



Special Interest Session

Changing Radiation Protection Standards and Guidance

Conference of Radiation Control Program Directors

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History

- ICRP Recommendations announced December, 2007
- Initial Staff Recommendations – SECY-08-0197, December 2008
- Staff Recommendations for direction – SECY-12-0064, April 25, 2012
- The Commission issued the Staff Requirements Memorandum (SRM-SECY-12-0064) to the staff on December 17, 2012.
- The Commission approved in part, and disapproved in part, the staff's recommendation from SECY-12-0064.
- Staff is moving forward to implement the Commission's direction.



Areas of Work

- Updated Methodology and Terminology
- Part 20 (Standards for Protection Against Ionizing Radiation) Technical Issues
- Part 50, Appendix I (Numerical Guidelines for Design Objectives to meet ALARA) Technical Issues
- Conforming Changes to other portions of the Regulations



Overarching Questions to Address

- Cumulative effects of regulation
- Regulatory impact
- State implementation



Updated 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.
- Proposal:
 - TEDE becomes TED
 - New W_T and W_R values incorporated into definitions
 - Appendix B revised with new ALI and DAC values
- Key Questions:
 - What would be an appropriate time frame and approach to transition of terminology
 - Consistent methodology for calculations



Individual Protection

- Commission Direction:
 - Continue discussions with stakeholders on alternative approaches to deal with individual protection at or near the current effective 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.
- Options:
 - Performance based requirement added to ALARA and Radiation Protection Programs, with guidance, or
 - Prescriptive requirements



Individual Protection Performance Options

- Require licensees to establish an administrative control level (ACL) as part of their radiation protection program and to establish specific procedures for individual protection, such as:
 - ACL 20 mSv per year.
 - ACL average 20 mSv over 5 year period.
 - ACL to use NCRP 10 (mSv) x N (age) cumulative approach.
 - ACL to restrict individuals to 20 mSv if cumulative exposure exceeds xxx mSv.
 - Other Options



Individual Protection Prescriptive Options

- Require licensees to have a record of all occupational doses (lifetime) if exposures are permitted to exceed 20 mSv per year.
- Require that licensees not allow occupational exposures to exceed 20 mSv in a year if the cumulative occupational exposure exceeds xxx mSv.
- Require licensees be provided with record of all other sources of occupational exposure.
- Other Options



Individual Protection Questions

- Key Questions:
 - How does each approach work for different classes of licensed use?
 - Is there another mechanism to look at cumulative exposures?
 - Should States be allowed to use prescriptive requirement if NRC decides to use performance based approach?
 - What is impact on licensee activities? State regulatory programs?



Lens of the Eye

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



Embryo/Fetus

- Commission Direction:
 - Continue discussions with stakeholders regarding possible revisions to the dose limit (5 mSv (0.5 rem)) for embryo/fetus
- Proposal:
 - Reduction to 1 mSv (0.1 rem)
- Key Questions:
 - Apply to post declaration or entire gestation period?
 - What should be done if 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?



Traditional vs. SI Units

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



Reporting of Occupational Exposure

- 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
 - Modify requirements for compatibility
 - Explore mechanisms for central repository of data for all to use.
- 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?




10 CFR Part 20 – Next Steps

- Key Staff Actions:
 - Engage Federal Agencies, States, licensees, and with public stakeholders on each of the topics.
 - Conference of Radiation Control Program Directors Annual Meeting
 - International Dosimetry Conference
 - Health Physics Society Annual Meeting
 - Master Material License Counterpart Annual Meeting
 - Nuclear Energy Institute Radiation Protection Forum
 - American Association of Physicists in Medicine
 - Organization of Agreement States Annual Meeting
 - Develop Federal Register Notice with specific proposed options and questions.
 - Plan to publish for inputs early summer
 - All comments to be docketed
 - Round 2 in 2014 with more specific proposals.


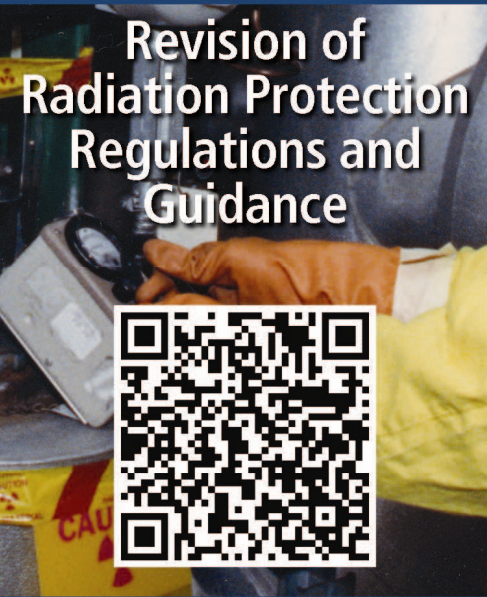


<http://www.nrc.gov/about-nrc/regulatory/rulemaking/potential-rulemaking/opt-revise.html>






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**Revision of
Radiation Protection
Regulations and
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