DETAILED AGENDA

NRC OVERVIEW OF RESTRICTED RELEASE UNDER THE LICENSE TERMINATION RULE

1. Overview of existing License Termination Rule (LTR) restricted release requirements

LTR, 10 CFR Part 20 Subpart E

Two primary options for license termination:
Unrestricted release (preferred)
Restricted release

NRC considers unrestricted release to be the preferable option
Dose standard of 25 mrem/yr and ALARA required for both options
No NRC role after license termination
Additional requirements for restricted release (see below)
Alternate criteria: greater than 25 mrem/yr but unlikely to exceed 100 mrem/yr for all sources

Restricted release requirements in LTR

System of requirements provides defense-in-depth

Submit a decommissioning plan for NRC approval before cleanup begins (e.g., plans for cleanup, institutional controls, maintenance, financial assurance, use of engineered barriers, dose modeling, compliance with dose criteria and other requirements)

Early advice from affected parties/public on institutional controls (e.g., effectiveness and impacts)

Residual levels of contamination are as low as is reasonable achievable (ALARA) or further cleanup would result in net public or environmental harm ("eligibility" requirement). ALARA analysis of alternatives is needed.

Dose standard with restrictions in place: 25 mrem/yr

Dose standard or "caps" assuming restrictions are not effective. Provides a "safety net" that limits maximum dose. Also, must be ALARA.

100 mrem/yr (public dose limit) or

500 mrem/yr for unusual circumstances and if requirements are met (e.g., further reductions are prohibitively expensive, not

technically achievable, or could result in net public or environmental harm)

Legally enforceable institutional controls to restrict disruptive future uses/scenarios (e.g., residential use, drilling and water use)

Durable institutional controls and five-year rechecks for sites above 100 mrem/yr dose cap

LTR does not define “durable”

Statements of Considerations notes that durable institutional controls “...could include significant engineered barriers and/or State, local, or Federal Government control of sites or maintenance of site deed restrictions so that site access is controlled.”

Sufficient financial assurance for independent third party responsibilities (see below)

Risk-informed and graded institutional control approach

Risk-informed approach

Estimate dose assuming institutional controls are no longer in effect

100 mrem/yr dose defines threshold of two levels of institutional controls

Graded institutional control approach

Two levels of protection using institutional controls:

100 mrem/yr or less

Legally enforceable institutional controls (enforced by entities responsible for institutional controls, e.g., local government for local zoning)

Independent third party funded from financial assurance to act in a backup role, in the absence of the owner, to assume and carry out responsibilities for any necessary control and maintenance of the site

Over 100 mrem/yr but less than 500 mrem/yr

Durable institutional controls

Independent third party funded from financial assurance

Backup role, in the absence of the owner, to assume and carry out responsibilities for any necessary control and maintenance of the site

Oversight role, to carry out five-year rechecks to assure that the institutional controls remain in place

Long-term effectiveness of institutional controls (IC)

Issue discussed in LTR Statement of Considerations in response to public comments

LTR does not require absolute proof that institutional controls would endure over long time periods

Relatively simple deed restrictions for sites with relatively short-lived radionuclides (e.g., Co-60 and Cs-137 with half-lives of 5.3 and 30 years, respectively, that will decay to unrestricted dose levels in about 10-60 years)

More "stringent" institutional controls would be required for sites with long-lived radionuclides that would continue the potential for radiation exposure beyond 100 years

In particular for sites with large quantities of uranium and thorium

Legally enforceable deed restrictions **and/or** controls backed up by State and local government control or ownership, engineered barriers, and Federal ownership, as appropriate.

Institutional controls should be established with the objective of lasting as long as necessary for a specific site but up to 1000 years for site with long-lived radionuclides

Demonstrate that institutional controls could reasonably be expected to be effective into the foreseeable future

Added assurance provided by LTR provisions in 20.1403(c) for

Sufficient financial assurance

Independent third party to assume and carry out responsibilities for necessary control and maintenance

2. Restricted Release Issues Identified in SECY-02-0177

Graded approach is unclear and limited

Dose vs. half-life definition of levels of institutional controls

Meaning of “legally enforceable”, “durable”, “stringent”, role of independent third party, use of engineered barriers, and degree of public involvement

Difficulty obtaining effective institutional controls for long-term

Governments and Tribes unwilling to accept ownership (e.g., DOE 151(b))
Lack of independent third party to ensure effectiveness
Difficulty establishing long-term legally enforceable institutional controls

Resolution Path

Potential DOE ownership

Worked with DOE on an Memorandum of Understanding (MOU) for a process of potential site ownership transfers from NRC licensees to DOE under section 151(b) of the Nuclear Waste Policy Act

MOU was superseded by new DOE policy initiatives

Continue to monitor DOE policy options for management of its long-term stewardship program

Commission directed staff to evaluate other options, including NRC role

Initial Analysis and Plan for Addressing LTR Issues, SECY-02-0177, October 1, 2002

Issues and planned evaluations

Restricted release and other issues

Includes interactions with AAR and others

Results in March 2003 Commission paper

3. <u>Existing LTR options for institutional controls</u>

Legally enforceable institutional controls for all sites

Flexibility to select type of institutional control(s) for specific site from:

Proprietary (property law instruments)/enforcing entity (courts)
Governmental (zoning)/ enforcing entity (State or local governments)
Government ownership (State, DOE under NWPA 151(b))

Durable institutional controls for sites above 100 mrem/yr

"Stringent" institutional controls

For long-lived radionuclides, particularly large volumes of uranium and thorium (referenced in Statement of Considerations under durability, B.3.3)

Institutional controls backed by State or local government control or ownership, engineered barriers, and Federal ownership, as appropriate

Independent third party

Government or private party independent from owner

All sites: backup to owner to assume responsibility for controls and maintenance, if needed

Sites above 100 mrem/yr dose cap: Oversight using five-year rechecks to assure institutional controls remain effective (i.e., institutional controls are in place and the restrictions are working)

Financial assurance (e.g., trust fund) assures funds are available to enable an independent third party to implement and ensure continued effectiveness of institutional controls

4. Potential new institutional control options for NRC evaluation

Clarifications or modifications to the LTR graded approach for IC s

Potential new options

License termination using redundant (i.e., layered), legally enforceable IC s, but without independent third party

License termination using legally enforceable IC s and NRC monitoring

Statement of Considerations (B.3.4) indicates that NRC would retain authority to take appropriate action in unusual situations when the 500 mrem/yr cap is in place and controls had failed.

Evaluate potential NRC monitoring under 20.1401(c)

NRC perpetual license

Graded license conditions to specify restrictions, reporting, monitoring, maintenance, NRC inspections, financial assurance

- Exemption from LTR dose caps for State or Federal government ownership cases
- Other options might be identified by staff or licensees during evaluations

Implementation of potential new options

- Guidance, rulemaking, exemption