial radiography) varies depending on the licensee and its related programs and procedures. In most cases, the implementation cost is less than for power reactors and fuel cycle facilities since the effort involved in developing and processing a procedure change is less for the smaller organizations. The licensee could wait to implement the proposed rule until facing the need under the existing rule to attempt to obtain an individual's collective radiation dose. The related procedure changes could likely be made using less resources than would be needed to perform the data collection for a single employee under the existing rule. The licensee could also choose to comply with the existing requirements instead of changing procedures to adopt the proposed changes. NUREG-0713 explains that ninety-nine percent of the transient work force monitored for radiation exposure is associated with the nuclear power industry. The NRC staff will assume that the cost to this group of licensees is related to the number of transient employees and, therefore, would be approximately \$25,000 (one percent of the nuclear power industry implementation cost of \$250,000 multiplied by 10 to account for the larger number of licensees).

### 3.2.4 TEDE

Industry implementation of the proposed changes would involve some changes to procedures and training. The NRC staff's position is that preparing revisions to procedures and training could be included into the ongoing maintenance of those programs and, therefore, have minimal additional costs to licensees for nuclear power plants. This is especially true when considering the possible implementation of this proposed change along with one or more of the other changes included in this proposed rulemaking. Revising the actual estimation of TEDE using effective dose equivalent in accordance with an NRC approved dosimetry method would be part of other licensee initiatives in their radiation protection program and, while possibly aided by this proposed rulemaking, would not be caused by the proposed changes. Considering the likely implementation of this clarifying change to the regulations coincident with the other changes in this proposed rulemaking, the NRC staff estimates that the implementation cost of 10 hours for each of the approximately 70 reactor sites or 700 person-hours for the nuclear power industry. Assuming a staff rate of \$88 per hour, the one-time cost of implementing the proposed rule would be \$62,000 for the nuclear power industry.

Other NRC licensees may also need to revise their procedures and training to reflect the changes in the definition of TEDE in NRC regulations. As stated above for licensees of nuclear power plants, it is the NRC staff's position that preparing revisions to procedures and training could be included into the ongoing maintenance of those programs and, therefore, have minimal additional costs to other NRC licensees. In some cases, the proposed clarification of the TEDE definition may better align NRC regulations with licensees' current procedures and practices developed using previous

interpretations of the rules or following interactions with the appropriate regulatory bodies.

### 3.3 Industry Operation

#### 3.3.1 Annual Exposure Report

In its solicitation for comments on draft language associated with this proposed rulemaking, the NRC staff requested that commenters provide an estimate of the burden reduction that would result if the rulemaking was pursued. The nuclear power industry estimates were between \$1000 to \$5000 per site per year or approximately \$70,000 to \$350,000 per year for the nuclear power industry. The NRC staff will use an estimate of \$100,000 per year in savings for the value impact assessment. Using data reported in NUREG-0713, this savings translates to \$0.85 per monitored individual receiving less than 1 mSv (100 mrem). At an assumed discount rate of three percent and an average of remaining license term of 37 years, the total savings (in present dollars) is \$2,217,000. An assumed discount rate of seven percent over the same period results in an estimated savings of \$1,312,000.

Using the data reported in NUREG-0713, approximately 6000 individuals at fuel cycle facilities and ISFSIs received less than 1 mSv (100 mrem). Under the proposed rulemaking, the licensees would not be required to automatically provide reports to these workers and would, therefore, avoid the associated costs. Assuming a comparable savings as calculated for power reactor licensees (\$0.85 per report), the savings for this group of licensees is \$5,000 per year. This value is consistent with the

comments from a fuel cycle facility licensee responding to the publication of draft language stating that minimal cost savings resulted from the proposed change. For an operating term consistent with power reactors (37 years), the lifetime savings are \$111,000 for an assumed discount rate of three percent and \$66,000 for an assumed discount rate of seven percent.

The impact of the proposed change regarding annual exposure reports for the second grouping (consisting of low-level waste disposal, manufacturing and distribution, and industrial radiography) will depend on the number of monitored individuals and the programs and procedures used by each licensee. Those licensees choosing to maintain their current procedures for providing an annual report to all monitored individuals would not realize savings from the proposed rule. Licensees adopting the reduced reporting requirements could achieve some modest savings. The NRC staff estimates that this change would be adopted by only the 20 or so licensees in this category that employ hundreds of employees. This results in a number of potentially eliminated reports to individuals that is comparable to the fuel cycle facilities discussed above. Assuming similar savings per report averted, the lifetime savings for this group of licensees would likewise be in the range of \$66,000 to \$111,000 for an assumed discount rate of three and seven percent, respectively.

### 3.3.2 Labeling Containers

Comments provided in response to the notice on draft language that preceded this proposed rulemaking included estimated savings for nuclear power plant licensees of \$10,000 to \$50,000 per site per year or approximately \$700,000 to \$3.75M per year

for the industry. The NRC staff will use an estimate of \$1M per year in savings for the value impact assessment. At an assumed discount rate of three percent and an average of remaining license term of 37 years, the total savings (in present dollars) is \$22,170,000. An assumed discount rate of seven percent over the same period results in an estimated savings of \$13,120,000. This proposed change is applicable only to power reactor licensees.

### 3.3.3 Prior Occupational Dose

Comments provided in response to the notice on draft language that preceded this proposed rulemaking included estimated savings for nuclear power plant licensees of \$2,000 to \$100,000 per site per year or approximately \$140,000 to \$7M per year for the industry. The NRC staff will use an estimate of \$200,000 per year in savings for the value impact assessment for the nuclear power industry. At an assumed discount rate of three percent and an average of remaining license term of 37 years, the total savings (in present dollars) is \$4,434,000. An assumed discount rate of seven percent over the same period results in an estimated savings of \$2,624,000.

Specific estimates were not provided for other types of NRC licensees in the comments received following the notices providing draft language before this proposed rulemaking. The cost savings associated with the proposed change on obtaining prior cumulative radiation dose is dependent on the number of individuals being added to a radiation protection program through hiring new employees or using contract workers. Both of the previous groupings of materials licensees have smaller work forces and bring in new employees less frequently than do the power reactor licensees. The NRC

staff assumes the proposed rule will result in no or minimal reductions in the operating costs for both groups of materials licensees. NUREG-0713 explains that ninety-nine percent of the transient work force is associated with the nuclear power industry. The NRC staff will assume that the savings to the non-power reactor licensees is proportional to the number of transient employees and therefore would be in the range of \$26,000 (seven percent discount rate) to \$44,000 (three percent discount rate).

### 3.3.4 TEDE

The changes associated with this proposed rulemaking provide clarification to the regulations. There are possible savings from licensees avoiding licensing submittals and NRC reviews if they adopt a previously NRC-approved dosimetry method to determine effective dose equivalent. Revising the actual estimation of TEDE using effective dose equivalent in accordance with an NRC approved dosimetry method would, however, be part of other licensee initiatives in their radiation protection program and, while possibly aided by this proposed rulemaking, would not result directly from the proposed changes. For the purpose of this assessment, the clarification of the TEDE definition is assumed to result in a savings of 50 hours per year for the nuclear power industry (a couple hours per year per licensee). At an assumed \$88 per staff hour, a discount rate of three percent, and an average of remaining license term of 37 years, the total savings (in present dollars) is \$98,000. An assumed discount rate of seven percent over the same period results in an estimated savings of \$58,000.

Other NRC licensees may also realize some savings from the clarification of the NRC regulations. As shown above for licensees of nuclear power plants, the NRC

staff's position is that the savings associated with this change are small and are comparable to the likewise small implementation costs.

### 3.4 NRC Implementation

Implementation of the proposed rulemaking would require minor changes to existing documents such as NRC Form 3. The proposed rulemaking may also require minor changes to NRC staff procedures and guidance documents. The NRC staff estimates that preparing the various documents and guidance would require approximately 250 staff-hours or \$22,000 (assuming a conversion factor of \$88 per staff-hour). The NRC will incur additional costs for publishing and distribution of revised forms, which the staff expects may be completed by spending less than \$28,000. The one-time NRC cost of implementing the proposed rule is, therefore, estimated to be \$50,000.

### 3.4 NRC Operation

Following its implementation, the proposed rulemaking would not affect routine NRC operations. The change to clarify the definition of TEDE may result in some savings by reducing the number of licensing actions and interactions with licensees caused by the current language. These savings are relatively small and so the NRC staff will assume the proposed rulemaking is neutral in terms of assessing the effect on NRC operations.

The results of the NRC staff's value-impact assessment are summarized in the following table:

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Summary of Industry Implementation and Operating Costs (Savings)				
	Licensee	Implementation Costs (Savings) (\$K)	Operating Costs (Savings)	
			Using 7% Discount Rate (\$K)	Using 3% Discount Rate (\$K)
1) Annual Exposure Reports	Power Reactors	250	(2,217)	(1,312)
	Fuel Cycle/ISFSIs	35	(111)	(66)
	Industrial, etc. (note 1)	70	(111)	(66)
2) Labeling Containers	Power Reactors	500	(22,170)	(13,120)
	Fuel Cycle/ISFSIs	n/a	n/a	n/a
	Industrial, etc.	n/a	n/a	n/a
3) Prior Occupational Dose	Power Reactors	250	(4,434)	(2,624)
	Fuel Cycle/ISFSIs	35	(44)	(26)
	Industrial, etc. (note 1)	25		
4) TEDE	Power Reactors	62	(98)	(58)
	Fuel Cycle/ISFSIs	minimal	minimal	minimal
	Industrial, etc. (note 1)	minimal	minimal	minimal
SUBTOTALS	Power Reactors	1,062	(28,919)	(17,114)
	Fuel Cycle/ISFSIs	70	(266)	(158)
	Industrial, etc. (note 1)	95		
TOTAL (note 2)		1,157	(29,185)	(17,272)
note 1: It is difficult to estimate the implementation costs and potential savings for the diverse groups of materials licensees. In general, the NRC staff believes the costs and savings to be minor and the nature of the changes allows licensees to continue current practices if they determine it is not cost beneficial to make the administrative changes needed to adopt the relaxed requirements.				
note 2: The addition of the NRC implementation cost of \$50K results in a total implementation cost of \$1,207K				

In summary, the implementation cost of the proposed rule would be relatively small for both the nuclear industry and the NRC. Implementation costs for the nuclear power industry are estimated to range from minimal to as much as \$1M if each change was implemented as an independent activity. Estimating the costs for materials licensees is difficult but the NRC staff believes the costs to be small. In addition, licensees could generally maintain their current procedures and practices under the proposed rule and pursue changes only if they found them to be cost beneficial. The cost savings associated with the proposed rule would largely benefit the licensees for nuclear power plants and are expected to be in the range of \$17M to \$29M. Other NRC licensees may realize marginal cost savings from the proposed changes.

#### 4. Presentation of Results

As described in the NRC staff's value-impact assessment, the savings associated with each of the proposed changes exceed the expected implementation costs for the nuclear power industry. When combined, the proposed changes are expected to cost less than \$1M for the nuclear power industry to implement and would result in long term savings for those licensees of between \$17M and \$29M. The proposed changes are expected to be slightly beneficial or neutral for other NRC and Agreement State licensees. The changes are such that licensees may continue with current practices if they determine that it is not cost effective to revise procedures to adopt the reduced collection, reporting and posting of information.

An additional benefit from the proposed changes is that they improve the clarity of NRC regulations. This is especially true for the proposed changes to the TEDE definition. Issues related to the definition of TEDE required the NRC staff to issue a RIS to explain the

regulations. The proposed change clarifies the existing regulation.

#### 5. Decision Rationale

The nuclear power industry could save on the order of \$23M from the proposed changes over the remaining license terms for the operating plants. Although only marginal savings might be realized by some materials licensees, the proposed rulemaking does not introduce significant costs or administrative hardships for those licensees. The savings are obtained by reducing administrative and paperwork requirements that could be achieved without affecting the regulatory requirements that are intended to limit the exposure of workers or the public to radiation. The NRC staff recommends proceeding with the proposed rulemaking because the changes improve the effectiveness of NRC regulations, and reduce unnecessary regulatory burden, while not adversely affecting the agency's other performance goals. This proposed rulemaking is part of the NRC initiative to reduce unnecessary regulatory burden described in SECY-02-0081 and in the performance goals for the agency's Strategic Plan for fiscal years 2000 through 2005. The proposed rulemaking is also consistent with the goals and effectiveness strategies in the NRC Strategic Plan for fiscal years 2004 through 2009.

#### 6. Implementation Schedule

After the publication of the proposed rule in the *Federal Register* and the consideration and resolution of the public comments, a final rule will be published, which will become effective 30 days after its publication in the *Federal Register*.

## **XII. Regulatory Flexibility Certification**

As required by the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission certifies that this rule, if adopted, will not have a significant economic impact upon a substantial number of small entities. Although three of the changes included in the proposed rule would cover all 22,000 licensees regulated by the NRC and Agreement States, the changes are such that licensees, including the affected small entities, may continue their current practices and would comply with the proposed regulation. Licensees would be expected to incur the costs of changing their procedures only if they determine it is cost effective to take advantage of the revised rule. The NRC finds, therefore, that the changes do not have a significant economic impact on those licensees defined as small entities. The change related to labeling containers would affect only licensees authorized to operate nuclear power reactors. These licensees do not fall within the scope of the definition of “small entities” set forth in the Regulatory Flexibility Act, or the Size Standards established by the NRC (10 CFR 2.810).

## **XIII. Backfit Analysis**

The NRC has determined that the backfit rule does not apply to this proposed rule; therefore, a backfit analysis is not required for this proposed rule because these amendments do not impose more stringent requirements on NRC licensees. The proposed amendments either maintain without substantive change existing requirements or reduce current regulatory requirements. Therefore, the NRC has not prepared a backfit analysis for this rulemaking.

## **List of Subjects**

### **10 CFR Part 19**

Criminal penalties, Environmental protection, Nuclear materials, Nuclear power plants and reactors, Occupational safety and health, Radiation protection, Reporting and recordkeeping requirements, Sex discrimination.

### **10 CFR Part 20**

Byproduct material, Criminal penalties, Licensed material, Nuclear materials, Nuclear power plants and reactors, Occupational safety and health, Packaging and containers, Radiation protection, Reporting and recordkeeping requirements, Source material, Special nuclear material, Waste treatment and disposal.

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. 553, the NRC is proposing to adopt the following amendments to 10 CFR Parts 19 and 20.

## **PART 19 — NOTICES, INSTRUCTIONS AND REPORTS TO WORKERS: INSPECTION AND INVESTIGATIONS**

1. The authority citation for Part 19 continues to read as follows:

**AUTHORITY:** Secs. 53, 63, 81, 103, 104, 161, 186, 68 Stat. 930, 933, 935, 936, 937, 948, 955,

as amended, sec. 234, 83 Stat. 444, as amended, sec. 1701, 106 Stat. 2951, 2952, 2953 (42 U.S.C. 2073, 2093, 2111, 2133, 2134, 2201, 2236, 2282 2297f); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841); Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851); sec. 1704, 112 Stat. 2750 (44 U.S.C. 3504 note).

2. In § 19.13, paragraph (b) is revised to read as follows and paragraph (d) is removed and reserved:

§19.13 Notifications and reports to individuals.

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- (b) Each licensee shall make available to workers information regarding their dose as shown in records maintained by the licensee pursuant to the provisions of §20.2106 of 10 CFR part 20. On an annual basis, the licensee shall provide a report to each individual monitored pursuant to §20.1502(a) of 10 CFR part 20, the dose received in that monitoring year, if:
- (1) The individual's occupational dose exceeds 2 percent of the dose limits in §20.1201(a) of 10 CFR part 20;
  - (2) The individual is a minor subject to the dose limit in §20.1207 of 10 CFR part 20;
  - (3) The individual is a declared pregnant woman subject to the dose limit in §20.1208(a) of 10 CFR part 20; or
  - (4) The individual makes a request for a report of the individual's annual dose.

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§19.13(d)      Reserved

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## PART 20 — STANDARDS FOR PROTECTION AGAINST RADIATION

1. The authority citation for Part 20 continues to read as follows:

**AUTHORITY:** Secs. 53, 63, 65, 81, 103, 104, 161, 182, 186, 68 Stat. 930, 933, 935, 936, 937, 948, 953, 955, as amended, sec. 1701, 106 Stat. 2951, 2952, 2953 (42 U.S.C. 2073, 2093, 2095, 2111, 2133, 2134, 2201, 2232, 2236, 2297f), secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846); sec. 1704, 112 Stat. 2750 (44 U.S.C. 3504 note).

2. In § 20.1003, the definition of Total Effective Dose Equivalent is revised to read as follows:

### § 20.1003 Definitions.

\*\*\*\*\*

*Total Effective Dose Equivalent* (TEDE) means the sum of the effective dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures). When the external exposure is determined by measurement with an external personal monitoring device, the deep dose equivalent shall be used in place of the effective dose equivalent, unless the effective dose equivalent is determined by a dosimetry method approved by the NRC.

3. In §20.1905, paragraph (g) is added to read as follows:

§20.1905 Exemptions to labeling requirements.

\*\*\*\*\*

- (g) Containers holding licensed material at a nuclear power facility that are within an area posted pursuant to the requirements 10 CFR 20.1902 if they are:
  - (1) Conspicuously marked (such as by providing a system of color coding, labeling, or tagging of containers) commensurate with the radiological hazard;
  - (2) Accessible only to individuals who have sufficient instructions to minimize radiation exposure while handling, or working in the vicinity of, the containers; and
  - (3) Subject to plant procedures to ensure they are appropriately labeled, pursuant to 10 CFR 20.1904, before being removed from the posted area.

4. In §20.2104, paragraph (a) is revised to read as follows:

§20.2104 Determination of prior occupational dose.

- (a) (1) For each individual who is likely to receive in a year, an occupational dose requiring monitoring pursuant to § 20.1502, the licensee shall determine the occupational radiation dose received during the current year; and  
(2) For any individual being authorized to receive a planned special exposure, the licensee shall obtain the records of cumulative occupational radiation dose.

5. Section 20.2205 is revised to read as follows:

§20.2205 Reports to individuals.

When a specific licensee is required, pursuant to the provisions of §§ 20.2202, 20.2203 or 20.2204, to report to the Commission any exposure of an identified occupationally exposed individual, or an identified member of the public, to radiation or radioactive material, the licensee shall also provide the individual a report on his or her exposure data included therein. This report must be transmitted at a time no later than the transmittal to the Commission.

Dated at Rockville, Maryland, this        day of                      , 2005.

For the Nuclear Regulatory Commission.

Annette Vietti-Cook, Secretary of the Commission.