

Update on The Greater than Class C (GTCC) and 10 CFR Part 61 Rulemakings



*Protecting today, tomorrow, and
cleaning up the past*

**Cardelia Maupin, Senior Project Mgr.
Low-Level Waste and Projects Branch
Division of Decommissioning,
Uranium Recovery, and Waste
Programs (DUWP)**

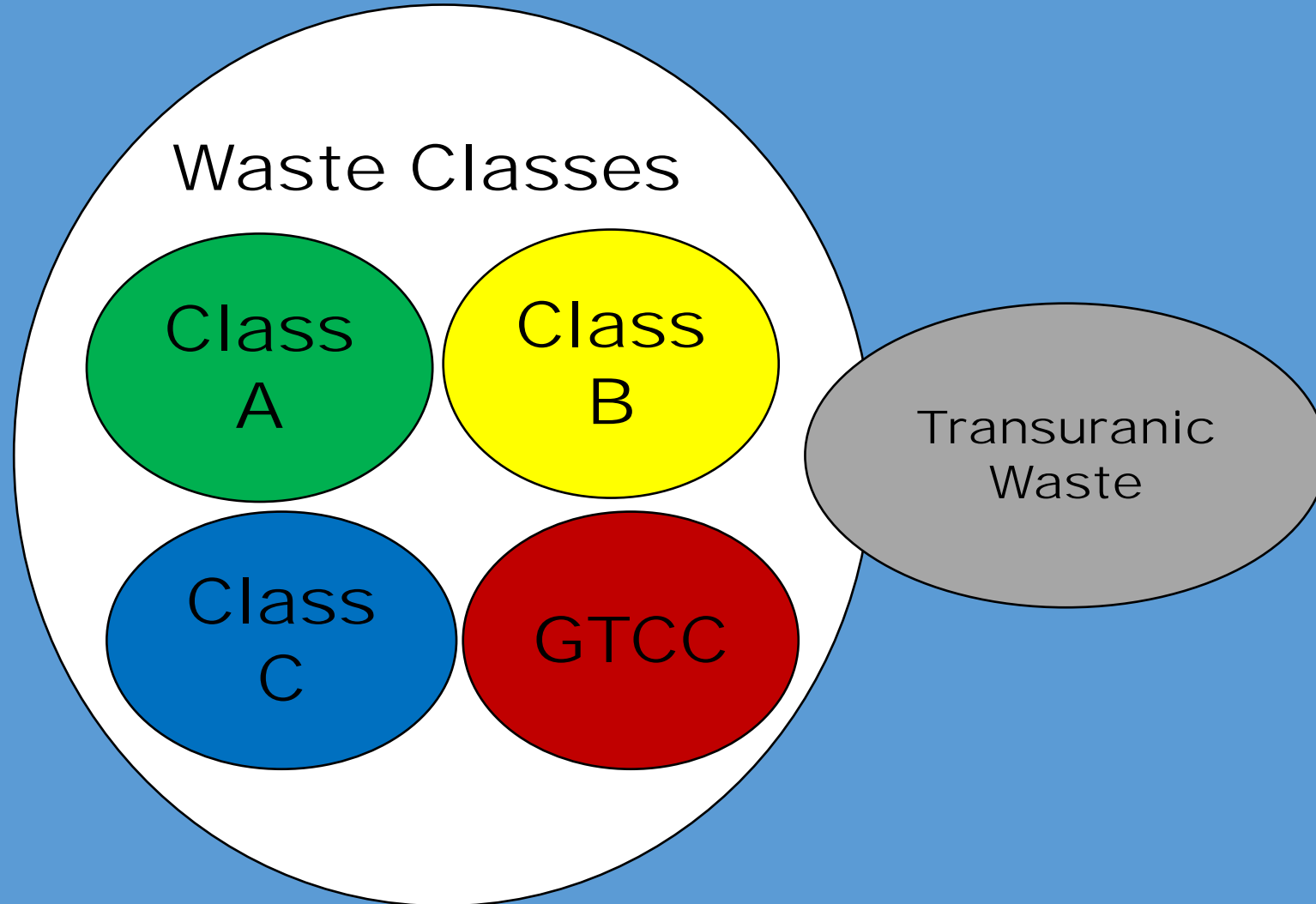
**Office of Nuclear Material Safety and
Safeguards**

The Low-Level Radioactive Waste Policy Act of 1980

(1) The term "disposal" means the isolation of low-level radioactive waste pursuant to requirements established by the Nuclear Regulatory Commission under applicable laws.

(2) The term "low-level radioactive waste" means radioactive waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct material as defined in section 11e . (2) of the Atomic Energy Act of 1954 (uranium mill tailings).

10 CFR Part 61 Waste Classes



10 CFR Part 61 LICENSING REQUIREMENTS FOR LAND DISPOSAL OF RADIOACTIVE WASTE

- **10 CFR Part 61 contains requirements and performance objectives applicable to LLRW land disposal**
- **Definition of LLRW same as that in LLRWPA of 1980**
- **10 CFR Part 61 is based on assumptions developed in early 1980s**
- **The regulation covers all phases of LLRW disposal from site selection through facility design, licensing, operations, closure, and post-closure stabilization, to the period when active institutional controls end**
- **Disposal of LLRW has the following performance objectives:**
 - **protection of the general population from releases of radioactivity**
 - **protection of individuals during operations**
 - **ensure stability of the site after closure**
 - **protection of individuals from inadvertent intrusion**

GTCC Waste

Three categories of GTCC waste:

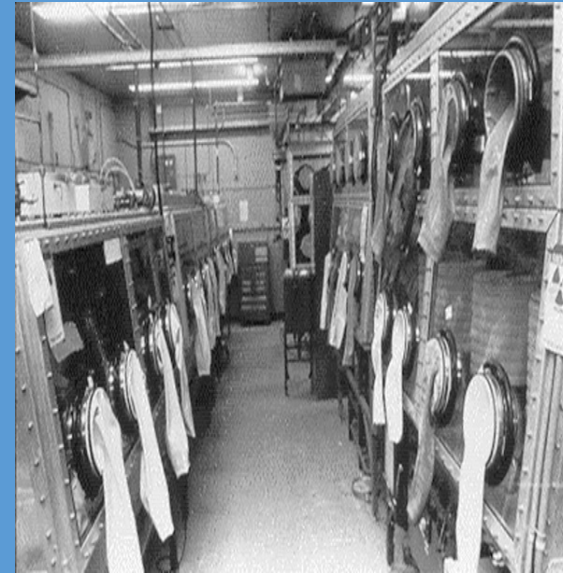
- activated metals, sealed sources, and other waste



**Irradiated Reactor
Components**



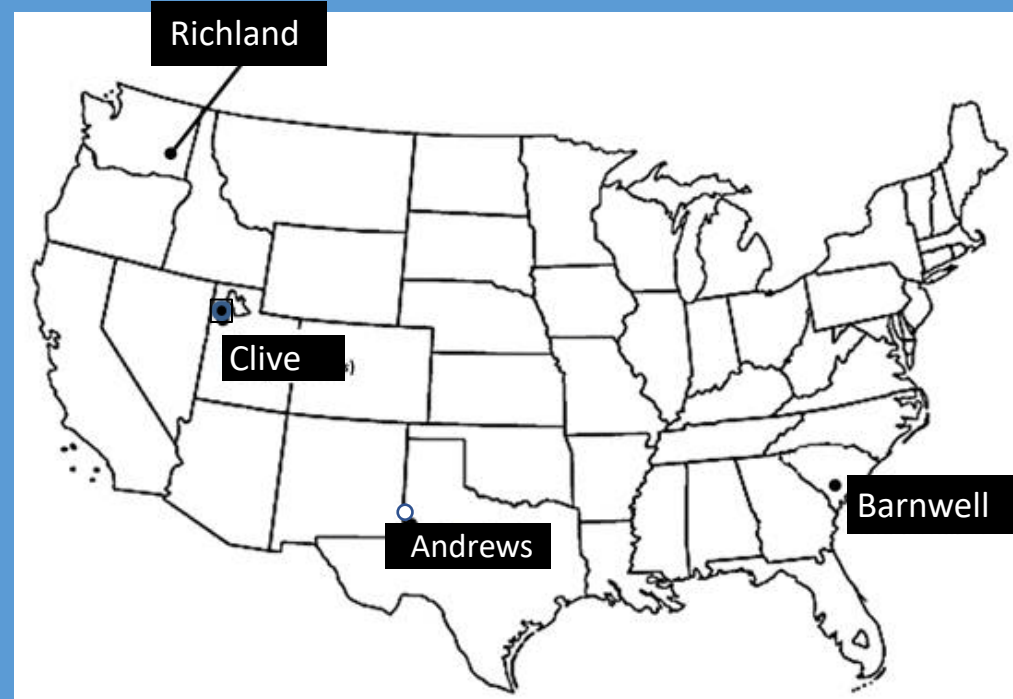
**Sealed
Sources**



Glove Boxes

Locations of Low-Level Radioactive Waste Disposal Facilities

- **U.S. Ecology**, Richland, WA
Accepts Class A, B, and C waste
- **EnergySolutions**
Clive Operations, Clive, UT
Accepts Class A waste only
- **Waste Control Specialists**
Andrews, TX
Accepts Class A, B, and C waste
- **EnergySolutions**
Barnwell Operations, Barnwell, SC
Accepts Class A, B, and C waste



Challenges to the Current Regulatory Framework in Part 61

1982 Assumption	Current Practice
Waste hazard duration <ul style="list-style-type: none">▪ Class A and B: 100 years▪ Class C: 500 years	Some defaulted Class A wastes are being disposed of in greater quantities than assumed and could cause hazards past these periods (e.g., Depleted Uranium (DU))
Only DOE enriches uranium <ul style="list-style-type: none">▪ DU only commercially available in small quantities	Private sector entities are operating enrichment facilities
Average disposed waste concentration expected to be well below class limit	Blended wastes create wastes much closer to class limit
Greater-than-Class-C (GTCC) waste disposal in geologic repository or by Commission approval	Considering near-surface disposal for certain GTCC waste streams

The Low-level Radioactive Waste Policy Amendments Act of 1985

LOW-LEVEL RADIOACTIVE WASTE.—The term 'low-level radioactive waste' means radioactive material that—
" is not high-level radioactive waste, spent nuclear fuel, or byproduct material (as defined in section II e.(2) of the Atomic Energy Act of 1954

- Transuranic waste was removed as an exclusion from LLRW**

History of NRC LLRW/GTCC Rulemaking Activities

2013

- **Part 61 proposed rule sent to the Commission (SECY-13-0075)**

2014

- **Commission approved Part 61 proposed rule (SRM-SECY-13-0075)**

2015

- **Texas request for clarification on AS authority to regulate GTCC**
- **Staff recommends allowing Texas to license disposal of GTCC waste (SECY-15-0094)**
- **Commission directs staff to develop GTCC regulatory basis (SRM-SECY-15-0094)**

2016

- **Part 61 draft final rule sent to the Commission (SECY-16-0106)**

History of NRC LLRW/GTCC Rulemaking Activities

2017

- Commission directs staff to proceed with supplemental proposed rule (SRM-SECY-16-0106)

2019

- Draft GTCC regulatory basis published in *Federal Register*
- NRC held 2 public meetings

2020

- Staff recommends to Commission to combine the Part 61 and GTCC waste rulemaking efforts and issue a re-proposed rule (SECY-20-0098)

2022

- Commission approves the staff's recommendation (SRM-SECY-20-0098)

Overlapping Technical Requirements: Proposed Part 61 and Proposed GTCC

Part 61 Potential Requirements for Certain Types and Quantities of Waste


- Site-specific analysis to ensure protection to inadvertent intruders and offsite individuals
- Site specific waste acceptance criteria
- Compliance period and performance period analyses for significant quantities of long-lived

Part 61 Potential Requirements for GTCC

- Site-specific analysis to ensure protection to inadvertent intruders and offsite individuals
- Site specific waste acceptance criteria
- Compliance period and performance period analyses for significant quantities of long-lived

LLW Rulemakings

Part 61 and GTCC Rulemakings



POLICY ISSUE
(Notation Vote)

October 21, 2020 SECY-20-0098

FOR: The Commissioners

FROM: Margaret M. Doane
Executive Director for Operations

SUBJECT: PATH FORWARD AND RECOMMENDATIONS FOR CERTAIN
LOW-LEVEL RADIOACTIVE WASTE DISPOSAL RULEMAKINGS

PURPOSE:
The purpose of this paper is to provide considerations, options, and the staff's recommendation for proceeding with (1) the Part 61 of Title 10 of the *Code of Federal Regulations* (10 CFR) rulemaking, "Low-Level Radioactive Waste Disposal" (10 CFR Part 61 rule); and (2) a proposed rulemaking to promulgate requirements for the near-surface disposal of greater-than-Class C (GTCC) waste (hereafter referred to as the GTCC waste rulemaking) in a consolidated and integrated rulemaking.



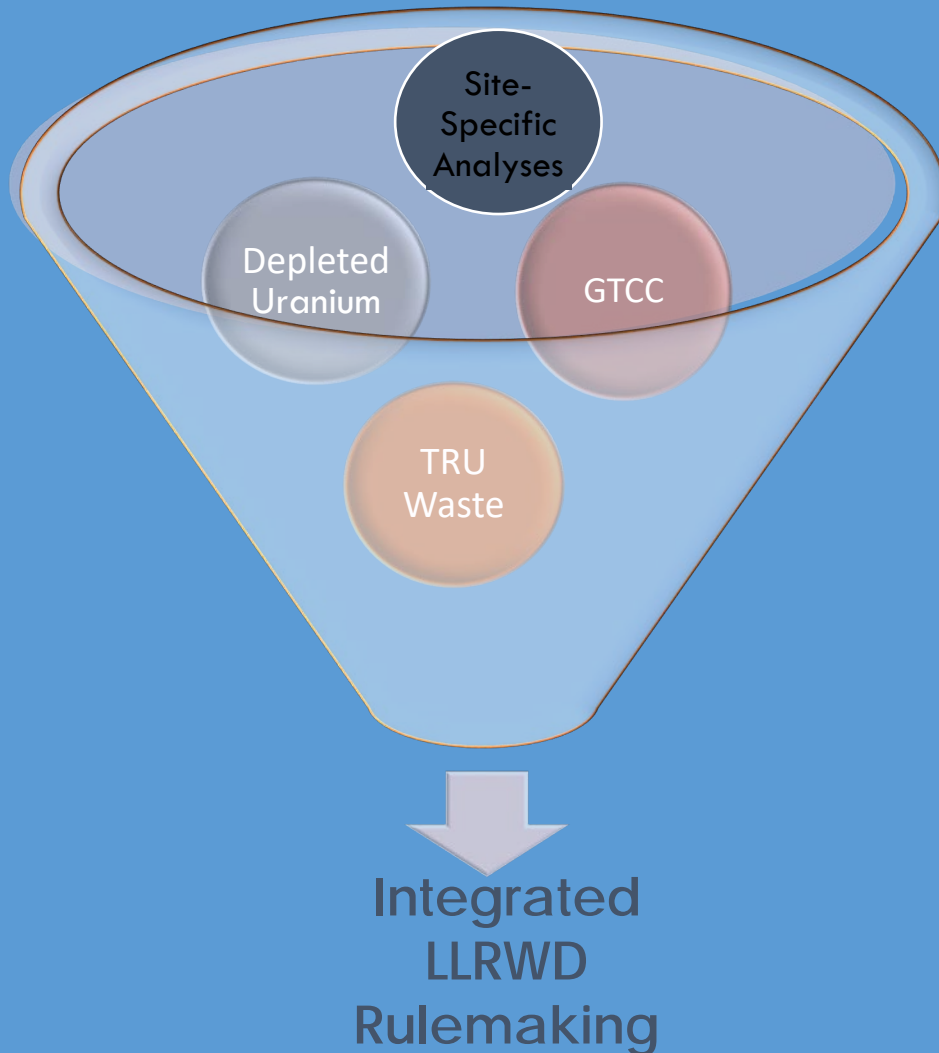
Combine these efforts to address overlapping technical requirements, streamline stakeholder outreach, and gain efficiency in proceeding as one rulemaking activity (SECY-20-0098)



Commission issued Staff Requirements Memorandum (SRM-SECY-20-0098) on April 5, 2022

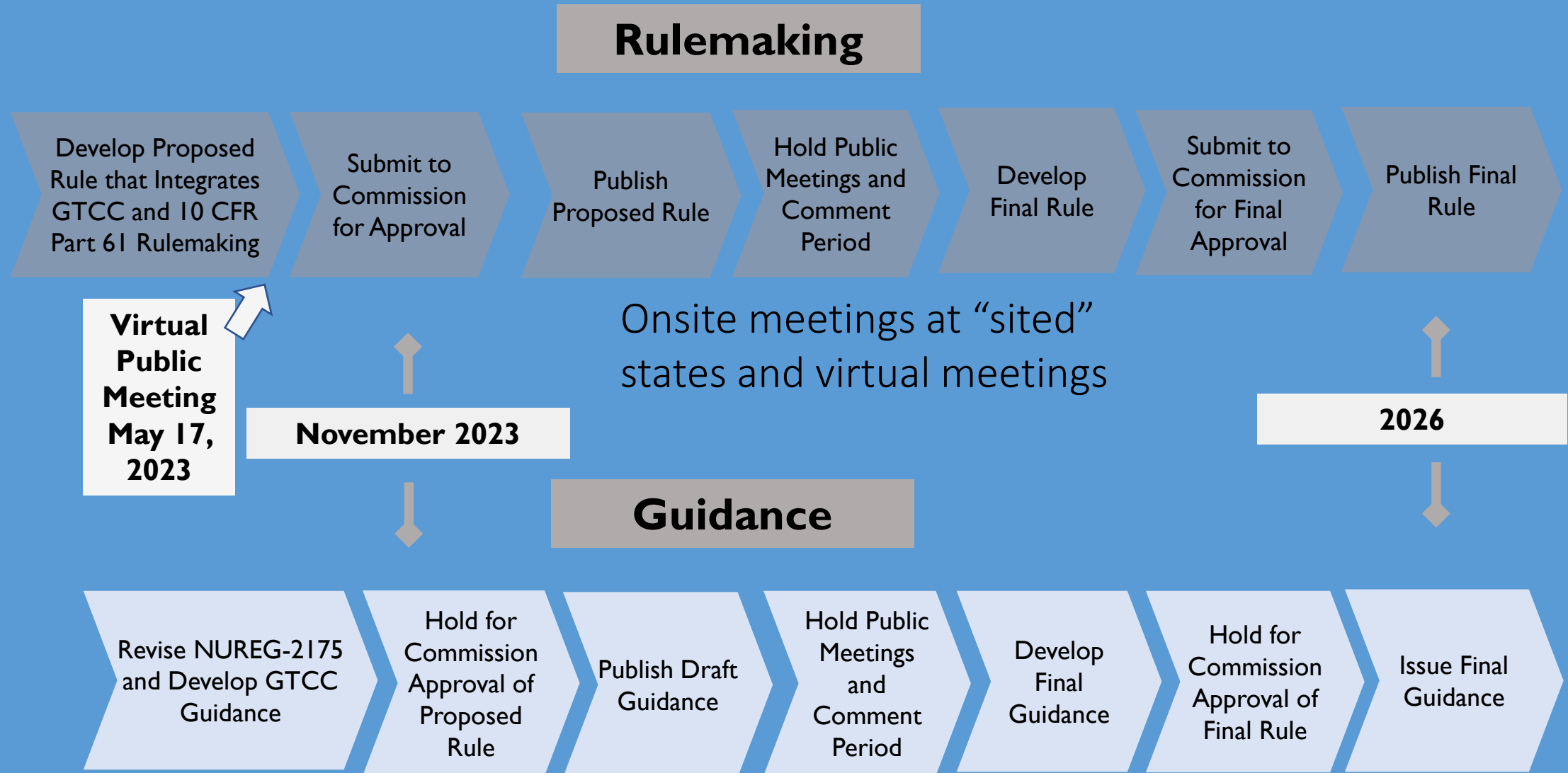
unclassified information
(GTCC) waste (hereafter referred to as the GTCC waste rulemaking) in a consolidated and integrated rulemaking to promulgate requirements for the near-surface disposal of greater-than-Class C waste (hereafter referred to as the GTCC waste rulemaking) (10 CFR 61 rule) and (2) a proposed rulemaking to promulgate requirements for the near-surface disposal of greater-than-Class C (GTCC) waste (hereafter referred to as the GTCC waste rulemaking) in a consolidated and integrated rulemaking.

Preparing the Integrated LLRWD Rulemaking



- Consolidate and integrate criteria for GTCC and low level waste
- Conduct site-specific analyses for all waste streams including DU and GTCC
- Include graded approach for compliance period
- Include TRU waste in the definition of LLRW
- Address physical protection and criticality concerns in GTCC waste streams
- Provide for Agreement State licensing of certain GTCC waste streams

Schedule Update



Contacts

❖ George Tartal, Rulemaking PM

- Email: george.tartal@nrc.gov
- Phone: (301) 415-1951

❖ Cardelia Maupin, GTCC lead

- Email: cardelia.maupin@nrc.gov
- Phone: (301) 415-4127

❖ Priya Yadav, LLW lead

- Email: priya.yadav@nrc.gov
- Phone: (301) 415-6667

❖ David Esh, Technical lead

- Email: David.Esh@nrc.gov
- Phone: (301) 415-6705

❖ Tim McCartin, Technical lead

- Email: Timothy.McCartin@nrc.gov
- Phone: (301) 415-7099



Questions/Comments



Follow @NRCgov



To subscribe to LLW Listserv e-mail updates:
[https://www.nrc.gov/public-
involve/listserver.html#lyris](https://www.nrc.gov/public-involve/listserver.html#lyris)
Scroll down to LLW Distribution and check the
box!