



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Oil and Gas Management



Chapter 78a Training Waste Management - Disposal

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Purpose of Presentation

- The purpose of this presentation is to discuss the regulations for onsite disposal as they pertain to unconventional oil and gas operations.
- **Bold Font** denotes new language in regulations.

Waste Management - On Site Disposal

Overview

§ 78a.60 Discharge Requirements

§ 78a.61 Disposal of Drill Cuttings

§ 78a.62 Disposal of Residual Waste – Pits

§ 78a.63 Disposal of Residual Waste – Land Application

§ 78a.63a. Alternative Waste Management

Discharge requirements.

25 Pa. Code § 78a.60(a)

- The unconventional well owner and operator may not cause or allow a discharge of a substance, **fill or dredged material** to the waters of this Commonwealth unless the discharge complies with this subchapter and Chapters 91—93, 95, 102 and 105, The Clean Streams Law, **the Dam Safety and Encroachments Act** and the 2012 Oil and Gas Act.

Discharge requirements.

25 Pa. Code § 78a.60(b)(1)

- The unconventional well owner and operator may discharge tophole water or water in a pit as a result of precipitation by land application if the discharge is in accordance with the following requirements:
 1. Other than gases or fresh water, no additives drilling muds, **regulated substances** or drilling fluids have been added to or are contained in the water, unless otherwise approved by the Department.

Discharge requirements.

25 Pa. Code § 78a.60(b)(2-4)

2. The pH is between 6 to 9 standard units, or is characteristic of the natural background quality of the groundwater.
3. The specific conductance of the discharge is less than 1,000 $\mu\text{mhos/cm}$.
4. There is no sheen from oil and grease.

Discharge requirements.

25 Pa. Code § 78a.60(b)(5-6)

5. The discharge water shall be spread over an undisturbed, vegetated area capable of absorbing the topsoil water and filtering solids in the discharge.
 - Also, the discharge water spread in a manner that prevents a direct discharge to surface waters and complies with § 78a.53 (relating to E&S Control).
6. Upon completion, the area complies with § 78a.53.

Discharge requirements.

25 Pa. Code § 78a.60(b)(7-8)

7. The area of land application:
 - \geq 200 feet of a water supply.
 - \geq 100 feet of a **watercourse** or body of water.
 - **Outside the floodplain.**
8. If the water does not meet the pH or sheen requirements, the Department may approve treatment prior to discharge to the land surface.

Discharge requirements.

25 Pa. Code § 78a.60(c)

- **Compliance with subsection (b) shall be documented by the operator and made available to the Department upon request while conducting activities under subsection (b) and submitted under § 78a.65(e)(1)-(2) (relating to site restoration). (Site Restoration Report OG-75)**

Disposal of drill cuttings in pits.

25 Pa. Code § 78a.61(a)

- The unconventional well owner or operator may dispose of drill cuttings from above the **surface** casing seat, determined in accordance with § 78a.83(c) (relating to surface and coal protective casing and cementing procedures), in a pit at the well site if the owner or operator satisfies the following requirements:
 1. The drill cuttings are generated from the well at the well site.

Disposal of drill cuttings in pits.

25 Pa. Code § 78a.61(a)

2. The drill cuttings are not contaminated with a **regulated substance**, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids or drilling fluids other than tophole water, fresh water or gases.
3. The disposal area is \geq 100 feet of a **watercourse or body of water** and **outside the floodplain**.

Disposal of drill cuttings in pits.

25 Pa. Code § 78a.61(a)

4. The disposal area is \geq 200 feet of a water supply.
5. The pit is designed, constructed and maintained to be structurally sound.
6. The free liquid fraction of the waste shall be removed and disposed under § 78a.60.

Disposal of drill cuttings in pits.

25 Pa. Code § 78a.61(a)

7. The pit shall be backfilled to the ground surface and graded to promote runoff with no depression that would accumulate or pond water on the surface.
- The stability of the backfilled pit shall be compatible with the adjacent land.

Disposal of drill cuttings in pits.

25 Pa. Code § 78a.61(a)

8. The surface of the backfilled pit area shall be revegetated to stabilize the soil surface and comply with § 78a.53 (relating to E&S Control).
- Where vegetation would interfere with the intended use of the surface of the landowner, the surface shall be stabilized against erosion.

Disposal of drill cuttings in pits.

25 Pa. Code § 78a.62

- An unconventional well owner or operator **proposing to** dispose of residual waste, including contaminated drill cuttings, in a pit at the well site **shall obtain a residual waste pit disposal permit issued under this Chapter prior to constructing the waste disposal pit.**
- Conventional operators may still dispose of residual waste, including contaminated cuttings in a pit in accordance with § 78.62.

Land application of drill cuttings.

25 Pa. Code § 78a.61(b)

- The unconventional well owner or operator may dispose of drill cuttings from above the **surface** casing seat, determined in accordance with § 78a.83(c), by land application at the well site if the owner or operator satisfies the following requirements:
 1. The drill cuttings are generated from the well at the well site.

Land application of drill cuttings.

25 Pa. Code § 78a.61(b)

2. The drill cuttings are not contaminated with a **regulated substance**, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids or drilling fluids other than tophole water, fresh water or gases.
3. The disposal area is \geq 100 feet of a **watercourse** or body of water and **outside the floodplain**.

Land application of drill cuttings.

25 Pa. Code § 78a.61(b)

4. The disposal area is \geq 200 feet of a water supply.
5. The soils have a minimum depth from surface to bedrock of 20 inches.
6. The drill cuttings are not spread when saturated, snow covered or frozen ground interferes with incorporation of the drill cuttings into the soil.

Land application of drill cuttings.

25 Pa. Code § 78a.61(b)

7. The drill cuttings are not applied in quantities which will result in runoff or in surface water or groundwater pollution.
8. The free liquid fraction is disposed in accordance with § 78a.60.
9. The drill cuttings are spread and incorporated into the soil. **The loading and application rate of drill cuttings may not exceed a maximum of drill cuttings to soil ratio of 1:1.**

Land application of drill cuttings.

25 Pa. Code § 78a.63

- An unconventional well owner or operator **proposing disposal** of residual waste, including contaminated drill cuttings, at the well site by land application **shall obtain a residual waste land application permit issued under this Chapter prior to land application** of the waste.
- Conventional operators may still land apply residual waste, including contaminated cuttings under § 78.63.

Disposal of drill cuttings.

25 Pa. Code § 78a.61(d)

- The unconventional well owner or operator may request to use solidifiers, dusting, unlined pits, attenuation or other alternative practices for the disposal of uncontaminated drill cuttings by submitting a request to the Department for approval.
- The request must be made on OG-71 A.
- The request must demonstrate that the practice provides equivalent or superior protection to the requirements of § 78a.61.

Disposal of drill cuttings.

25 Pa. Code § 78a.61(d)

- **The Department will maintain a list of approved solidifiers on its web site.**
- **The operator does not need to request approval from the Department for use of approved solidifiers.**

Disposal of drill cuttings.

25 Pa. Code § 78a.61(e)

- The owner or operator shall electronically notify the Department at least 3 business days before disposing of drill cuttings under § 78a.61. If the date of disposal is extended, the operator shall re-notify the Department of the date of disposal.
- The owner or operator shall also provide disposal notice of disposal to the surface landowner, including the location of the disposed drill cuttings, within 10 business days of completion of disposal.

Alternative waste management.

25 Pa. Code § 78a.63a

- **An operator seeking to manage waste on a well site in any manner other than provided in §§ 78a.56 – 78a.63 shall submit a request electronically to the Department through its web site describing the alternate management practice and shall demonstrate that the practice provides equivalent or superior protection to the requirements in these sections.**

OG-71 A Form.

Request for approval of Alternate Waste Management Practices at an Unconventional Well Site:

- A. Temporary Storage
- B. Alternate Waste Disposal Practices
- C. Residual Waste Processing.

OG-71 A Form.

Section A. Temporary Storage

- If approval of an alternative practice for temporary storage is being requested, the operator needs to describe the type of waste and the temporary storage method.
- Operators need to provide the dates an approved above ground temporary storage structure will be used.

OG-71 A Form.

Section A. Temporary Storage

- If unconventional well operators are seeking to utilize non-rigid and/or modular aboveground temporary containment structures, they need to demonstrate that they are structurally sound and reasonably protected from unauthorized acts of third parties.
 - The Department will maintain a list of approved modular storage structures on its web site.

OG-71 A Form.

Section A. Temporary Storage

- An engineer certified stability analysis is required for installation of non-rigid and/or modular aboveground temporary storage systems on fill areas or where height of the temporary storage system exceeds the diameter or width of the temporary storage system to be used to ensure the integrity of the structure at the proposed site.

OG-71 A Form.

Section B. Alternative Waste Disposal Practices

- This section is for operators to request approval of an alternative practice to dispose of uncontaminated drill cuttings at the well site.
- Operators need to describe the proposed alternative practice the type of waste material being processed, including any additives to be used as part of the alternative practice.

OG-71 A Form.

Section B. Alternative Waste Disposal Practices

- Operators need to provide Safety Data Sheets (SDS) for the additives used.
- Also, include information that will demonstrate the proposed practice will provide protection equivalent or superior to the practices identified in 25 Pa. Code §§ 78a.61.

OG-71 A Form.

Section C. Residual Waste Processing

- Processing wastewater generated at the well site.
- Processing wastewater to be beneficially used to complete a well at the well site.
- Processing drill cuttings.
- Onsite liner processing (handling, washing, and shredding) for disposal.
- Other onsite processing.

OG-71 A Form.

Section C. Residual Waste Processing

- Operators need to provide a narrative description and schematic for each activity checked in Section C.
 - Include type of treatment (including a schematic of the treatment train); desired outcome; facility design; and methodology.
- Also, include the contractor's name, address, contact person, and contact information.

Section C. Residual Waste Processing

- For processing wastewater generated from oil or gas wells, the approval request is limited to wastewater that is either:
 1. Processed at the well site where it was generated, or
 2. Processed at the well site where it will all be beneficially used to complete a well.
(a.k.a. 100% Rule)

Section C. Residual Waste Processing

- For processing wastewater, need to report:
 - Types and amounts of waste processed.
 - Locations where the processed waste was generated.
 - Locations and amounts where the processed waste was beneficially used.
 - Records for the method & location of handling, storage, processing, and disposal site of such additional waste.

OG-71 A Form.

Section C. Residual Waste Processing

- For processing drill cuttings, approvals are limited to the processing of drill cuttings at the well site where the drill cuttings were generated.

OG-71 A Form.

Section C. Residual Waste Processing

- For processing drill cuttings, need to report:
 - The types and amounts of waste processed.
 - The location where the waste was generated.
 - The specific locations where it is used, if applicable; and
 - The permit number and GPS of the disposal location. Such records shall be provided to the Department upon request.

OG-71 A Form.

Section C. Residual Waste Processing

- For processing well pad liners (handling, washing and shredding) for disposal, approvals are limited to activities at the well site where the well pad liners were installed.

OG-71 Form.

Section C. Residual Waste Processing

- If using additives to treat (e.g. biocides, odor control) or process (i.e. for beneficial reuse) the contents of pits, tanks, and/or series of tanks provide a description of the type of waste and the additive(s) used. Attach SDS for the additives used.

OG-71 A Form.

- An operator must revise its Preparedness, Prevention and Contingency (PPC) Plan to address the practices approved by the OG-71 A form.

OG-71 B Form.

- Operator may use the OG-71 B form to request for approval of previously approved alternative waste management practices for new well site.
 - Need to provide list of violations within the last five years for violation(s) of any other prior approval of an alternative waste management practice issued by the Department.
 - Need to certify that the alternative waste management practice(s) will continue to be use in same manner.



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QUESTIONS?

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