

## Environmental Protection Agency

## § 197.14

events and processes, weighted by their probability of occurrence.

*Period of geologic stability* means the time during which the variability of geologic characteristics and their future behavior in and around the Yucca Mountain site can be bounded, that is, they can be projected within a reasonable range of possibilities. This period is defined to end at 1 million years after disposal.

*Plume of contamination* means that volume of ground water in the predominant direction of ground water flow that contains radioactive contamination from releases from the Yucca Mountain repository. It does not include releases from any other potential sources on or near the Nevada Test Site.

*Repository footprint* means the outline of the outermost locations of where the waste is emplaced in the Yucca Mountain repository.

*Slice of the plume* means a cross-section of the plume of contamination with sufficient thickness parallel to the prevalent direction of flow of the plume that it contains the representative volume.

*Total dissolved solids* means the total dissolved (filterable) solids in water as determined by use of the method specified in 40 CFR part 136.

*Undisturbed performance* means that human intrusion or the occurrence of unlikely natural features, events, and processes do not disturb the disposal system.

*Undisturbed Yucca Mountain disposal system* means that the Yucca Mountain disposal system is not affected by human intrusion.

*Waste* means any radioactive material emplaced for disposal into the Yucca Mountain repository.

*Well-capture zone* means the volume from which a well pumping at a defined rate is withdrawing water from an aquifer. The dimensions of the well-capture zone are determined by the pumping rate in combination with aquifer characteristics assumed for calculations, such as hydraulic conductivity, gradient, and the screened interval.

*Yucca Mountain disposal system* means the combination of underground engineered and natural barriers within the controlled area that prevents or sub-

stantially reduces releases from the waste.

[66 FR 32132, June 13, 2001, as amended at 73 FR 61287, Oct. 15, 2008]

### § 197.13 How is Subpart B implemented?

The NRC implements this subpart B. The DOE must demonstrate to NRC that there is a reasonable expectation of compliance with this subpart before NRC may issue a license.

(a) The NRC will determine compliance, based upon the arithmetic mean of the projected doses from DOE's performance assessments for the period within 1 million years after disposal, with:

(1) Sections 197.20(a)(1) and 197.20(a)(2) of this subpart; and

(2) Sections 197.25(b)(1), 197.25(b)(2), and 197.30 of this subpart, if performance assessment is used to demonstrate compliance with either or both of these sections.

(b) [Reserved]

[73 FR 61287, Oct. 15, 2008]

### § 197.14 What is a reasonable expectation?

Reasonable expectation means that NRC is satisfied that compliance will be achieved based upon the full record before it. Characteristics of reasonable expectation include that it:

(a) Requires less than absolute proof because absolute proof is impossible to attain for disposal due to the uncertainty of projecting long-term performance;

(b) Accounts for the inherently greater uncertainties in making long-term projections of the performance of the Yucca Mountain disposal system;

(c) Does not exclude important parameters from assessments and analyses simply because they are difficult to precisely quantify to a high degree of confidence; and

(d) Focuses performance assessments and analyses upon the full range of defensible and reasonable parameter distributions rather than only upon extreme physical situations and parameter values.