



**RIC 2009
Radiation Protection
Proposed Update of
Appendix I to Part 50**

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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- Outdated Appendix I numerical guides for design objectives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
- ICRP 2 no longer taught in health physics university curriculum
- May undermine public confidence in NRC licensing process
- Potential challenges in design certifications & plant licensing
- *See recently issued SECY-08-0197 for details*

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Update of Appendix I to Part 50

- Focus in Updating Appendix I Guides & Dose Criteria
 - align App. I criteria with Part 20 if revised, and, if not,
 - 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
 - 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

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Update of Appendix I to Part 50

- Reconsider dose criteria in 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 whether organ dose results be available for inspection, beyond that submitted in yearly reports

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Update of Appendix I to Part 50

- Update cost-benefit criteria in Section II.D
 - revise the cost-benefit ratio of \$1,000 per person-rem to post-2008 dollars
 - assess if effluent treatment systems effectiveness have been maximized in new reactor design certifications and COLs
 - assess need to evaluate 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

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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)
 - assess whether compliance with Part 20.1301(e) and 40 CFR Part 190 need further elaboration in Part 20 or guidance
 - update NRC licensing basis and guidance:
 - > NUREG-0800 (SRP), RG 1.206, 1.109, 1.110, et al.,
 - > Generic Letter 89-01, NUREG-1301, -1302, and -0543,
 - > other documents, computer codes, etc.

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Update of Appendix I to Part 50



- Thanks for your attention
- Any questions?
