



# Low-Level Radioactive Waste Blending

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- Background – NRC engagement
- Current NRC position
- Considerations
  - Technical
  - Practical
  - Regulatory
  - Policy
- NRC path forward

## NRC Engagement

- Recent stakeholder requests for clarification of NRC position
- Replies summarize current NRC position
- Commission paper in April 2010
- Four public meetings held

## Current NRC Position

- Blending is not addressed in NRC regulations
- NRC guidance discourages blending but acknowledges it as appropriate at times
- Blending is mixing waste with waste, not dilution with clean material
- Waste classification is related to disposal

# Waste Classification Table<sup>1</sup>

## 10 CFR 61.55

Radionuclide	Concentration, Ci/m <sup>3</sup>		
	Col. 1 (Class A limit <sup>2</sup> )	Col. 2 (Class B limit <sup>2</sup> )	Col. 3 (Class C limit <sup>2</sup> )
Total of all radionuclides with < 5 yr half-life	700	n/a	n/a
H-3	40	n/a	n/a
Co-60	700	n/a	n/a
Ni-63	3.5	70	700
Ni-63 in activated metal	35	700	7000
Sr-90	0.04	150	7000
Cs-137	1	44	4600

<sup>1</sup>This table defines waste classes for short-lived radionuclides. A separate table in 10 CFR 61.55 (not shown) defines waste classes for long-lived radionuclides.

<sup>2</sup>If concentration does not exceed value in column 1, waste is Class A. If concentration is > col. 1 and < col. 2, waste is Class B. If concentration is > col. 2 and < col. 3, waste is Class C. If > col. 3, waste is generally not acceptable for near-surface disposal

## Guidance

- 1995 Concentration Averaging Branch Technical Position
- 1981 Volume Reduction Policy Statement
- Risk-informed, performance-based regulation
- Disposal vs. storage

## Technical Issues - Examples

- Radioactivity at Class A facilities
- Role of waste classification – intruder protection
- Waste characterization and homogeneity
- Dose comparisons
- Onsite waste storage

## Practical Issues - Examples

- Timing of waste classification
- Disposal access and capacity
- Resin removal



## Regulatory Issues - Examples

- Potential paths forward: regulation, policy statement, new or revised guidance
- Rulemaking considerations
  - Compatibility
  - Opportunity for public comment
  - NEPA analysis
- Potential guidance revisions
  - Concentration averaging BTP
  - Volume Reduction Policy Statement

## Policy Issues - Examples

- Consistency with previous NRC policies and guidance
- Disposal cost and availability
- Consequences for other waste streams

## Path forward

- Options
  - Maintain status quo
  - Revise guidance
  - Issue policy statement
  - Promulgate rulemaking
- No decision has been made