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UNITED STATES NUCLEAR REGULATORY COMMISSION
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Overview of NRC Part 50 and Appendix I Regulations Update

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Rationale for Update

- Outdated Appendix I numerical guides for design objectives
  - dose criteria based on ICRP 2 dosimetry concepts
  - criteria inconsistent with current Part 20 (ICRP 26/30)
  - criteria inconsistent with ICRP 60 and 103 recommendations
- Difficult to defend a dual system of radiation protection
- Inconsistent with global approach in licensing new plants
- Inefficient for licensees and NRC staff
- Potential challenges in design certification & plant licensing
- *See recently issued NRC SECY-08-0197 for details*

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Update of Appendix I to Part 50

- Focus in Updating Appendix I & Guidance
  - align App. I criteria with Part 20 if revised, and, <u>if not,</u>
  - align App. I criteria with current Part 20 (ICRP 26/30)
  - reconsider criteria in Sections II.A, II.B, and II.C
  - update cost-benefit criteria in Section II.D – ongoing effort by NRR
  - update definition of dose receptors in Sections II and IV
  - assess whether Sections I and V need qualifiers, i.e., existing fleet of reactors *vs* new plants
  - revise Section I in differentiating applicability between LWR and Non-LWR, and NGNP
  - review and update NRC guidance and regulatory guides

Update of Appendix I to Part 50

- Dose criteria - Sect. II.A, II.B, & II.C
  - update dose definitions and express doses as ED or TED
  - keep the 3 & 5 mrem annual total body dose criteria for liquid and gaseous effluents
  - assess whether gamma and beta air dose criteria should remain
  - assess whether to omit reporting requirements for organ doses, e.g., skin, and thyroid
  - assess definition of thyroid dose contributors, e.g., ^{3}H and ^{14}C
  - assess whether organ dose results be available for inspection, beyond that submitted in annual reports

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- Cost-benefit criteria - Section II.D
  - revise the cost-benefit ratio of $1,000 per person-rem to post-2008 dollars – currently ongoing study by NRR
  - evaluate effluent treatment system designs and effectiveness in new reactor design certifications
  - reconsider process in determining the need for system augmentation in order of diminishing cost-benefit returns
  - redefine “items of reasonably demonstrated technology” for effluent treatment systems
  - restructure listings of effluent treatment systems of RG 1.110, as potential system augmentations
  - revise the associated maintenance, operating, and other costs of treatment systems in RG 1.110 appendices

Update of Appendix I to Part 50

- Other Associated Revisions
  - redefine compliance requirements for “licensed operation” for sites with multiple licensees under Part 20.1301(a)(1)
  - provide further elaboration on compliance with Part 20.1301(e) [40 CFR Part 190] in Part 20 or guidance
  - update NRC licensing guidance:
    > NUREG-0800 (SRP Chpt. 11), RG 1.206, 1.109, et al.,
    > GL 89-01, NUREG-1301, -1302, -0543, and -0133
    > Computer codes and other documents

Outreach Activities

- Fed. Reg. notice inviting input (72 FR 32198)
- Conduct of upcoming public workshops
- Industry meetings (NEI, HP Forum, HPS, RETS/REMP, etc.)
- FSME Newsletter (No. 09-1)
- Press release (No. 09-078)
- All State Letter (FSME 09-025)
- NRC website for press release and links:

  http://www.nrc.gov/reading-rm/doc-collections/news/2009/09-078.html

Future Plans

- Continue public and industry interactions
- Interact with EPA on 40 CFR Part 190 issues
- Monitor international developments
- Prepare policy paper justifying a Part 50 update
- Incorporate public and industry comments
- Finalize SECY and Policy Paper
- Staff recommendations to Commission – Fall 2011

Update of Appendix I to Part 50

- Thanks for your attention
- Any questions?