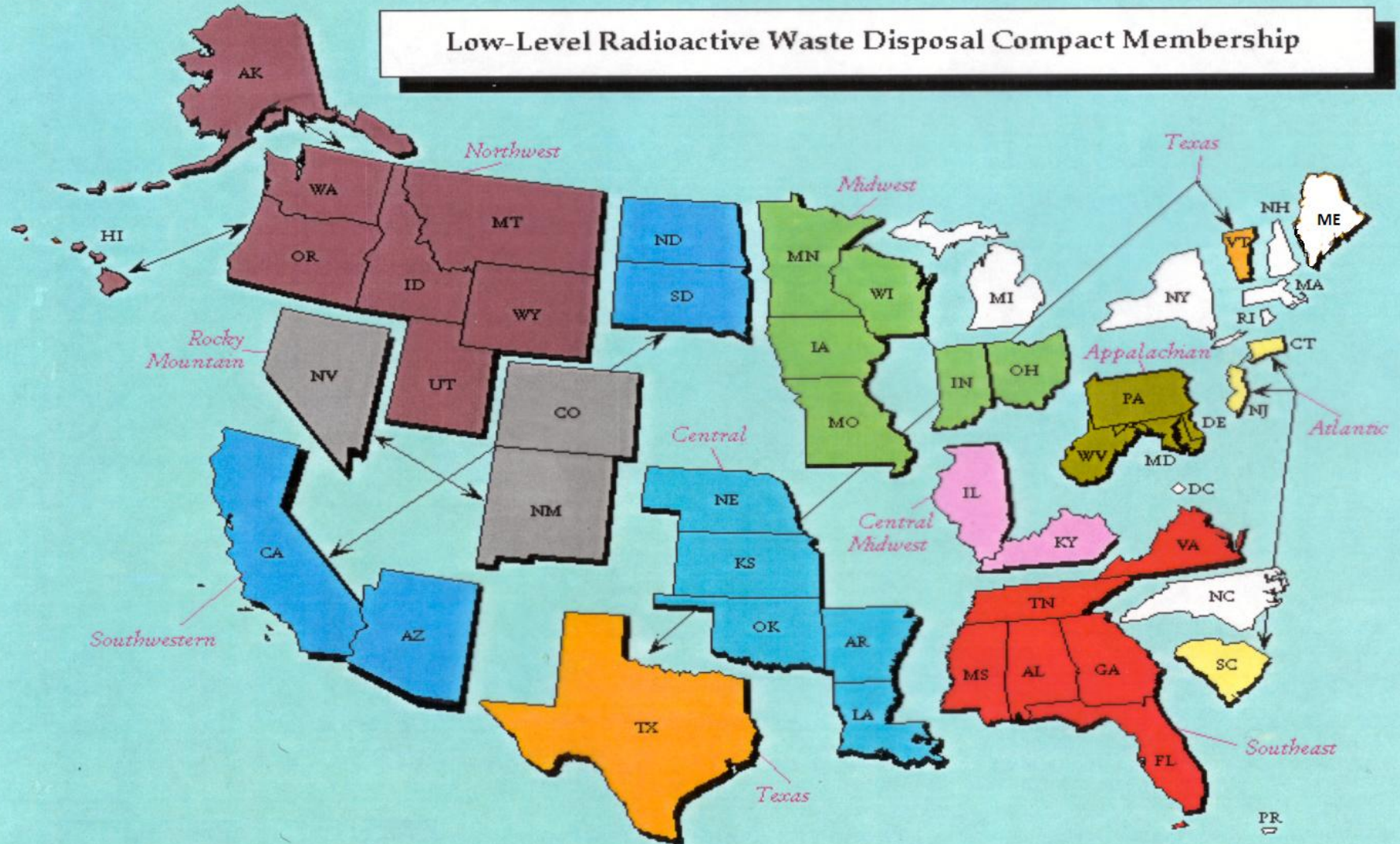




Status of Commercial Low-Level Radioactive Waste Disposal Facilities

Low-Level Waste Forum

Low-Level Radioactive Waste Disposal Compact Membership



Low-Level Radioactive Waste Classification

- NRC regulations in 10 CFR Part 61 has specified a waste classification system for LLRW
- There are three (3) classes of LLRW: Class A, Class B and Class C
- The majority of LLRW volume is Class A waste

PA Regulations in Title 25, Chapter 236

Table 1

Radionuclide	Concentration, curies per cubic meter
C-14.....	8
C-14 in activated metal.....	80
Ni-59 in activated metal.....	220
Nb-94 in activated metal.....	0.2
Tc-99.....	3
I-129.....	0.08
Alpha emitting transuranic nuclides with half-life greater than 5 years.....	*100
Pu-241.....	*3,500
Cm-242.....	*20,000

*Units are nanocuries per gram

Table 2

Radionuclide	Concentration, curies per cubic meter		
	Col. 1	Col. 2	Co.3
Total of all nuclides with less than 5 year half-life.....	700	*	*
H-3.....	40	*	*
Co-60	700	*	*
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

*There are no limits established for these radionuclides in class B or C wastes

Status of Commercial LLRW Disposal Facilities

Barnwell Disposal Facility in South Carolina (Regional Facility)

- Accepts Class A, B and C wastes
- Closed to generators outside the Atlantic Compact (CT, NJ, SC) as of July 1, 2008

Richland Facility in Washington (Regional Facility)

- Accepts Class A, B and C wastes from the Northwest and Rocky Mountain Compacts
- Accepts radium sources for disposal from other compacts

EnergySolutions Facility in Utah (not a Regional Facility)

- Accepts Class A waste from the entire nation except the Northwest and Rocky Mountain Compacts
- Received a variance from Utah for disposal of Class A disused sealed sources under the CRCPD SCATR Program
- Sealed sources limited to half-life of Cs-137 or less and limited to one year from the receipt of first shipment

Status of Commercial LLRW Disposal Facilities

WCS Disposal Facility in Texas (Regional Facility)

- Two facilities: one license
 - Compact facility (29.66 acres, 2.3 M ft³ and 3.9 M Ci)
 - Federal facility (89.90 acres, 26 M ft³ and 5.6 M Ci)
- Accepts commercial LLRW (Class A, B and C) and federal LLRW and mixed waste
- Able to accept large components as non-containerized waste
- Annual limit on radioactivity of out-of-compact waste is 275,000 Ci
- No annual limit on volume of out-of-compact waste
- Total amount of out-of-compact waste cannot exceed 30% of initial capacity
- License amendment allows increase in volume limit to 9 M ft³, disposal of depleted uranium in concentrations greater than 10 nCi/gm, and removal of radioactivity limits for C-14, TC-99, I-129.

Total receipts through October 10, 2014

FWF: 59,325 ft³ and 266.7 Ci manifested

CWF: 57,951 ft³ and 217,800 Ci manifested

Non-compact:

46,062 ft³ (78%)

215,750 Ci (99%)

Exempt waste received:

35,300 ft³

Status of Commercial LLRW Disposal Facilities



1. Access road to 1,338-acre fenced site (guard house entrance)
2. On-site rail spur and rail-unloading facility
3. Maintenance building
4. Administration buildings with analytical and radiological laboratories
5. Container Storage Building (CSB)
6. Stabilization Building (SB) (West portion) and Mixed Waste Treatment Facility (MWTF) (East portion)
7. Bulk/Bin Storage Units (BSUs) 1-3 (bin storage area [BSA-1] is covered)
8. RCRA Subtitle C landfill will expand to the East, with closed cells to the West
9. 11e (2) Byproduct material landfill
10. Federal Waste Disposal Facility (FWF) for LLW and LLMW will expand to the West
11. Compact Waste Disposal Facility (CWF) for LLW will expand to the East
12. Ten-acre storage area for low-specific-activity (LSA) waste
13. Low-level disposal operations administration building
14. Rail unloading building for emptying gondola cars