

# Revisions to Standards for the Open Burning/Open Detonation of Explosive Wastes

Public Webinar  
April 18, 2024

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EPA, Office of Resource Conservation and Recovery

# Agenda

- Webinar Objectives
- Background and Rule Development
- Overview of Proposed Rule
- Opportunity for Clarifying Questions
- Next Steps and Closing Remarks

# Webinar Objectives

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# Webinar Objectives

- Provide an overview of proposed amendments to the RCRA regulations for the open burning and open detonation (OB/OD) of hazardous waste explosives.
- Provide an opportunity for the public to ask clarifying questions on the proposed rule to inform public comments.

## Important Note:

Q&As submitted during this webinar are not considered public comments

- Please submit public comments to the docket for the proposal on or before *May 20, 2024*, by following one of the methods described in the *Federal Register* notice for this proposed rulemaking:

<https://www.federalregister.gov/documents/2024/03/20/2024-05088/revisions-to-standards-for-the-open-burningopen-detonation-of-waste-explosives>

- The docket for this rulemaking is at:

<https://www.regulations.gov/document/EPA-HQ-OLEM-2021-0397-0001>



# Background & Rule Development

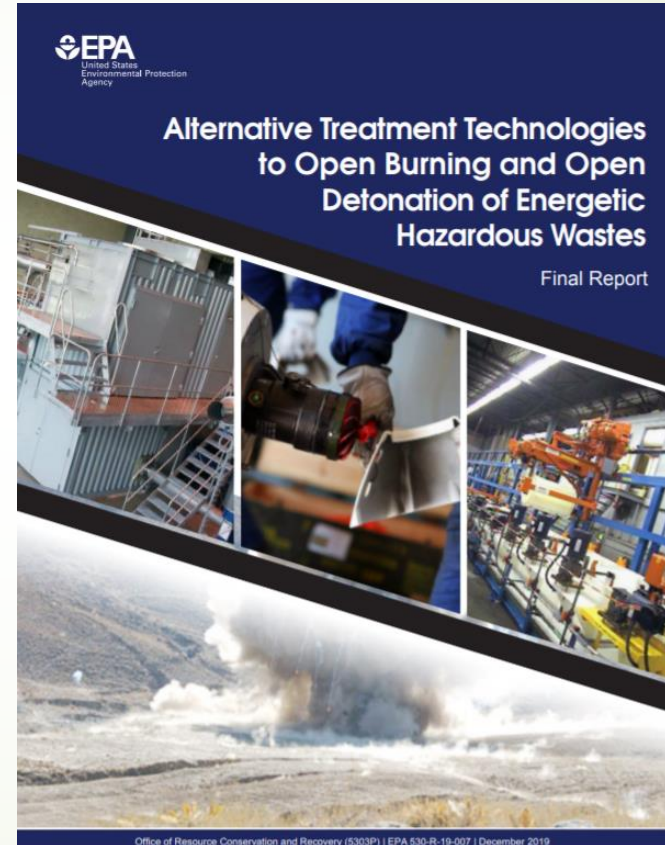


## Background: EPA Regulations

- In 1980, EPA prohibited open burning, including open detonation, of hazardous waste.
- However, an exception was allowed for OB/OD of waste explosives “which cannot safely be disposed of through other modes of treatment” (40 CFR 265.382).
- At that time, EPA also committed to monitoring development of new technologies and indicated that additional regulations could be proposed in the future.
- In 1987, EPA finalized permitting standards for miscellaneous units (40 CFR part 264 subpart X) which include OB/OD units.

# Background: Alt Tech Reports

- In 2019, the EPA and the National Academies of Sciences, Engineering, and Medicine (NASEM) published separate reports describing many alternative technologies now available to treat explosive waste.
- In response, EPA took two actions: issued a policy memo and proposed additional standards in a rulemaking.





## Background: OB/OD Policy Memo (Issued June 2022)

- Purpose of the memo is to communicate *existing* requirements and provide guidance to Regions, states, and territories. See: <https://rcrapublic.epa.gov/rcraonline/details.xhtml?rcra=14946>
- Under the *existing* requirements, OB/OD facilities **must** evaluate—and re-evaluate—whether safe alternative technologies are available.
- Where safe alternatives are available, facilities **must** use those alternatives in lieu of OB/OD.



# Background: Early Engagement for Rule

- Held early engagement meetings in March 2022 and December 2022
- Key feedback points heard from early engagement meetings:
  - Regulators: generally, very supportive; concerned with implementation challenges
  - Environmental/Community Groups: ban OB/OD completely (no exceptions)
  - Regulated Entities: safety is highest priority; funding questions; preserve ability to use OB/OD when needed

A summary of Early Engagement can be found in the docket.





# Overview of Proposed Rule



# Proposed Approach for OB/OD

- ▶ EPA is proposing to clarify the existing RCRA requirements by specifying:
  - ▶ Applicability to TSDFs subject to a RCRA permit;
    - ▶ Proposed exemption for facilities generating de minimis amounts of waste explosives (de minimis provision);
    - ▶ Limited proposed changes for responses to explosives and munitions emergencies exempt from permitting and activities conducted under an emergency permit;
  - ▶ Timelines, criteria and information for conducting alternative technology evaluations;
  - ▶ Timelines for implementing safe alternative technologies;
  - ▶ Technical standards for OB/OD units, including prohibition on the OB/OD of certain wastes; and
  - ▶ Mobile Treatment Units (MTUs) permitting provisions.



# Applicability

- The proposed rule would be applicable to owners and operators that treat waste explosives by open burning and/or open detonation and are subject to a RCRA permit.
- EPA is proposing a *de minimis* exemption for facilities generating up to 15,000 lbs NEW or less annually of waste explosives provided the owner/operator make several demonstrations to the permit authority:
  - A demonstration that the proposed *de minimis* treatment by OB/OD would contribute negligible contamination and potential for exposure.
    - This would require consideration of the quantity and types of wastes, location, and relevant permit conditions.
  - A demonstration that treatment by an MTU, an off-site alternative technology, and by any existing on-site alternative technologies is not safe and available.
  - A demonstration that the facility does not have any unresolved compliance or enforcement actions and does not have a history of significant noncompliance.

# Applicability

- ▶ The proposed rule also specifies the extent to which activities conducted under existing RCRA provisions (e.g., emergency permits, emergency responses exempt from permitting) must consider alternative technologies.
  - ▶ In emergency responses exempt from permitting, the responders would not need to consider alternative technologies but would have limited post-incident reporting requirements.
  - ▶ In situations under which an emergency permit would be issued, a consideration of alternative technologies that could be available in a reasonable timeframe must be considered, and this consideration documented and submitted within 5 days of beginning treatment.

# Alternative Technology Evaluations

- ▶ The existing regulation requires that OB/OD facilities evaluate—and re-evaluate—whether safe alternative technologies are available, and that where available, facilities must use those alternatives in lieu of OB/OD.
- ▶ The evaluation is necessary to demonstrate that OB/OD facilities are eligible for the exception to the prohibition on OB/OD of waste explosives.
- ▶ As technology has advanced over time, expectations for demonstrating whether there are no safe and available alternatives have commensurately grown over time.
- ▶ Time required to conduct alt tech evaluations and to implement alt techs varies depending on the number of unique waste streams and the complexity and number of the selected technologies.
- ▶ During the evaluation period for the alternative technology and during the implementation period for the alternative technology, the owner/operator may continue the use of OB/OD as a treatment method for the subject wastes (264.704(b)).

# Proposed Changes for Alternative Technology Evaluations

Because the existing regulation does not include a mechanism or a clear process for how facilities can demonstrate eligibility to use OB/OD, EPA is proposing regulations that:

- 1) Clarify when in the permitting process an alternative technology evaluation must be conducted;
- 2) Define the **criteria** by which to determine if an alternative technology must be used, i.e., that is “safe” and “available;” and
- 3) Specify the required **content** for the evaluation that must be provided to the permit agency (proposed 40 CFR 264.707(b)).



# Timelines for Conducting an Alternative Technology Evaluation

- ▶ EPA is proposing to require facilities to conduct an initial alternative technology evaluation as part of a permitting action.
  - ▶ Examples: Permit application for a new OB/OD unit, Class 2 or 3 permit modification associated with an OB/OD unit, or renewal application for OB/OD unit.
  - ▶ For the limited number of interim status facilities, initial alternative technology evaluation would be required one year after the effective date of final rule.
- ▶ EPA is proposing to require OB/OD facilities to conduct an alternative technology reevaluation every five years thereafter.

# Criteria for Alternative Technology Evaluations

- ▶ Criteria for evaluating whether an alternative treatment technology is **safe** and **available**. If criteria are met, implementation of the technology would be required.
- ▶ For determining whether technologies are **safe** (proposed § 264.707(b)(1)(i)):
  - ▶ *Technology must be determined to be safe for the specific waste explosives by an explosives or munitions specialist; designed, constructed, and operated in a manner that is safe and protective of human health and the environment; and uses appropriate procedures and technologies to ensure safe handling and treatment, as determined by an explosives or munitions specialist.*
- ▶ For determining whether technologies are **available** (proposed § 264.707(b)(1)(ii)):
  - ▶ *Technology is available when it can be used on-site or off-site, rented, leased, or purchased from a qualified vendor or entity, or custom designed and constructed by a qualified vendor or entity and has been determined through a technical evaluation, such as a demonstration at full-scale, to consistently perform the functions necessary to be effective.*

# Content for Alternative Technology Evaluations

- ▶ Alternative technology evaluations would be required to include the following information:
  - ▶ Description of facility operations;
  - ▶ Characterization of wastes;
    - ▶ Grouping by **physical** configuration (e.g., bulk, small/med/large cased munitions)
    - ▶ Identify **chemical** composition of each waste stream item
    - ▶ For example, under large-cased munitions, one entry may be: 25 ammonium perchlorate rocket motors, 60 lbs propellant per motor, 1,500 lbs per year, contains ammonium perchlorate, aluminum, polyurethane, and nitroguanidine, and is treated by OB.

# Content for Alternative Technology Evaluations

- ▶ Initial screening of available alternative technologies for each explosive waste stream;
- ▶ An analysis of alternative treatment technologies that pass the initial screening;
- ▶ Identification of selected alternative technology or technologies;
- ▶ Evaluation of offsite and mobile unit treatment options using alternative technologies; and
- ▶ Identification of individual waste streams requiring OB/OD.



# Timelines for Implementing Alternative Technologies

- ▶ Once a safe and available alternative technology is identified, EPA is proposing that a facility-specific, enforceable implementation schedule be incorporated in the facility's permit.
- ▶ EPA is also requesting comment on other options:
  - ▶ Whether EPA should establish a fixed implementation deadline (e.g., four years from the identification of a safe alternative)
  - ▶ Whether EPA should require different implementation deadlines based on priority facilities (e.g., those located near communities or water bodies or in other sensitive locations)

# OB/OD Technical Standards

- ▶ EPA recognizes the need for OB/OD to treat waste explosives where there is no safe alternative available yet.
- ▶ To ensure consistent protections for OB/OD, EPA is proposing minimum technical standards that describe conditions to include in a permit but allow site-specific flexibility parameters in setting those permit conditions.
  - ▶ For example, all permits would be required to have a condition that sets parameters for wind speed and direction.
- ▶ Requirements fall into two categories: operating requirements and monitoring requirements.

# OB/OD Operating Requirements

- **Atmospheric conditions:** wind speed, direction; air temperature; precipitation restrictions; cloud conditions.
- **Waste processing limits:** time of day for OB/OD events; maximum net explosive weight (NEW) in single event, per day, per calendar year; removal of excess materials prior to OB/OD; maximum number of OB/OD events per day.
- **Design considerations:** run-on/run-off controls; soil cover requirements and soil/earth lining design (OD).
- **Safe distance plan.**
- **Public outreach plan**, e.g., notification of OB/OD events.

# OB/OD Monitoring Requirements

- ▶ Monitoring plans for soil, groundwater, surface water, and air.
- ▶ Monitoring plan must include sampling plan, analysis and evaluation plan, response/notification procedures for contamination found, public accessibility to monitoring data/results.



# Prohibited Wastes

- EPA is proposing to prohibit treatment by OB/OD of specific wastes that pose unacceptable risks or for which OB/OD is not an effective treatment (disperses rather than destroys).
- EPA is proposing to prohibit treatment by OB/OD for
  - Mixed wastes containing more than trace amounts of depleted uranium (DU)
  - White and red phosphorous
  - Picatinny Arsenal Explosive 21 (PAX-21)
  - Polychlorinated Biphenyls (PCBs)
  - Improved Conventional Munitions (ICMs) or cluster bombs
  - Chemical weapons
- These prohibitions would not apply to emergency responses exempt from RCRA requirements.

# Mobile Treatment Units

- EPA is proposing a permitting framework for mobile treatment units (MTUs) as an alternative technology solution for treating waste explosives.
- MTUs could provide considerable benefits with respect to some explosives waste streams:
  - Cost-efficient for smaller quantities, fast implementation, less OB/OD, less off-site transportation of waste explosives.

# Mobile Treatment Units

- ▶ EPA is proposing a two-stage permitting process that allows for the issuance of a RCRA permit at each location an MTU intends to operate.
  - ▶ Stage one: A national conditional approval by EPA that includes the national design and operational standards for the MTU or group of identical MTUs, and public notice and comment that would be valid for every location the MTU is used.
  - ▶ Stage two: final issuance of RCRA permit on a site-specific basis to treat waste explosives; would include the standards from the national conditional approval plus limited site-specific criteria and public notice.
    - ▶ The intention is for this stage to entail significantly less burden than the first stage.
- ▶ EPA also considered and is requesting comment on alternative approaches:
  - ▶ One-stage permitting approach
  - ▶ Permit by rule

# Clarifying Questions





# Next Steps and Closing Remarks



# Next Steps

- Please submit comments to the rule docket by May 20, 2024 at: <https://www.regulations.gov/document/EPA-HQ-OLEM-2021-0397-0001>.
- EPA will post these slides and a recording on the rulemaking webpage at: <https://www.epa.gov/hwpermitting/revisions-standards-open-burning-open-detonation-waste-explosives>.
- EPA anticipates publishing a final rule in 2025.
- For more information, see <https://www.epa.gov/hwpermitting/energetic-hazardous-wastes>.

## Closing

As you prepare your comments, please know that comments that focus on EPA's specific proposed changes and other requests for comment are the most helpful to the Agency. Thank you! We appreciate your interest in this rulemaking.