



New Mexico Environment Department

Overview of Regulation of Radioactive and Hazardous Materials
Sydney Lienemann, Deputy Secretary
Santiago Rodriguez, Chief, Radiation Control Bureau

May 29, 2024
Radioactive and Hazardous Materials Committee





Radioactive and Hazardous Materials Topics

Summary of the New Mexico Environment Department's authorities at higher-profile facilities

Facility	Hazardous Wastes	Radioactive Wastes
Upstream oil and gas	Not regulated	Regulated
Los Alamos National Lab	Regulated	Not regulated*
Sandia National Labs	Regulated	Not regulated*
Waste Isolation Pilot Plant	Regulated	Not regulated*
Holtec CISF/Spent Nuclear Fuel	Not regulated	Not regulated

*When a radioactive waste is mixed with a hazardous waste, we call that a mixed waste, and NMED has jurisdiction over mixed wastes



Los Alamos National Laboratory Permit Renewal

- In June 2020, LANL submitted a renewal application for its RCRA Permit.
- NMED reviewed the application and determined it to be administratively incomplete. NMED is waiting for the submission of the revised permit renewal application that addresses our comments.
- NMED approved a Class 2 Permit Modification to add storage and treatment to TA-60, which will be reflected on the revised renewal application.
- DOE is reevaluating the renewal application before submission to consider EPA's March 2024 proposed rule revisions for Open Burn and Open Detonation requirements. LANL's application included both OB and OD.

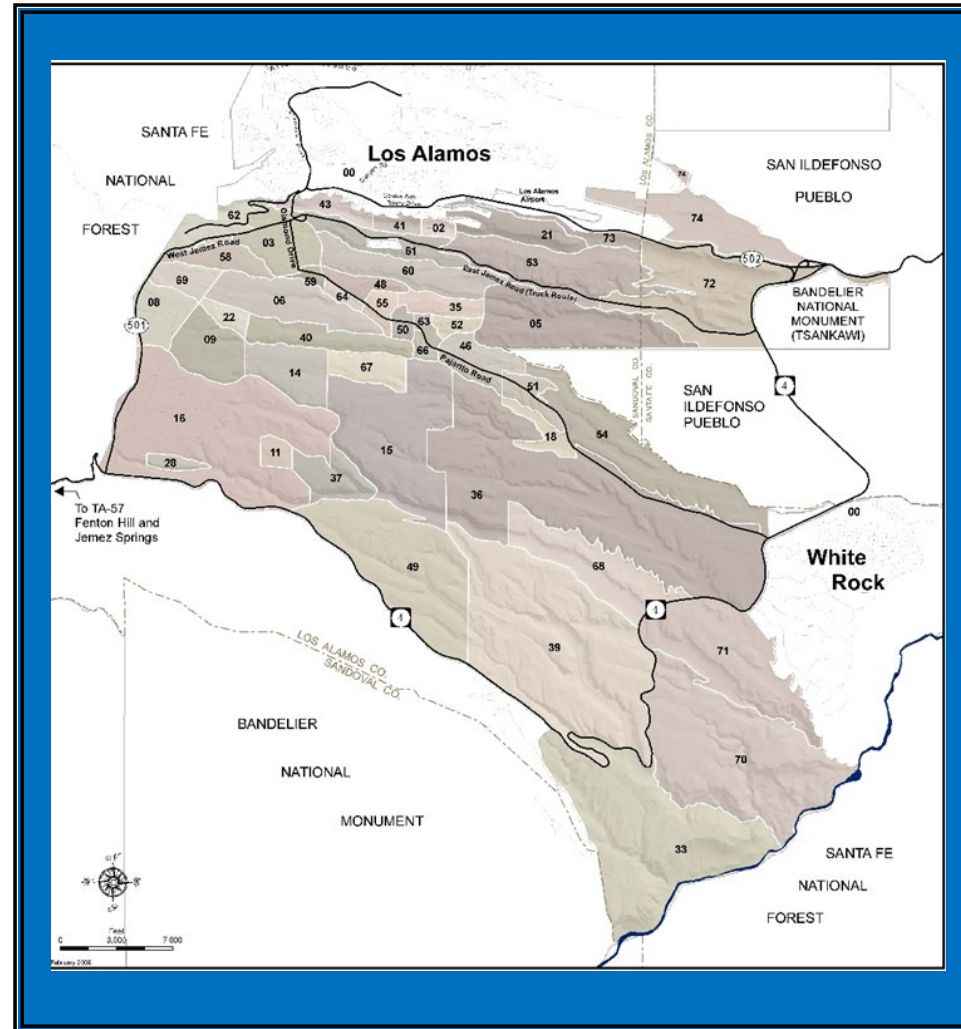


Image credit: Associated Press



Los Alamos National Laboratory 2016 Consent Order

- **Compliance Order on Consent (Consent Order) was signed by NMED and DOE in June 2016.**
- **The Consent Order requires DOE to conduct corrective action for releases of contamination from legacy sites, including contamination of groundwater at LANL.**
- **The Consent Order is an “enforceable document” pursuant to federal and state law. With few exceptions, it is the sole mechanism for enforcing corrective action activities at LANL.**
- **DOE and NMED agreed on 15 milestones for Federal Fiscal Year 2024, which are subject to stipulated penalties.**





Los Alamos National Laboratory 2016 Consent Order

Example: DOE would not commit to enforceable milestones to install and monitor wells at LANL in 2020-21.

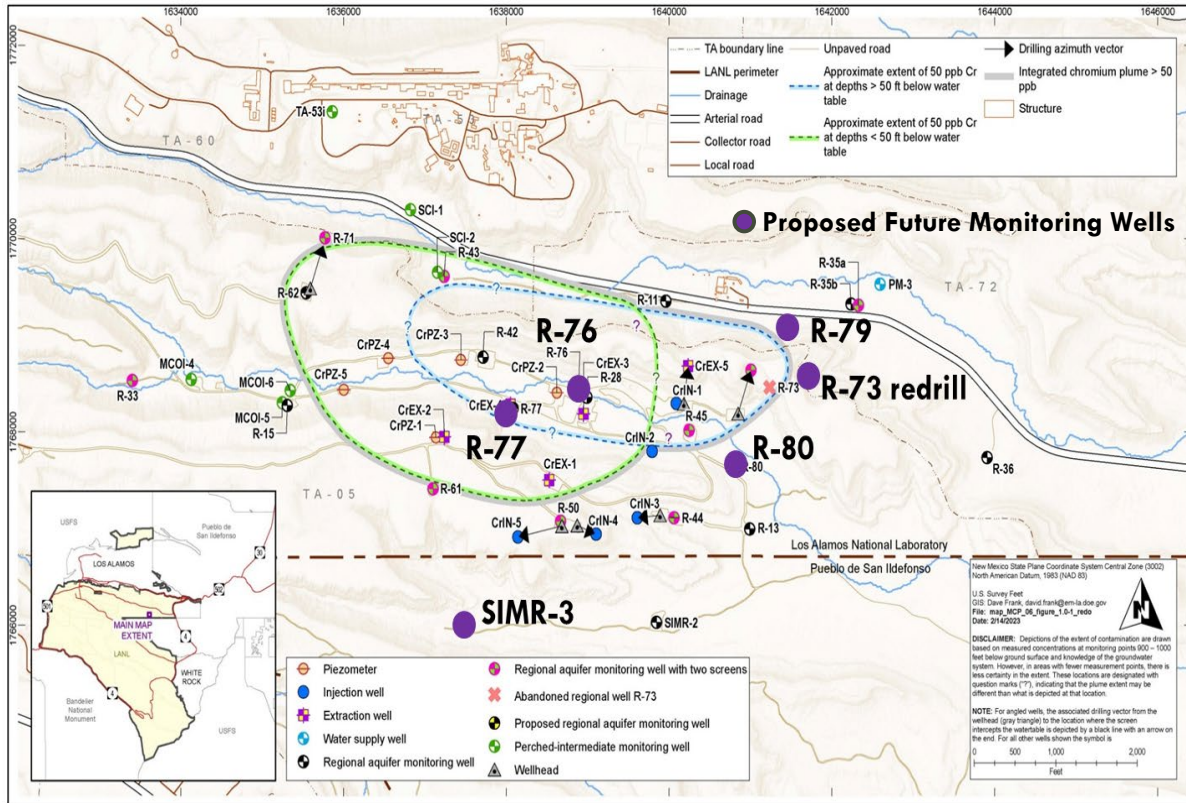


- **During the Annual Planning Process for federal Fiscal Year 2021, NMED and DOE could not reach consensus about substantive and appropriate milestones and targets. Subsequently, NMED and DOE participated in a Dispute Resolution process (required by the 2016 Consent Order) that ended in January 2021 without resolution.**
- **In February 2021, NMED filed a civil complaint in First Judicial District Court of New Mexico seeking to terminate the 2016 Consent Order and negotiate new terms that expedite cleanup of legacy waste.**
- **In March 2021, DOE moved this action to the United States District Court.**
- **Since March 2021, NMED and DOE have engaged in discussions for a potential settlement.**
- **NMED and DOE have been negotiating a revised Consent Order, and we hope to achieve this soon.**



Los Alamos National Laboratory Hexavalent Chromium Interim Measure Update

- NMED issued a Notice of Disapproval on the Chromium Interim Measures and Characterization Work Plan, and a revised document is due this summer.
- The intention of this work plan is to fulfill the data gaps required to complete an evaluation of the potential remedies and continue interim measures to control migration.



Unanticipated increases in chromium concentration from nearby monitoring wells resulted in the NMED direction to shut off injection operations beginning April 1, 2023.

NMED is requiring a proposal for alternative injection locations that are outside the boundary of the plume.

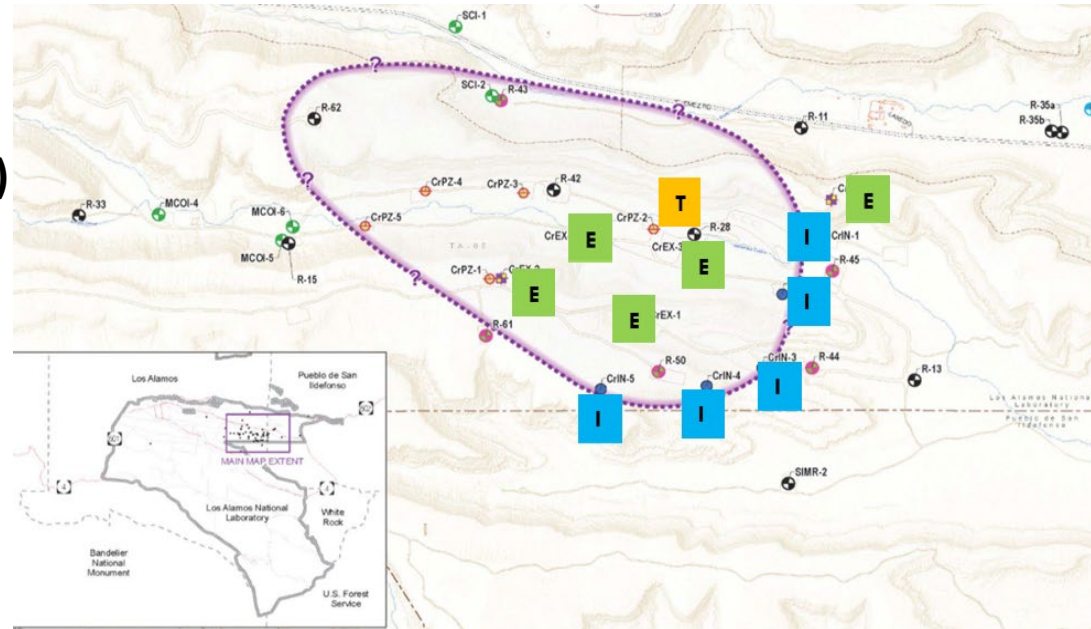
DOE is requesting to propose the new injection location as part of an evaluation for the final remedy.

We are continuing to fill data gaps with monitoring wells.



Los Alamos National Laboratory Independent Technical Review of Chromium Interim Measures

- Following this committee's recommendation, DOE and NMED agreed to participate in an Independent Technical Review (ITR)
- Panel includes members proposed by both parties
 - Includes a variety of expertise and members from DOE, private industry, academia and EPA Region 6 members
- ITR has visited the site and are meeting weekly to gather information needed for the review



- The ITR is tasked with providing recommendations on key issues:
 - Ability of the Interim Measures to control the plume
 - Groundwater modeling towards regulatory decisions
 - Alternative injection location
 - Readiness to evaluate and propose final remedy
 - Monitoring well designs



Waste Isolation Pilot Plant Operating Permit Renewal

- **Negotiations between NMED-WIPP Permittees-Stakeholders took place June 2023.**
- **Agreements were reached and 10-Year Permit Renewal was completed in October 2023.**
- **Renewed Permit became effective in November 2023.**
- **The Permittees are implementing the new Permit conditions and are focused on the Legacy TRU Waste Disposal Plan at present, visiting generator/storage sites.**
- **More information on this can be found at the HWB WIPP webpage at**

<https://www.env.nm.gov/hazardous-waste/wipp/>



Image credit: Associated Press News



Emerging Contaminants: PFAS

Safe Drinking Water Act

Regulate as contaminants:

- ❑ PFHxS, HFPO-DA (Gen-x)
- ❑ PFNA, PFBS

MCL Goal for:

- ❑ PFOA -proposed as 4ppt, goal is 0
- ❑ PFOS -proposed as 4ppt, goal is 0
- ❑ PFHxS, 10ppt
- ❑ HFPO-DA (Gen-x), 10ppt
- ❑ PFNA, 10ppt
- ❑ PFBS with mixture of 2 or more, hazard index of 1

CERCLA/RCRA

CERCLA

- ❑ On April 19, 2024 EPA issues Final Rule designating PFOA and PFOS as CERCLA Hazardous Substances

RCRA

- ❑ NM-led efforts to have EPA include PFAS/PFOS as hazardous constituents and wastes resulted in EPA proposing two rules that list nine PFAS / PFOS in the "Appendix VIII" hazardous constituents list and clarify a state's authority over these contaminants in corrective action activities



Kirtland Air Force Base Bulk Fuels Facility Spill

Current Status

- **NMED approved the revised Soil Vapor Monitoring Plan in January 2024; sampling is occurring now under the new plan.**
- **Conceptual Site Model and risk assessment will be updated with additional data.**
- **NMED has reviewed four documents relating to installation of new soil vapor and groundwater monitoring wells and source zone characterization.**

Path Forward

- **Phase II RCRA Facility Investigation to be completed will fill in remaining data gaps, allowing KAFB to proceed towards Corrective Remedy Evaluation and Corrective Remedy Selection.**
- **NMED is working with a third-party contractor to review the submitted monitoring reports and other documents, and to evaluate all past data to determine if sufficient information is available to proceed to the Corrective Measure Evaluation Phase.**
- **NMED is communicating frequently with KAFB to identify data gaps and resolve issues to move toward a final remedy selection.**
- **NMED and the Air Force is collaborating to improve stakeholder engagement and public confidence in our shared ability to safeguard our community.**



2025 NMED Legislative Proposals

- Non-Essential PFAS Ban
- Amend Hazardous Waste Act to allow the EIB to regulate toxic substances independent of the EPA
- Address abandoned, contaminated sites
- Circular economy



Radiation Control Act and Upstream Oil and Gas Industry

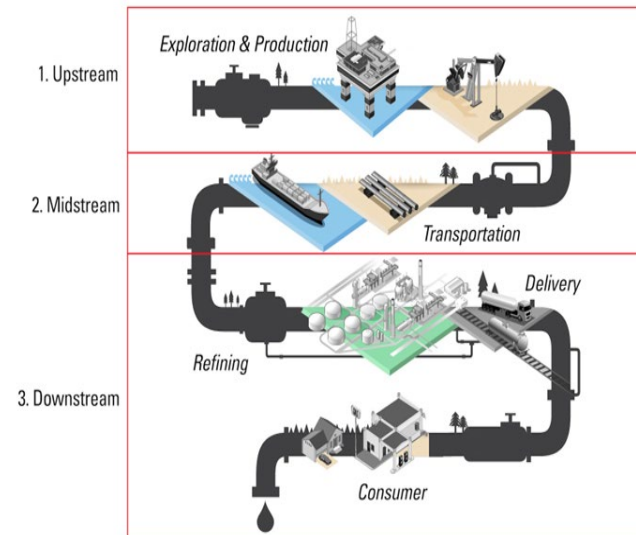
- **NMED has reviewed survey results from oil and gas operators, identified areas where potentially regulated NORM exists and is in communication with operators to determine if specific licensing is required.**

- **The following Oil & Gas Generator specific licenses have been issued to the following:**

- Apache Corp. Warn state AC1, issued March 2023
- Apache Corp. NMGSAU CTB, issued April 2024
- EOG Resources, Inc., issued January 2024
- COG Operating, LLC, King Cobra 2 state 1H, issued April 2024
- COG Operating, LLC, SRO state Com no. 17H Battery, issued April 2024
- COG Production, LLC, Copperhead Fee A no. 1H Battery, issued April 2024
- COG Operating, LLC, BUHO BQH state 1H Battery, issued April 2024

- **The following Oil & Gas Service provider specific licenses have been issued to the following:**

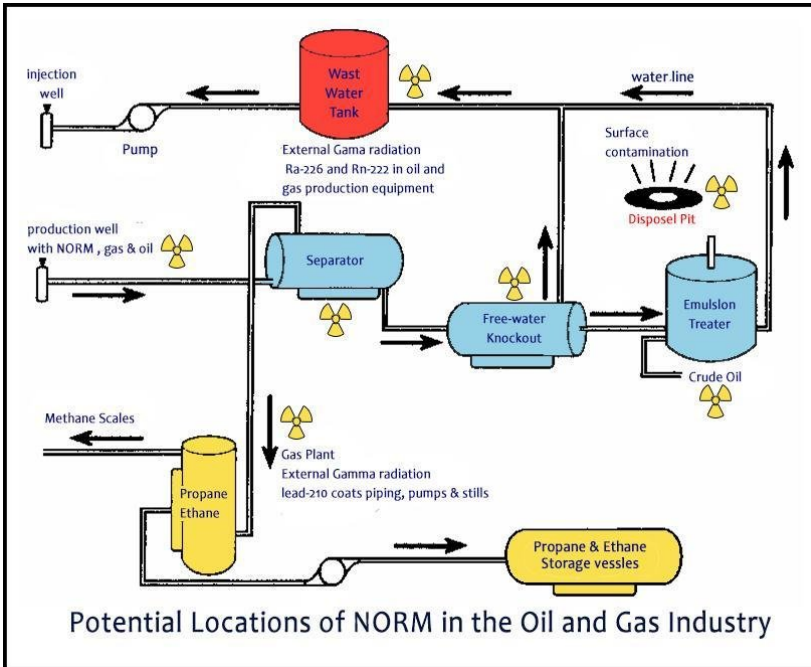
- Safety and Environment Solutions, Inc., issued January 2002
- Rice Operating Company, issued January 2002
- JAKD Solutions, LLC, issued April 2021
- Total Safety US Inc., issued June 2023
- Legacy Safety and Consulting, issued July 2023
- Carmona Resources, LLC, issued January 2024
- Precision NDT LLC, issued December 2023
- Calfrac Well Service Corp., issued April 2024
- Edge Safety & Service, LLC, issued January 2024



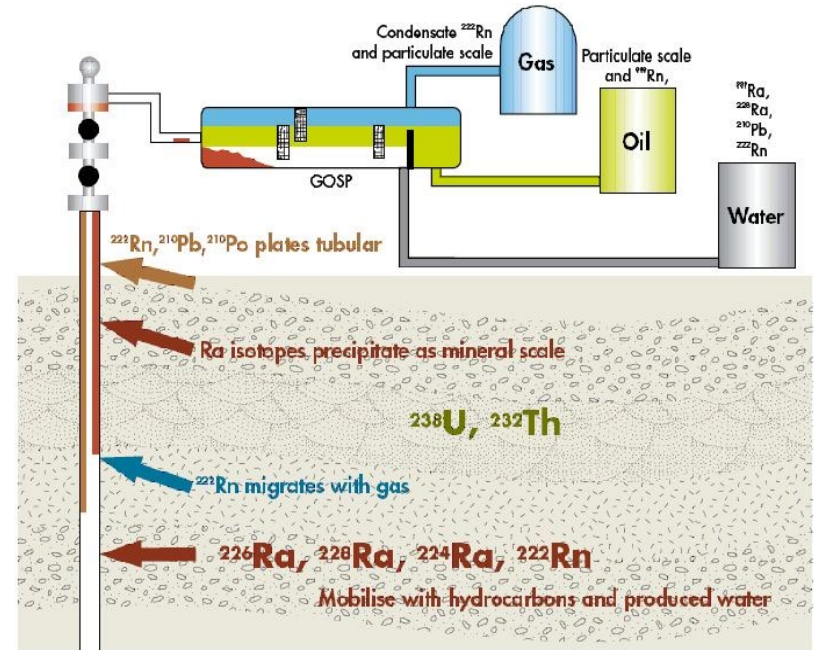


Radiation Control Act and Upstream Oil and Gas Industry

Possible Areas of Licensable Quantities of NORM

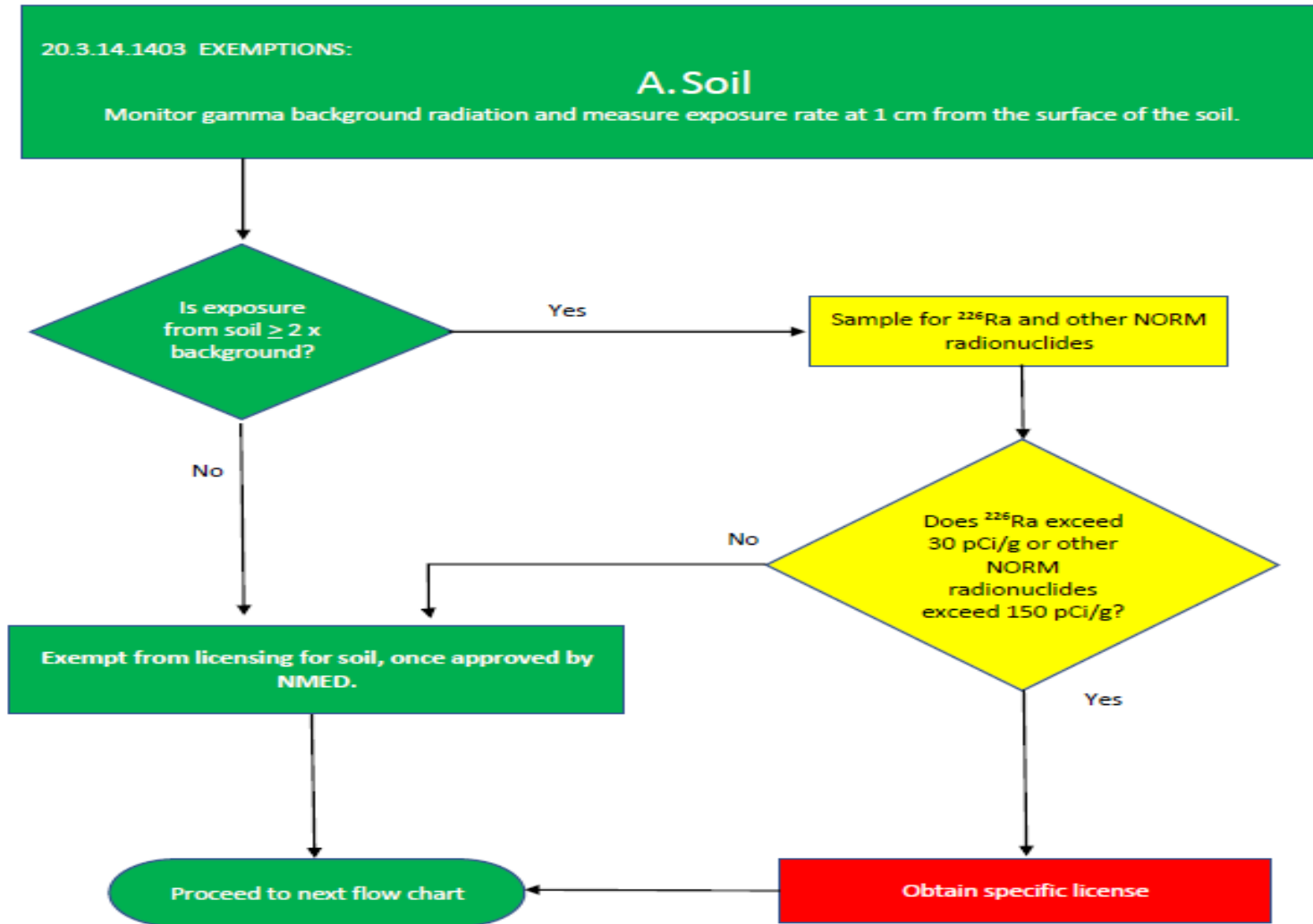


Radioactive Materials of Concern



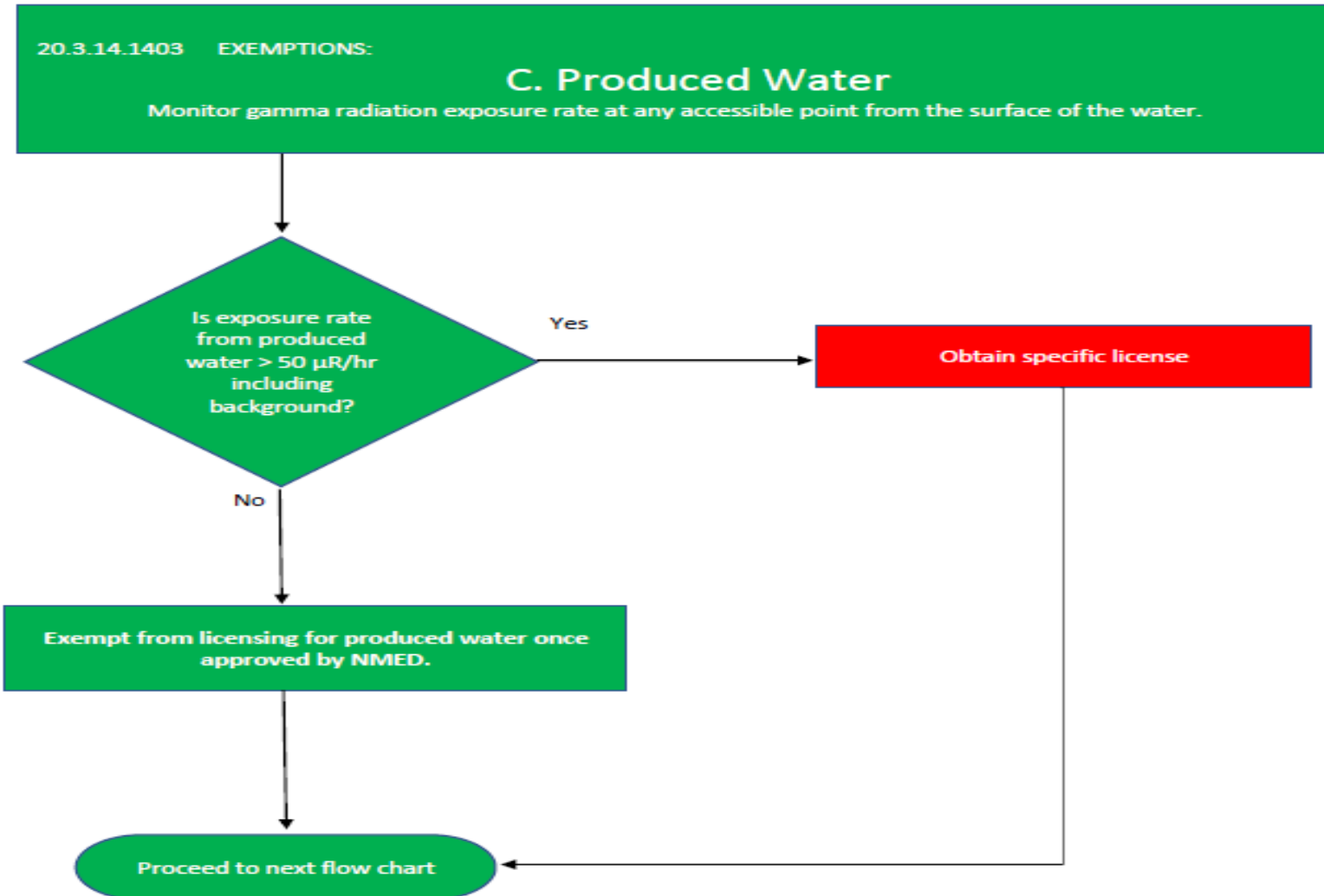


NORM Licensing Analysis Flow Chart for Soil



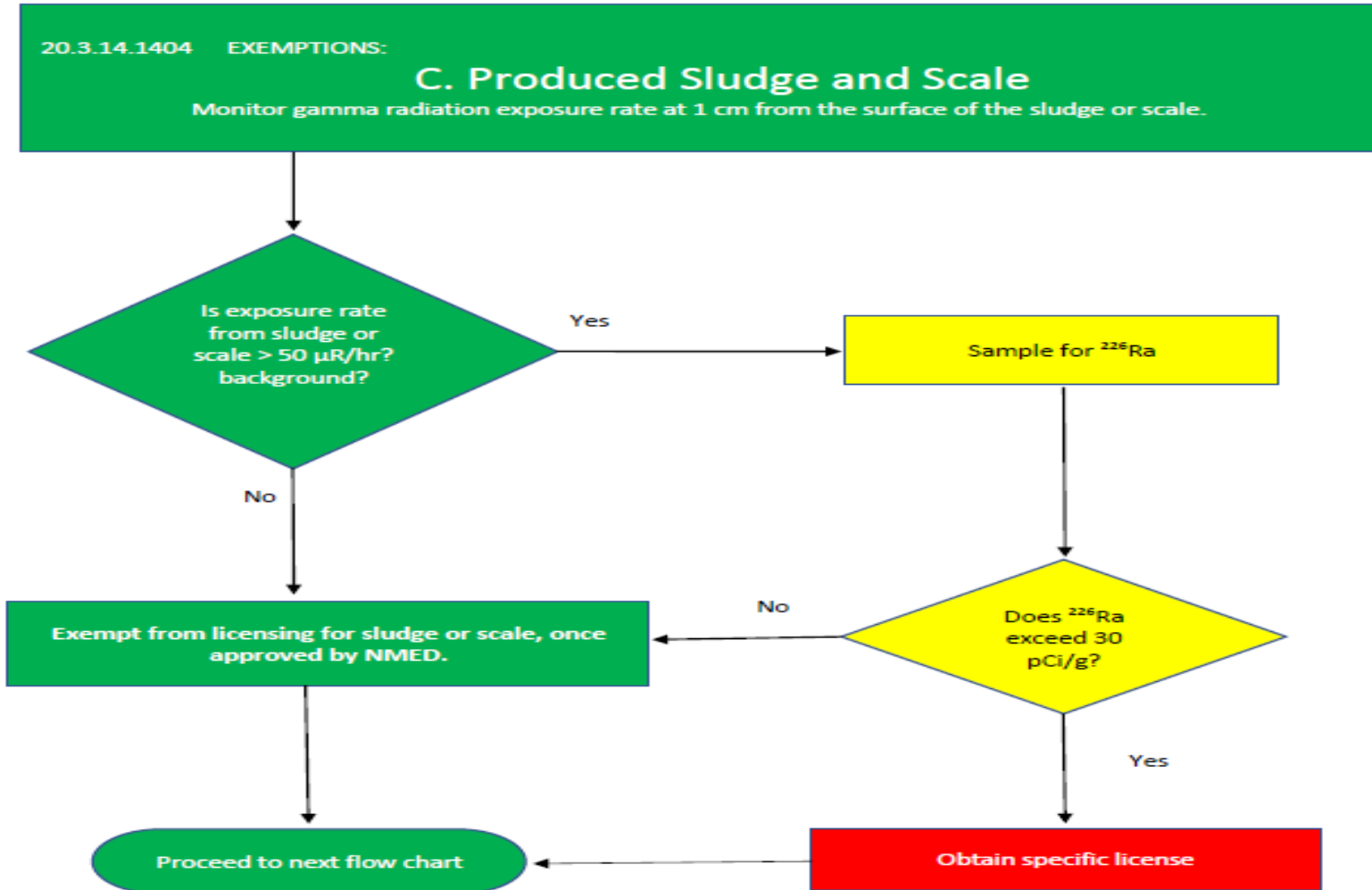


NORM Licensing Analysis Flow Chart for Produced Water



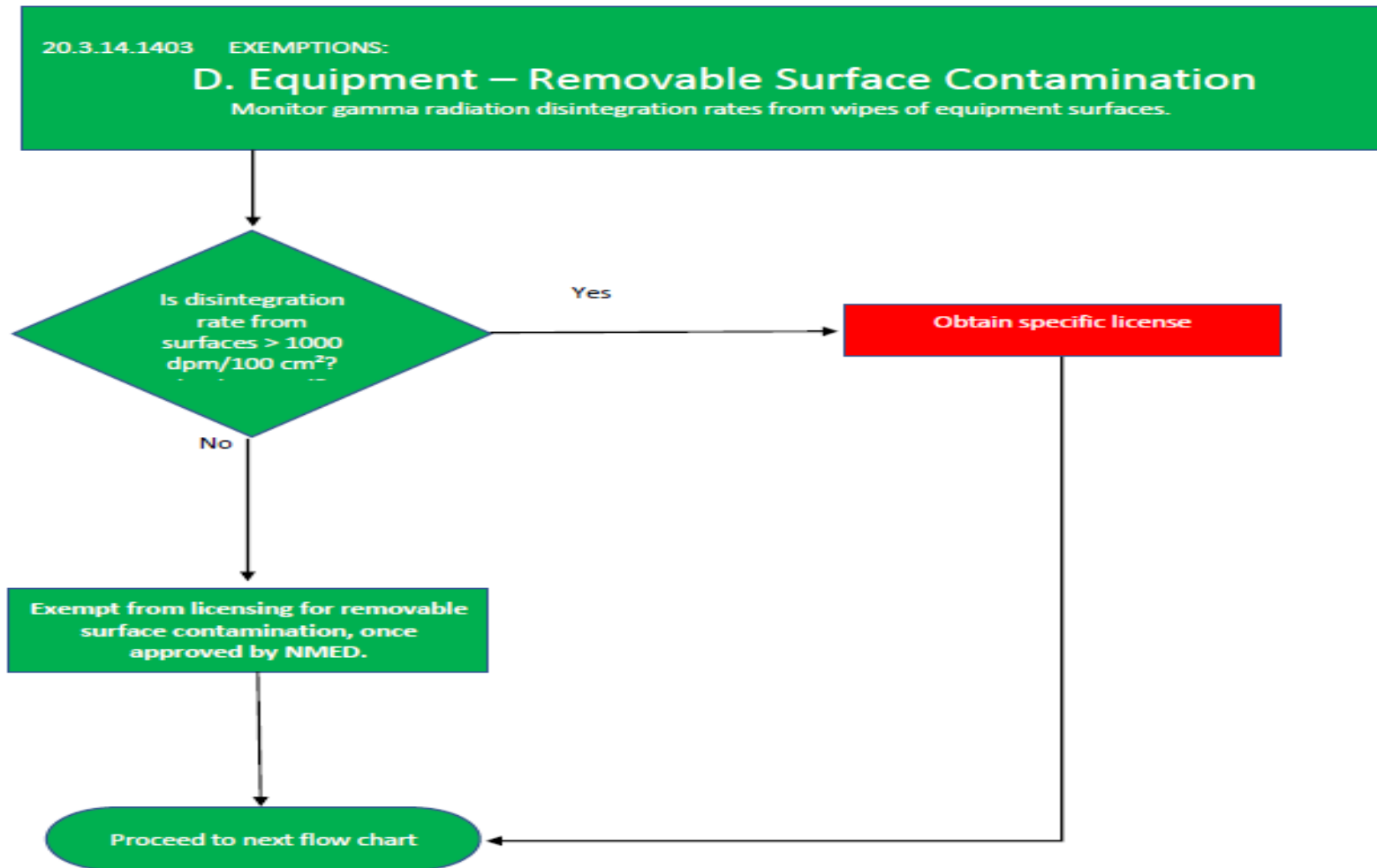


NORM Licensing Analysis Flow Chart for Sludge, and Scale



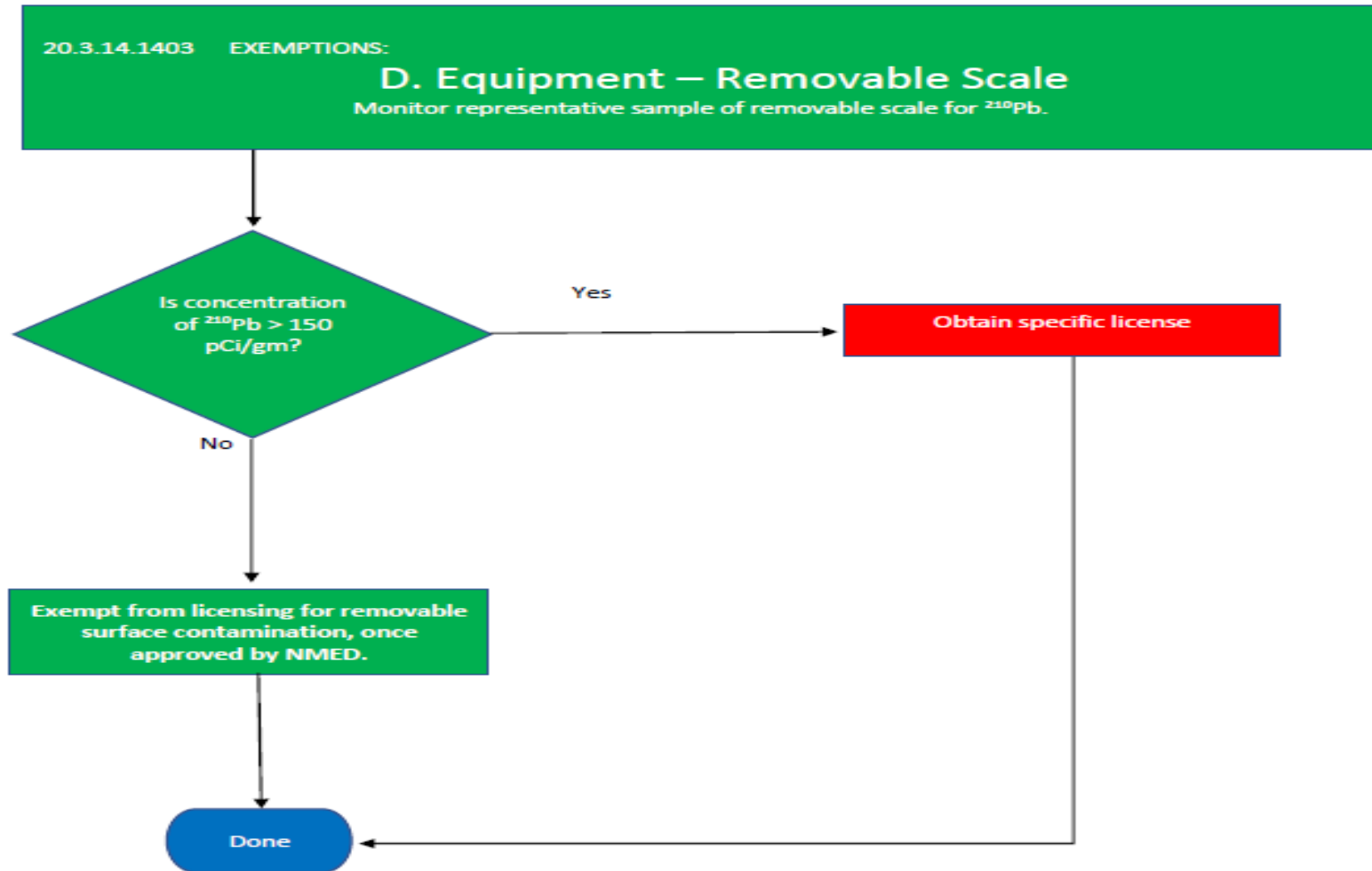


NORM Licensing Analysis Flow Chart for Equipment Surfaces





NORM Licensing Analysis Flow Chart for Removable Scale on Equipment





Upstream Oil and Gas Industry



NMED activities include:

- Conduct field verifications of industry survey results with confirmatory laboratory analysis with a state-of-the-art mobile inspection lab
- Continue with licensing oil and gas operations generators and service providers
- Use RCB's database to license NORM activities
- Revise NORM oil and gas regulations

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Thank you!