



Briefing on Greater-Than- Class C Low Level Radioactive Waste

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Opening Remarks

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Purpose of Today's Briefing

- **To discuss staff's effort related to GTCC and transuranic waste disposal**



Office of Nuclear Material Safety and Safeguards

Catherine Haney, Director

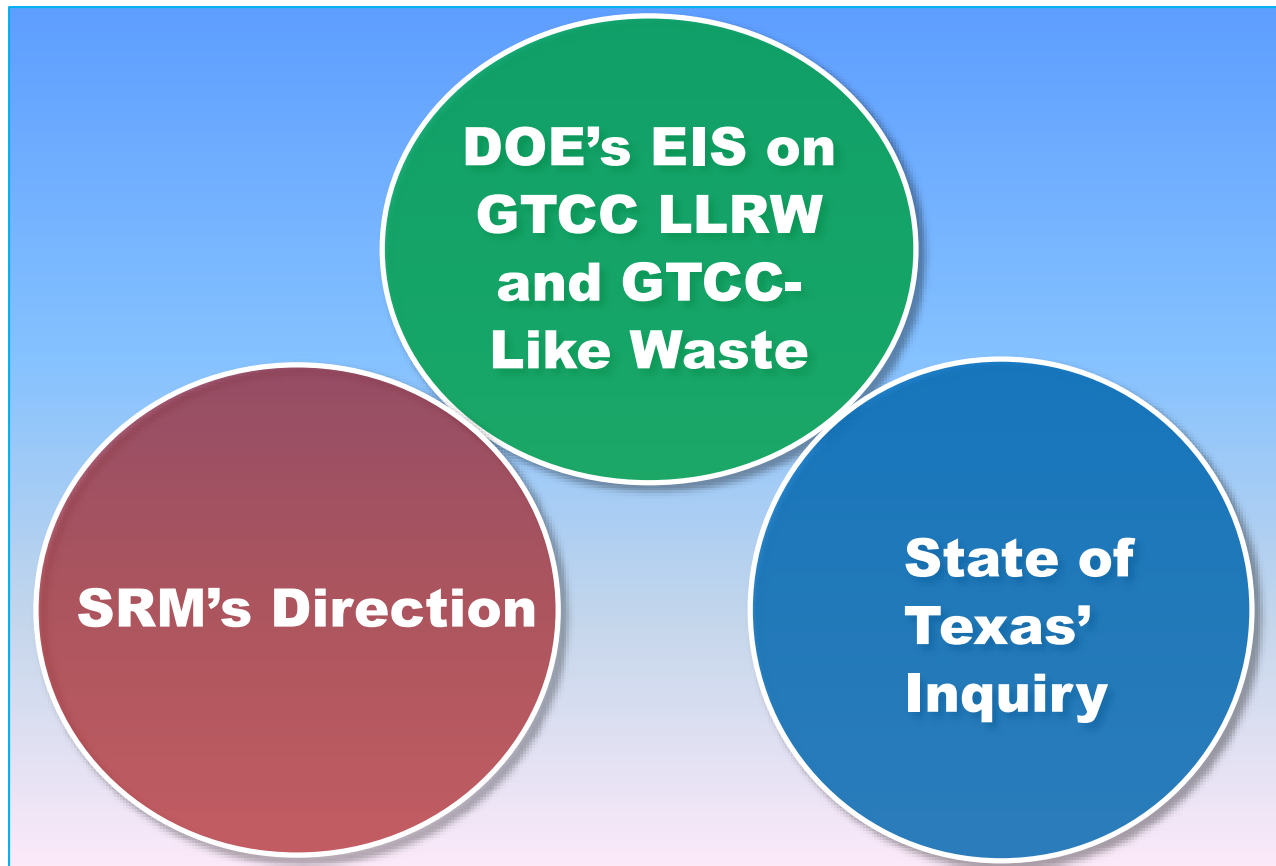
Roles and Responsibilities for GTCC Waste Management



Federal Government

- **NRC**
- **DOE**

GTCC and Transuranic Waste Disposal



**Division of
Decommissioning, Uranium
Recovery, and Waste
Programs, NMSS**

Larry W. Camper, Director

Legislative History

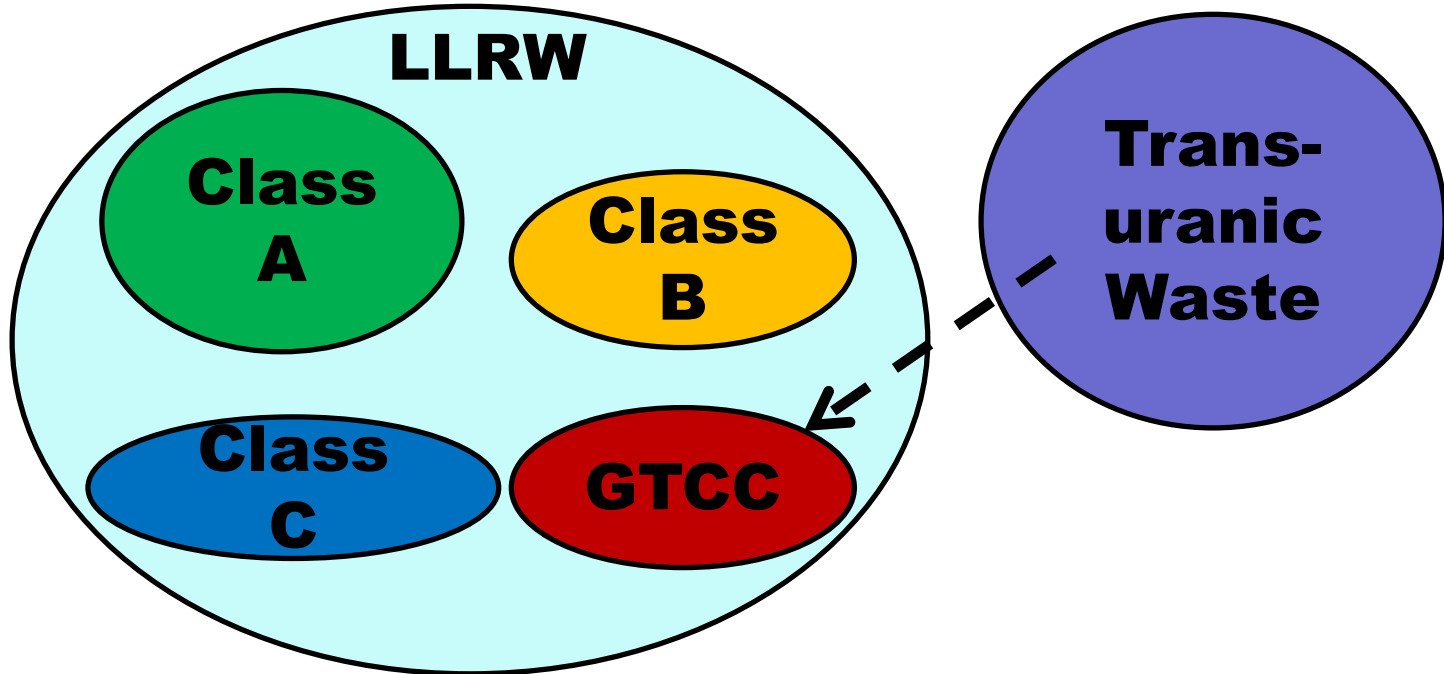
- **Atomic Energy Act of 1954 (AEA)**
- **Low-Level Radioactive Waste Policy Act of 1980 (1980 LLRW Policy Act)**
- **Amendments Act of 1985**

Regulatory Framework

10 CFR § 61.55(a)(2)(iv)

- **More stringent methods**
- **Preference for Part 60 or 63 geologic disposal**
- **Commission approves alternative**

LLRW and Transuranic Waste



What is LLRW?

1980 LLRW Policy Act

“radioactive waste not classified as high-level radioactive waste, *transuranic waste*, spent nuclear fuel, or byproduct material...”

What is LLRW? (cont'd)

10 CFR Part 61

- ***Purpose and scope* does not exclude transuranic waste but *definition* does**
- **Table 1 includes concentrations for transuranic nuclides**

What is LLRW? (cont'd)

Amendments Act

“radioactive material that: (i) is not high-level radioactive waste, spent nuclear fuel, or byproduct material...and (ii) the [NRC]...classifies as [LLRW]”

What is Transuranic Waste? Price-Anderson Amendments Act

“material contaminated with elements that have an atomic number > 92...concentrations > 10 [nCi/gm], or...as the [NRC] may prescribe”

Transuranic Nuclides Disposal

**Alpha emitting
transuranic
nuclides with half-
lives greater than 5
years and a
concentration less
than 100 nCi/gm**

Table 1 from 10 CFR 61.55.

Radionuclide	Concentration
C-14	8 Ci/m ³
C-14 in activated metal	80 Ci/m ³
Ni-59 in activated metal	220 Ci/m ³
Nb-94 in activated metal	0.20 Ci/m ³
Tc-99	3 Ci/m ³
I-129	0.08 Ci/m ³
Alpha emitting transuranic nuclides with half-lives greater than 5 years ¹	100 nCi/g
Pu-241	3,500 nCi/g
Cm-242	20,000 nCi/g

Options to License GTCC and Transuranic Waste Disposal

- **Option 1: NRC license**
- **Option 2: State of Texas license**
- **Option 3: No-action**

Option 1: NRC License

- **NRC conducts the following:**
 - **License application review**
 - **Site-specific technical requirement development**
 - **EIS preparation**
 - **Rulemaking**

Option 2: Texas License

- **Texas submits proposal for the Commission consideration**
- **Texas develops technical criteria (assisted by NRC)**
- **NRC conducts rulemaking**

Option 3: No-Action

- **Commission declines to extend the licensing scheme to allow near-surface disposal of GTCC and transuranic waste**
- **Industry continues to rely on safe storage of GTCC and transuranic waste**

- Staff Recommendation**
- Option 2 with rulemaking**
- **Establishes clear-cut Federal and State licensing pathways for disposal of GTCC and transuranic waste**
 - **Offers additional efficiency**

Backup Slide

What is LLRW? (cont'd)

10 CFR § 61.2

“radioactive waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct material...”

ACRONYMS

AEA: Atomic Energy Act of 1954

CFR: Code of Federal Regulations

DOE: U.S. Department of Energy

EIS: Environmental Impact Statement

GTCC: Greater-Than-Class C

LLRW: Low Level Radioactive Waste

NMSS: Office of Nuclear Material Safety and Safeguards

NRC: U.S. Nuclear Regulatory Commission

SRM: Staff Requirements Memorandum

TCEQ: Texas Commission on Environmental Quality