

programs, and the maintenance rule program.

Subsequent to the May 22, 2003, meeting the NRC staff developed a proposal to use the fire protection program as an example program to illustrate the level of detail needed to determine if programmatic ITAAC are necessary. The fire protection program was chosen because it could fall into Category C or D above depending on the information provided at the time of a COL application.

*During the workshop the following topics will be discussed:*

- Is the categorization of the 14 programs listed in SECY-02-0067 appropriate?
- Are there programs that are missing from the list?
- Should any of the programs be placed in different categories?
- The NRC staff would like to discuss the programs that fall into Categories C and D. The NRC staff's proposal uses the fire protection program for the AP600 standard nuclear reactor design and the Callaway Plant as a starting point to develop guidelines for the level of programmatic information that would be needed in order to issue a COL without ITAAC for that program. Is the level of detail contained in the staff's proposal appropriate?

A specific agenda for the workshop will be developed and made available prior to the meeting. To assure a diversity of viewpoints, the NRC is inviting stakeholders from the nuclear power industry, representatives from citizens groups, and State agencies, to sit in a roundtable discussion. Although the focus of the meeting will be on the roundtable discussion, there will be opportunities for members of the audience to offer comments and ask questions. Questions related to the staff's draft proposal should be directed to Joseph Sebrosky. Questions related to the public meeting process should be directed to Mr. Chip Cameron. Mr. Sebrosky's and Mr. Cameron's contact information is provided above.

Dated at Rockville, Maryland, this 18th day of July, 2003.

For The Nuclear Regulatory Commission.

**James E. Lyons,**

*Program Director, New, Research and Test Reactors Program, Division of Regulatory Improvement Programs, Office of Nuclear Reactor Regulation.*

[FR Doc. 03-18843 Filed 7-23-03; 8:45 am]

BILLING CODE 7590-01-P

## NUCLEAR REGULATORY COMMISSION

### Proposed Generic Communication Method For Estimating Effective Dose Equivalent From External Radiation Sources Using Two Dosimeters

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Notice of opportunity for public comment.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is proposing to issue a Regulatory Issue Summary (RIS) which approves and provides guidance on a two dosimeter monitoring method that can be used by licensees for estimating effective dose equivalent (EDE) from external radiation exposures. The NRC is seeking comment from interested parties on the clarity and utility of the guidance contained in the proposed RIS. In particular, comment is requested on the following questions:

1. Is the two dosimeter method a technically acceptable alternative to the current practice of estimating EDE from deep dose equivalent (DDE)?
2. Is the NRC use of a RIS to approve the two dosimeter method acceptable under the existing regulations?
3. Are algorithms that attempt to provide better estimates of the effective dose equivalent by using more than one dosimeter of importance to your industry?
4. Do you believe that this and similar algorithms, many of which were described in NCRP Publication 122, are sufficiently technically developed to serve as a basis for dosimetry of record?
5. Is the discussion of the issues provided in the RIS sufficiently detailed to provide a background for the reasons for approving the EPRI method generically?
6. Should different or more detailed guidance be provided in an NRC Regulatory Guide or generic communication?
7. Should the definition of the total effective dose equivalent (TEDE) in part 20 be revised to replace the deep dose equivalent with the effective dose equivalent, and make that quantity more consistent with national and international definitions?
8. To what extent should accuracy replace conservatism as the goal for personnel monitoring?

The NRC will consider the comments received in its final evaluation of the proposed RIS.

This **Federal Register** notice is available through the NRC's Agencywide Documents Access and Management System (ADAMS) under accession number ML031980001.

**DATES:** Comment period expires September 22, 2003. Comments submitted after this date will be considered if it is practical to do so, but assurance of consideration cannot be given except for comments received on or before this date.

**ADDRESSES:** Submit written comments to the Chief, Rules and Directives Branch, Division of Administrative Services, Office of Administration, U.S. Nuclear Regulatory Commission, Mail Stop T6-D59, Washington, DC 20555-0001, and cite the publication date and page number of this **Federal Register** notice. Written comments may also be delivered to NRC Headquarters, 11545 Rockville Pike (Room T-6D59), Rockville, Maryland, between 7:30 a.m. and 4:15 p.m. on Federal workdays.

**FOR FURTHER INFORMATION CONTACT:** Sami Sherbini at (301) 415-7853 or by e-mail to [sxs2@nrc.gov](mailto:sxs2@nrc.gov), or Roger Pedersen at (301) 415-3162 or by e-mail to [rlp1@nrc.gov](mailto:rlp1@nrc.gov).

#### SUPPLEMENTARY INFORMATION:

#### Draft Regulatory Issue Summary Method For Estimating Effective Dose Equivalent From External Radiation Sources Using Two Dosimeters

##### Addressees

All U.S. Nuclear Regulatory Commission (NRC) licensees.

##### Intent

NRC is issuing this regulatory issue summary (RIS) to provide guidance on an approved two-dosimeter monitoring method for estimating effective dose equivalent (EDE) from external radiation exposures. This EDE can be used instead of the deep dose equivalent (DDE) in complying with NRC regulatory requirements.

##### Background

Total effective dose equivalent (TEDE) is used in 10 CFR part 20 (part 20) to specify dose limits for occupationally exposed workers, and for members of the public. Other requirements (in part 20 and other parts of NRC's regulations), such as the criteria for license termination, are also specified in terms of the TEDE. Since EDE cannot be directly measured, part 20 defines TEDE as "the sum of the deep-dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures)." Part 20 goes on to specify that this DDE be measured at the part of the whole body with the highest exposure. This DDE can be directly measured with available dosimeters, and, in most exposure situations, provides a reasonable, conservative, and often the best, estimate for EDE from

external sources ( $EDE_{ex}$ ). However, in non-uniform exposure situations, such as from a directional source, DDE measured at the part of the whole body with the highest exposure can be an overly conservative estimate.

The NRC recently published RIS 2003-04 to encourage licensees to use the  $EDE_{ex}$  for determining TEDE whenever the dose from external sources is calculated instead of measured with personnel dosimetry. The RIS discusses the limitations on, and the regulatory basis for, substituting the  $EDE_{ex}$  for DDE in determining compliance with TEDE based regulatory requirements. Estimating  $EDE_{ex}$  from dosimeter readings is very dependent on exposure geometry. Therefore, RIS 2003-04 also noted that methods for estimating TEDE from an  $EDE_{ex}$  determined from dosimeter readings, must be approved by the NRC. The 2003-04 RIS also noted that NRC approved the use of a two dosimeter method for estimating effective dose equivalent at Entergy sites (Reference 1).

This RIS describes the exposure situations in which NRC would regard the use of a monitoring method to estimate  $EDE_{ex}$  as appropriate and acceptable for estimating TEDE. This RIS does not affect the definition of other non-TEDE limits or criteria in part 20.

### Summary of Issues

#### *Use of Effective Dose Equivalent*

The NRC has approved a method for estimating  $EDE_{ex}$  from external photon exposure situations. The guidance in this RIS is based on the review and approval of the exemption for Entergy (Reference 1).

This method uses two dosimeter readings and is based on research conducted by the Electric Power Research Institute (EPRI). The EPRI work (References 2, 3, and 4) indicates that a single dosimeter, calibrated to read DDE and worn on the chest, provides a reasonably accurate estimate of  $EDE_{ex}$  when the individual is exposed to a number of randomly distributed radiation sources during the monitoring period. This is consistent with current allowable dosimetry practices and requires no special approval. However, for nonuniform exposures, such as from directional radiation fields or point sources,  $EDE_{ex}$  can be estimated from a reading of a dosimeter worn on the front ( $R_{front}$ ) of the trunk of the body, combined with the reading of a dosimeter worn on the back ( $R_{back}$ ) of the trunk of the body.

Two algorithms are given by EPRI for combining the dosimeter results:

#### 9. Mean Method:

The first algorithm is a simple, un-weighted, average (MEAN) of the two dosimeter readings. The MEAN is equal to  $\frac{1}{2}(R_{front} + R_{back})$ .

The EPRI technical reports state that the non-weighted average does not always give a conservative result. Since no method is provided to identify when the simple average gives non-conservative results, *this algorithm is not approved for use at this time.*

#### 10. Weighted Method:

The second algorithm, which was the subject of the Entergy exemption, is a weighted average algorithm such that:  $EDE_{ex} = \frac{1}{2}(H_i + MEAN)$

Where  $H_i$  is the higher of  $R_{front}$  or  $R_{back}$ .

A mathematically simpler form of this weighted algorithm is:

$$EDE_{ex} = 3/4H_i + 1/4L_o$$

Where  $H_i$  is the higher of  $R_{front}$  or  $R_{back}$  and  $L_o$  is the lower of  $R_{front}$  or  $R_{back}$ .

The data presented in the EPRI technical reports (references 1 and 2) indicate that this weighted two-dosimeter algorithm provides a reasonably conservative estimate of  $EDE_{ex}$ . Therefore, only the weighted two-dosimeter algorithm is approved for use at this time for exposures in a non-uniform field.

As a result of NRC approving the above weighted method, monitoring the DDE at the part of the body receiving the highest exposure as provided in 10 CFR 20.1201(c) is not needed for determining compliance with TEDE based requirements when the weighted method is used subject to the limitations which are set out below. This is because Footnote 2 in the "Organ Dose Weighting Factors" table in 10 CFR 20.1003, permits the use of weighting factors to determine external exposures without case-by-case approvals when specific NRC guidance has been issued. This RIS constitutes such guidance for using the above weighted method for determining the external exposure from weighted dosimeters measuring direct DDE. An exemption from part 20 is not needed if the guidance in this RIS is followed for determining external exposures. However, 10 CFR 20.1201(c) still applies to the DDE required to be used in complying with the organ dose limit in 10 CFR 20.1201(a)(1)(ii).

#### *Additional Issues and Limitations*

Licensees may, subject to the following limitations, use this weighted two-dosimeter method for determining  $EDE_{ex}$ , and estimating TEDE, from external photon exposures without applying for further approval from the NRC.

Partial-body irradiations (*i.e.*, exposure geometries that preferentially shield the dosimeters) could bias the EPRI method results in the non-conservative direction. Licensees must ensure that dosimeters are worn so that at least one of the two dosimeters "sees" the major source, or sources, of radiation (one dosimeter will normally be shielded from a source by the body). In other words, the radiological work will be conducted and the dosimeters worn in such a way, so that no shielding material is present between the radioactive source(s) and the whole body, that would cast a shadow on the dosimeter(s) and not over other portions of the whole body.

This method for estimating  $EDE_{ex}$  from dosimeter readings, is not valid for exposure situations where the individual is immersed in a shielding material (*i.e.*, diving operations). Large dose-rate gradients resulting from such immersions over the space occupied by the body can bias the two dosimeter results.

Only dosimeters that have demonstrated angular response characteristics at least as good as those specified in Reference 5, are to be used. If the dosimeter's response decreases more rapidly than  $EDE_{ex}$ , as the angle of incident radiation increases, the resulting  $EDE_{ex}$  estimate will be biased in the non-conservative direction. In addition, the dosimeters should be calibrated to indicate DDE at the monitored location to ensure their readings reflect electronic equilibrium conditions.

This method for estimating  $EDE_{ex}$  from two dosimeter readings is not applicable to exposure situations where the sources of radiation are nearer than 12 inches (30 cm) from the surface of the body. This is the closest distance that the two-dosimeter algorithm has been demonstrated to provide conservative results for discrete (point) radiation sources.

The use of monitoring methods for estimating  $EDE_{ex}$ , from exposure to point sources (*i.e.*, hot particles) on, or near the surface of the body, is outside the scope of this approval. Tables 5 through 7, in Reference 3, provide some calculated  $EDE_{ex}$  values resulting from exposure to point sources in contact with the torso of the body. However, the information provided in these tables does not bound all of the pertinent point source exposure situations.

Licensees using the weighted methodology need to maintain sufficient records to demonstrate the above limitations were satisfied.

## Conclusions

The weighted two-dosimeter algorithm, described in this RIS, provides an acceptably conservative estimate of EDE<sub>ex</sub>. The TEDE based on EDE<sub>ex</sub> using this algorithm in accordance with its associated limitations is acceptable.

When recording or reporting doses in situations in which the EDE<sub>ex</sub> is assessed instead of the DDE, the value of the EDE<sub>ex</sub> is entered in place of the DDE in recording or reporting forms, such as NRC Forms 4 or 5.

## References

1. Exemption from the Requirements of 10 CFR part 20, § 20.1003 Definition of Total Effective Dose Equivalent issued to Arkansas Nuclear One, Units 1 and 2; Grand Gulf Nuclear Station; Indian Point Nuclear Station, Units 1, 2 and 3; James A. Fitzpatrick Nuclear Power Plant; Pilgrim Nuclear Power Station; River Bend Station; Vermont Yankee Nuclear Power Plant; and Waterford Steam Electric Station, Unit 3, 67 FR 58826 (September 18, 2002) (ML022550559).
2. EPRI Technical Report TR-101909, Volume 1, February 1993.
3. EPRI Technical Report TR-101909, Volume 2, June 1995.
4. EPRI Implementation Guide TR-109446, September 1998.
5. Xu, X. G.; Reese, W. D.; and Poston, J. W., "A Study of the Angular Dependence Problem In Effective Dose Equivalent Assessment", Health Physics, Volume 68., No. 2, February 1995, pp. 214-224.

## Backfit Discussion

This RIS does not require any action nor written response nor require any modification to plant structures, systems, components, or design; therefore, the staff did not perform a backfit analysis.

## Federal Register Notice

A notice of opportunity for public comment was published in the **Federal Register**.

## Paperwork Reduction Act Statement

This RIS does not require any action nor written response nor require any modification to plant structures, systems, components, or design; therefore, the staff did not perform a backfit analysis.

## Paperwork Reduction Act Statement

This RIS does not request any information collection.

## End of Draft Regulatory Issue Summary

Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available

records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/NRC/ADAMS/index.html>. If you do not have access to ADAMS or if you have problems in accessing the documents in ADAMS, contact the NRC Public Document Room (PDR) reference staff at 1-800-397-4209 or 301-415-4737 or by e-mail to [pdr@nrc.gov](mailto:pdr@nrc.gov).

Dated at Rockville, Maryland, this 14th day of July 2003.

For the Nuclear Regulatory Commission.

**William D. Beckner,**

*Branch Chief, Reactor Operations Branch, Division of Inspection Program Management, Office of Nuclear Reactor Regulation.*

[FR Doc. 03-18688 Filed 7-23-03; 8:45 am]

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## SECURITIES AND EXCHANGE COMMISSION

### Existing Collection; Comment Request

*Upon Written Request, Copies Available*

*From:* Securities and Exchange Commission, Office of Filings and Information Services, 450 Fifth Street, NW., Washington, DC 20549.

*Extension:*

Rule 23c-1 [17 CFR 270.23c-1], SEC File No. 270-253, OMB Control No. 3235-0260.

Notice is hereby given that, pursuant to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501-3520), the Securities and Exchange Commission (the "Commission") is soliciting comments on the collection of information summarized below. The Commission plans to submit this existing collection of information to the Office of Management and Budget for extension and approval.

Rule 23c-1 under the Investment Company Act of 1940, among other things, permits a closed-end fund to repurchase its securities for cash if in addition to the other requirements set forth in the rule: (i) Payment of the purchase price is accompanied or preceded by a written confirmation of the purchase; (ii) the asset coverage per unit of the security to be purchased is disclosed to the seller or his agent; and (iii) if the security is a stock, the fund has, within the preceding six months, informed stockholders of its intention to purchase stock. The Commission staff estimates that approximately 19 closed-end funds rely on rule 23c-1 annually to undertake approximately 132 repurchases of their securities. The

Commission staff estimates that, on average, a fund spends approximately 2.5 hours on complying with the paperwork requirements listed above each time it undertakes a security repurchase under the rule. The total annual burden of the rule's paperwork requirements thus is estimated to be 330 hours.

In addition, the fund must file with the Commission, during the calendar month following any month in which a purchase permitted by rule 23c-1 occurs, two copies of a report of purchases made during the month, together with a copy of any written solicitation to purchase securities given by or on behalf of the fund to 10 or more persons. The burden associated with filing Form N-23C-1, the form for this report, has been addressed in the submission for that Form.

The estimate of average burden hours is made solely for the purposes of the Paperwork Reduction Act, and is not derived from a comprehensive or even a representative survey or study of the costs of Commission rules and forms. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid control number.

Written comments are invited on: (a) Whether the collection of information is necessary for the proper performance of the functions of the Commission, including whether the information has practical utility; (b) the accuracy of the Commission's estimate of the burden of the collection of information; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology. Consideration will be given to comments and suggestions submitted in writing within 60 days of this publication.

Please direct your written comments to Kenneth A. Fogash, Acting Associate Executive Director/CIO, Office of Information Technology, Securities and Exchange Commission, 450 5th Street, NW., Washington, DC 20549.

Dated: July 16, 2003.

**Jill M. Peterson,**

*Assistant Secretary.*

[FR Doc. 03-18898 Filed 7-23-03; 8:45 am]

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