

Response to Comments Received on Proposed Clarifications to 15A NC Administrative Code 13B .1604 and .1626

1. Question: What does the Solid Waste Section consider a surface leachate release?

The Section considers a surface leachate release to have occurred when untreated leachate is not contained within the disposal unit or leachate collection system.

2. Question: Aren't leachate seeps a minor issue?

Leachate seeps are indicative of underlying problems with landfill operations. If seeps are not repaired and the underlying problems appropriately addressed, they will continue to worsen, resulting in increasing releases of leachate and potentially threatening the structural integrity of the landfill.

3. Question: Why would a leachate release into the buffer areas be considered a violation if impacted soils are excavated? Isn't the primary reason for buffers to protect the public health and environment from contaminant releases?

The RCRA Sub-title D program is a non-discharge program and buffers at a RCRA regulated facility are not designed as areas for surface discharges of contaminants.

The landfill buffer zones required by the N.C. Solid Waste Management Rules are not intended for allowing room for the containment and clean up of a surface leachate release. The primary reasons for the minimum 300 foot buffer between waste disposal areas and property lines are to provide a buffer for noise, odor and visual barrier reasons, as well as to allow for installation of groundwater and landfill gas monitoring systems.

While the remedy of excavation and removal of contaminated soil may be necessary to mitigate a leachate release, exact determination of the vertical and horizontal extent of impacted soils would be difficult, as would determination of any impact of the release upon groundwater. Moreover, it cannot be assumed that an uncontrolled release of leachate will halt at the property boundary or that it will not contaminate surface water features which flow off the site. Additionally, a release would be contrary to the planned and permitted operation of a facility.

4. Question: Isn't a contaminant release to a buffer area an operational problem and not a violation?

A contaminant release to a buffer area is a violation. The operational requirements in Rule .1626 are designed to prohibit releases from the landfill, prevent potential harm to public health and the environment, prevent nuisances, and are safety measures. Failure to comply with any of these operational requirements is a violation of a Solid Waste Management Act and rules promulgated thereunder.

Some of the most common factors contributing to leachate releases at facilities that Section staff has observed include:

- Leachate collection system valves never opened.
- Clogged collection systems because annual inspection and periodic cleaning of leachate collection systems not performed.
- Failure to maintain secondary containment systems.
- Poor surface geometry for the shedding of storm water on top of active phases to prevent the infiltration and ponding of water on the landfill.
- Failure to routinely maintain cover and allowing excessive erosion to occur, exposing waste and creating pathways for leachate to leave the lined area.
- Slopes built out to the top of the anchor trench, removing any barrier or temporary “safety net” at the bottom of the slope to catch a release before it flows outside the disposal unit.
- Failure to take appropriate corrective measures when seeps develop.
- Failure to manage appropriately the disposal of low permeability material, such as sewage sludge.
- Failure to remove intermediate cover soils before adding waste when performing slope restoration repairs in areas that have settled (i.e. “wedge fills”).

The Solid Waste Section has provided and will continue to provide technical assistance to address the prevention of leachate releases.

5. Question: What if the leachate release is caused by an “act of God”?

The American Heritage Dictionary defines an “act of God as” “An unforeseeable or inevitable occurrence, such as a tornado, caused by nature and not by man.” Cold temperatures, snow or rainfall events which a facility is designed to withstand (e.g. a 25-year storm event) are not unforeseeable. Leachate collection ponds and tanks must be designed and maintained with sufficient freeboard to accommodate 25-year storm events. Facilities are to be designed and operated in accordance with climate conditions in the area in which the facility is located. Weather conditions are generally predictable in advance. Landfills located in areas prone to earthquakes are required to be designed, constructed and operated to with stand seismic activity. Landfills located in unstable areas are required to be designed, constructed and operated to ensure that the integrity of the landfill is maintained despite the unstable conditions.

6. Question: Doesn’t the proposed rule language reinvent the premise of Subtitle D and the Relevant Point of Compliance? Doesn’t the facility’s monitoring well system establish a relevant point of compliance?

Subtitle D of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (“RCRA”), 42 U.S.C. § 6901, *et. seq.*, establishes the minimum landfill design and management requirements that states and facilities must meet. Containment and proper management of leachate is one of the major overarching differences between pre-1993 and post-1993 lined municipal solid waste landfills. Each state is required to submit plans sufficient to demonstrate that it meets the minimum criteria. One of the principal thrusts of the regulations is landfill containment through daily cover, liner

requirements and a final cap. Discussions of Subtitle D regulations clearly indicate the intent to contain leachate either within the liner system or the collection system.

Groundwater monitoring systems are designed to detect subsurface releases from a lined waste disposal unit that slowly migrate (typically, tens of feet to hundreds of feet/year) within preferential groundwater flow paths to a discharge point (stream, wetlands, lake, well, etc.). The rule at issue deals specifically with surface releases. The relevant point of compliance established by the facility groundwater monitoring system is designed to detect subsurface releases of leachate to groundwater, not surface releases, especially not those that occur outside of the groundwater monitoring system's area.