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

Health Physics Society Annual Meeting
July 8, 2013

Cindy Flannery, CHP
Senior Health Physicist

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.
  - 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

- **Key Questions:**
  - **What would be an appropriate time frame and approach to transition of terminology?**
  - **Consistent methodology for calculations, particularly for members of the public.**

Limit for Occupational TEDE

- Commission Direction:
  - Disapproved staff's recommendation to develop the regulatory basis to reduce the occupational total effective dose equivalent (TEDE).
  - 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 - ALARA

- **Options:**
  - **Performance based requirement added to ALARA and Radiation Protection Programs, with guidance**
  - **Prescriptive requirements**
  - **Require licensees to establish an administrative control level (ACL) as part of their radiation protection program and to establish specific procedures for individual protection**
  - **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 - ALARA

- **Key Questions:**
  - **How does each approach work for different classes of licensed use?**
  - **Should licensees be allowed to establish different ACL's for different groups of individuals?**
  - **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?**

Occupational Limit - Lens of the Eye

- **Commission Direction:**
  - **Continue discussions with stakeholders regarding possible revisions to the dose limit for the lens of the eye**
- **Proposal:**
  - **Develop regulatory basis for reducing limit to 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
- Proposal:
  - Develop regulatory basis for reducing limit to 1 mSv

Occupational Limit - Embryo/Fetus

- 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?

Units of Exposure and Dose

- **Commission Direction:**
  - **Disapproved the elimination of traditional units from NRC regulations. Both 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?**

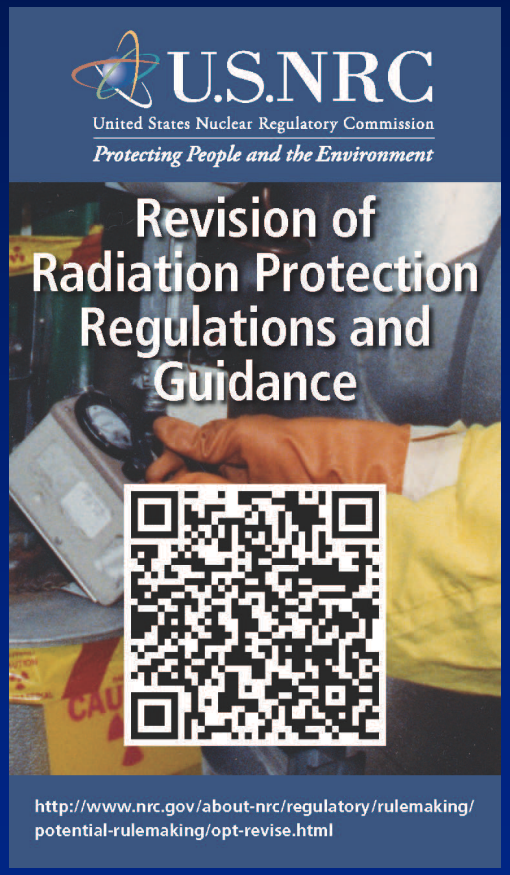
Next Steps

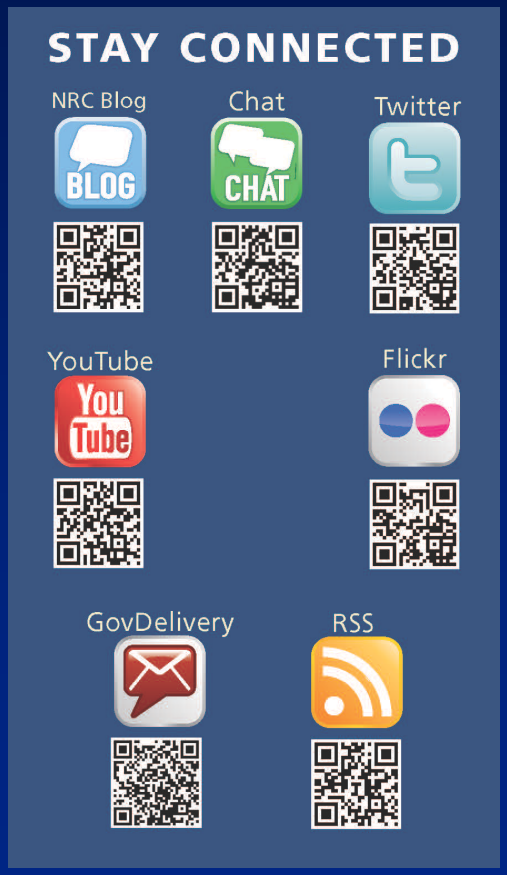
- Engage Federal Agencies, States, licensees, and with public stakeholders on each of the topics.
- The staff will develop regulatory basis using Commission direction for each technical issue.
- Develop *Federal Register* Notice with specific proposed options and questions – plan to publish for input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

Questions?

Questions?

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





U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment