

Next Steps towards Revising Radiation Protection Regulations (10 CFR Part 20)

*Organization of Agreement States
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Background

- **ICRP revised recommendations announced in December, 2007**
- **NRC staff analysis indicated areas warranting consideration for revisions – SECY-08-0197, December, 2008**
- **Commission approved staff recommendation to engage stakeholders and initiate development of technical basis materials on April 2, 2009**
- **Staff recommendations – SECY-12-0064, April 25, 2012**

SRM-SECY-12-0064

Recommendations for Policy and Technical Direction to Revise Part 20

- The Commission issued the Staff Requirements Memorandum (SRM) to the staff on December 17, 2012.
- The Commission approved in part, and disapproved in part, the staff's recommendation from SECY-12-0064.
- The staff is moving forward to implement the Commission's direction.

Revise Methodology and Terminology

- **Commission Direction:**
 - Develop a regulatory basis for a revision to 10 CFR Part 20 to align with the most recent methodology and terminology for dose assessment.
 - Develop a regulatory basis for parallel alignment of 10 CFR Part 50, Appendix I (Numerical Guideline for Design Objectives to meet ALARA).
 - Make corresponding changes in other portions of the regulations.
- **Proposal:**
 - TEDE becomes TED
 - New W_T and W_R values incorporated into definitions
 - Appendix B revised with new ALI and DAC values

Revise Methodology and Terminology

- **Issue:**
 - **Approach to calculation for “member of the public”**
 - Dose coefficient based on age weighted use of adults, teenagers, children and infants?
 - Target dose for ALI at 0.5 mSv (50 mrem) or change?
 - Coherence of EPA, DOE, NRC approaches
 - **Time frame for calculations to be available**
- **Key Questions:**
 - **What would be an appropriate time frame and approach to transition of terminology?**

Individual Protection

- **Commission Direction:**
 - Disapproved staff's recommendation to develop the regulatory basis to reduce the occupational total effective dose equivalent (TEDE) from 5 rem.
 - Continue discussions with stakeholders on alternative approaches to deal with individual protection at or near the current dose limit.
- **Objective:**
 - Regulatory requirements and guidance that will ensure that cumulative exposures are examined, and that progressive restrictions can be taken as cumulative exposures increase.

Individual Protection – Performance Options

- **Require ALARA planning**
- **Require licensees, as part of their radiation protection program, to establish mechanisms to examine cumulative exposure, and take progressive restrictions on the occupational exposure allowed as cumulative exposures increase.**

Individual Protection – Performance Options (continued)

- **Require licensees to establish one or more administrative control levels (ACL) as part of their radiation protection program and to establish specific procedures for individual protection.**
- **Acceptable approaches might include:**
 - **ACL 2 rem (20 mSv) per year.**
 - **ACL average 2 rem (20 mSv) over 5 year period (ICRP-103).**
 - **ACL to use NCRP 10 (mSv) x N (age) cumulative approach.**
 - **ACL to restrict individuals to 2 rem (20 mSv) if cumulative exposure exceeds xxx mSv.**
 - **Other Options**

Individual Protection

- **Key Questions:**
 - **What are the implications of a more structured framework for ALARA planning and implementation in the regulations? What changes to programs would be anticipated?**
 - **How might each approach work for different classes of licensed use?**
 - **Should licensees be allowed to establish different ACL's for different groups of individuals?**
 - **How do the different options for guidance support, or impact, the ability of licensees to best address protection within their programs. Are there other options that could be considered?**

Individual Protection

- **Key Questions (continued):**
 - **Is there other mechanisms to look at cumulative exposures?**
 - **What would be the impact of clarifying amendments to ensure that occupationally exposed individuals provide their exposure to each licensee under which they may be concurrently receiving exposure?**
 - **Should States be allowed to use more restrictive or prescriptive requirements if NRC decides to use performance based approach?**

Occupational Limit - Lens of the Eye

- **Commission Direction:**
 - **Continue discussions with stakeholders regarding possible revisions to the dose limit (15 rem (150 mSv)) for the lens of the eye**
- **Proposal:**
 - **Develop regulatory basis for reducing limit to 5 rem (50 mSv) LDE**

Occupational Limit - Lens of the Eye

- **Key Questions:**
 - Are there alternatives to keep cumulative exposure below threshold?
 - Viewpoints on the relative importance of health endpoint?
 - What methods should be allowed for measurement or assessment?
 - What methods should be allowed for recording dose when eye is protected?
 - What is impact on licensee activities? State regulatory programs?

Occupational Limit - Embryo/Fetus

- **Commission Direction:**
 - **Continue discussions with stakeholders regarding possible revisions to the dose limit (500 mrem (5 mSv))**
- **Proposal:**
 - **Develop regulatory basis for reducing limit to 100 mrem (1 mSv)**

Occupational Limit - Embryo/Fetus

- **Key Questions:**
 - **Apply to post declaration or entire gestation period?**
 - **What should be done if 100 mrem (1 mSv) has already been reached at declaration?**
 - **What methods should be allowed for measurement or assessment?**
 - **What is impact on licensee activities? State regulatory programs?**

Units of Exposure and Dose

- **Commission Direction:**
 - Disapproved the elimination of traditional units from NRC regulations. Both traditional and SI units should be maintained.
- **Proposal:**
 - Implement Commission Policy Statement – SI units first, traditional units in parenthesis

Units of Exposure and Dose

- **Key Questions:**
 - How do we avoid confusion?
 - Should Appendix B be given in SI units, or traditional, or both?
 - Should licensees be allowed to report in SI?
 - What is impact on licensee activities? State regulatory programs?

Reporting of Occupational Dose

- **Commission Direction:**
 - Improve reporting of occupational exposure by NRC and Agreement State licensees, some of which do not currently submit reports.
- **Proposal:**
 - Add categories of licensed use: e.g., Part 35, medical
 - Modify requirements for compatibility
 - Explore mechanisms for central repository of data for all to use

Reporting of Occupational Dose

- **Key Questions:**
 - **What categories should be included?**
 - **What is the rationale for reporting?**
 - **What are health and safety, and/or trans-boundary considerations?**
 - **How to deal with occupational exposure of machine produced radiations?**
 - **What is impact on licensee activities? State regulatory programs?**

Next Steps

- Engage Federal Agencies, States, licensees, and with public stakeholders on each of the topics.
- Develop *Federal Register* Notice with specific proposed options and questions – plan to publish for input late fall.
- Possibility of webinars.
- Further opportunities for comment in 2014 with more specific proposals.
- All comments will be docketed.
- The staff will develop regulatory basis using Commission direction for each technical issue.
- The tentative date for development of the regulatory basis is December, 2015.

Safety Culture Policy Statement Effectiveness Review

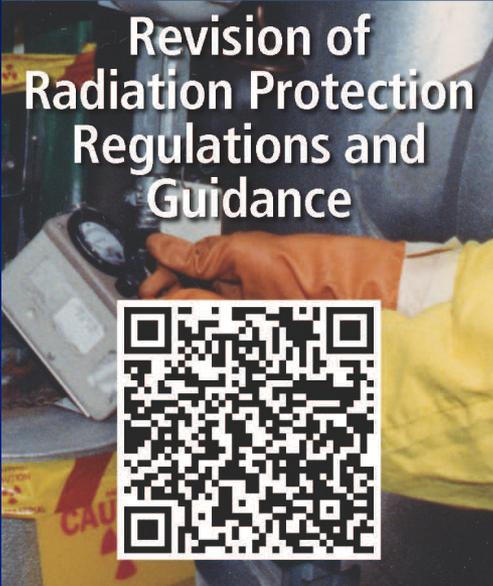
- Invitation to participate in an evaluation of the effectiveness of outreach and communication efforts on the Safety Culture Policy Statement (FSME-13-067 - July 25, 2013; ML13198A325)
 - Voluntary survey to be sent to material licensees
 - Contractor assistance in survey administration and analysis
 - Opportunity to provide input on survey development, receive State specific results, and participate in follow up activities
 - Indicate interest to contacts listed in letter by 9/13

Questions? Questions?

<http://www.nrc.gov/about-nrc/regulatory/rulemaking/potential-rulemaking/opt-revise.html>



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**Revision of
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