

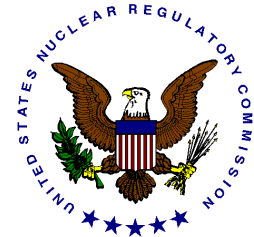


BUILDING AND SITE RELEASE AND USE

Scott Moore
United States Nuclear Regulatory Commission
June 2002



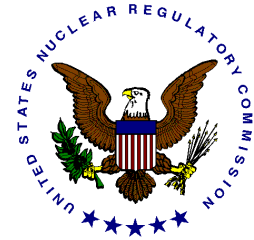
Overview



- Release Standards
- Demonstrating Compliance
 - Dose Modeling
 - Radiological Surveys
- Other Topics



Release Standards



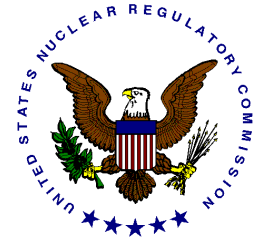
License Termination Rule:*

- Unrestricted Release
- Restricted Release

* See 10 CFR 20, Subpart E (<http://www.nrc.gov/reading-rm/doc-collections/cfr/>)



Unrestricted Release

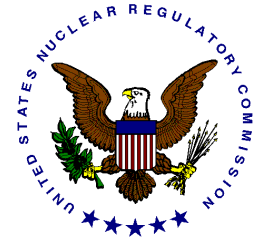


- Concentration Based prior to 1997
 - SDMP Action Plan (57 FR 13389)
 - Different criteria for buildings and soil
 - Different criteria for different radionuclides



Unrestricted Release

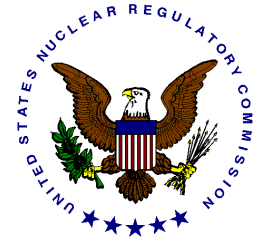
(continued)



- Dose base standard adopted in 1997
 - 25 mrem/yr + ALARA
 - Dose includes contribution from all media (groundwater, soil, and buildings)
 - Dose includes all NRC-regulated radionuclides



Restricted Release

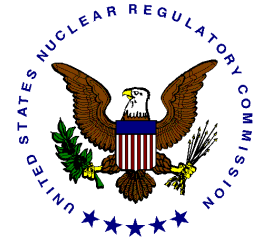


Restricted Release alternative adopted
in 1997:

- 25 mrem/yr with institutional controls
in place
- Higher doses allowed if institutional
controls fail



Dose Modeling



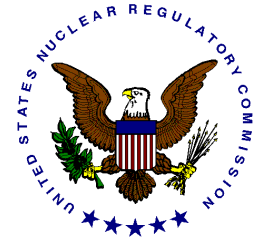
- Dose modeling is required to demonstrate compliance
- NRC has developed extensive guidance for licensees*

* *See* SRP-Module 5 for background and references
(<https://www.ornl.gov/PTP/pdf/1727.pdf>)



Dose Modeling

(continued)



- Number of computer codes are available for dose modeling
 - RESRAD* and DandD** are most commonly used by licensees and staff

*See (<http://web.ead.anl.gov/resrad/home2/index.cfm>) for downloadable code and information

** See (<http://www.nrc.gov/what-we-do/regulatory/research/comp-codes.html#rt-dc>) for information



Radiological Surveys

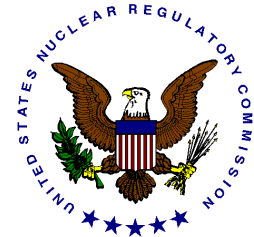


- NUREG 5849
- Multi-Agency Radiological Survey and Site Investigation Manual (MARSSIM)*

*MARSSIM is available at <http://www.epa.gov/radiation/marssim/>



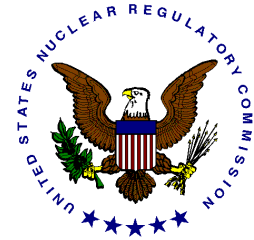
U.S. Decommissioning Experience



- Reactor Sites
- Material Sites
 - Byproduct Material Sites
 - Fuel Cycle Facilities
 - Uranium/Thorium Sites



Other Related Issues



- Current Challenges:
 - Dose Modeling
 - Additional standards
 - Clearance
 - Institutional Controls