

# Remediation Standard Regulations

## Introduction

The Remediation Standard Regulations (RSRs), or state clean up standards, describe the degree to which pollution in the soil and ground water must be cleaned up in order to protect public health and to protect the environment. The regulations include:

1. Specific concentrations of chemicals that if present in soil or ground water as a result of pollution would require clean up.
2. Alternative approaches to clean up that would also protect human health and the environment.

For example, polluted soil that is beneath a building or a cap would not pose a risk to public health or the environment.

The Remediation Standard Regulations are divided into two sections: one dealing with soil remediation, and the second dealing with ground water remediation. This summary addresses the soil remediation section of the regulations.

## Soil Remediation

There are two kinds of soil remediation standards. The **Direct Exposure Criteria** are designed to protect the health of people who may come into contact with polluted soil. The **Pollutant Mobility Criteria** are designed to protect the quality of ground water from chemicals that move from polluted soil into the ground water. Any clean up project must address both of these issues.

**Direct Exposure Criteria.** Polluted soil may contain chemicals at concentrations that pose a risk to public health if people come into direct, physical contact with that soil. The polluted soil may be swallowed if the soil gets on hands or if the soil becomes dust in the air. Children, particularly, may be exposed to chemicals if they have polluted soil on their hands and put them in their mouth when they are playing outside.

The **direct exposure criteria** are the concentrations of chemicals that, if present in polluted soil at or below the established concentration, would **not** create a risk to public health even if that soil were ingested. The regulations have specific criteria that would apply to a property that is or may be used for residential purposes (**Residential Direct Exposure Criteria**) and criteria that would apply to a commercial or industrial property (**Industrial/Commercial Direct Exposure Criteria**). In both cases, the criteria apply to soils from the ground surface to a depth of 15 feet below the surface.

*In the Newhall Remediation Project Area, only the residential direct exposure criteria apply.* Schools and parks are places where children could be exposed, so the clean up would have to

ensure that concentrations of chemicals in the soils that people could come into contact with do not exceed the residential criteria.

However, if the polluted soil at a site is located such that people simply won't come into contact with the contaminants in the soil, the direct exposure criteria need not be met. If soil is **inaccessible** so that people can't come into contact with it because it is buried more than four feet beneath the ground surface, beneath a paved surface, or beneath a building, then the direct exposure criteria do not apply. In such circumstances, however, an **environmental land use restriction** (a deed restriction) must be recorded by the property owner which would ensure that the inaccessible soil not be excavated, or disturbed in the future without the approval of the DEP.

**Pollutant Mobility Criteria.** Chemicals in polluted soil can move from the soil into ground water every time it rains and rainwater trickles through the soil. Some chemicals are easily dissolved and can move readily into the ground water. Some chemicals are bound tightly to the soil and do not easily migrate in the rainwater that moves through the soil and into ground water. The **pollutant mobility criteria** are the concentrations of chemicals in soil that will **not** harm ground water quality if the chemicals migrate from the soil into the ground water. However, the concentrations that may harm ground water quality depend on whether the ground water is a drinking water resource or not. The pollutant mobility criteria for soil above ground water used or needed for drinking water are more stringent than the pollutant mobility criteria for soil above ground water that is not needed for drinking water.

*Currently in the Newhall Remediation Project Area, drinking water is supplied by the Regional Water Authority's reservoirs located in other towns. Part of the current investigation is to determine whether or not groundwater pollution in the Newhall area is flowing toward the Lake Whitney drinking water reservoir. The results of that investigation will determine which pollutant mobility criteria apply.*

However, if the polluted soil is isolated from rainwater, the chemicals generally cannot migrate into the ground water. Therefore, if polluted soil is beneath a building, rainwater will not trickle through the soil and move the chemicals into ground water, and the pollutant mobility criteria do not need to be met. In such a circumstance, however, an **environmental land use restriction** (a deed restriction) must be recorded by the property owner that ensures that the building is not torn down in the future without the approval of the DEP.

In addition, if the polluted soil is enclosed in an impervious liner or cap that does not allow water to come into contact with the chemicals in the soil and does not allow the soil to come into contact with people, neither the direct exposure criteria nor the pollutant mobility criteria need to be met. Instead, the person or company responsible for the cap would be required to maintain the cap, inspect it and take care of it for as long as the polluted soil remains.