

## § 197.1

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## Subpart A—Public Health and Environmental Standards for Storage

### § 197.1 What does subpart A cover?

This subpart covers the storage of radioactive material by DOE in the Yucca Mountain repository and on the Yucca Mountain site.

### § 197.2 What definitions apply in subpart A?

*Annual committed effective dose equivalent* means the effective dose equivalent received by an individual in one year from radiation sources external to the individual plus the committed effective dose equivalent.

*Committed effective dose equivalent* means the effective dose equivalent received over a period of time (e.g., 30 years.), as determined by NRC, by an individual from radionuclides internal to the individual following a one-year intake of those radionuclides.

*DOE* means the Department of Energy.

*Effective dose equivalent* means the sum of the products of the dose equivalent received by specified tissues following an exposure of, or an intake of radionuclides into, specified tissues of the body, multiplied by appropriate weighting factors.

*EPA* means the Environmental Protection Agency.

*General environment* means everywhere outside the Yucca Mountain

site, the Nellis Air Force Range, and the Nevada Test Site.

*High-level radioactive waste means:*

(1) The highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and

(2) Other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation.

*Member of the public* means anyone who is not a radiation worker for purposes of worker protection.

*NRC* means the Nuclear Regulatory Commission.

*Radioactive material* means matter composed of or containing radionuclides subject to the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014 *et seq.*). Radioactive material includes, but is not limited to, high-level radioactive waste and spent nuclear fuel.

*Spent nuclear fuel* means fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing.

*Storage* means retention (and any associated activity, operation, or process necessary to carry out successful retention) of radioactive material with the intent or capability to readily access or retrieve such material.

*Yucca Mountain repository* means the excavated portion of the facility constructed underground within the Yucca Mountain site.

*Yucca Mountain site* means:

(1) The site recommended by the Secretary of DOE to the President under section 112(b)(1)(B) of the Nuclear Waste Policy Act of 1982 (42 U.S.C. 10132(b)(1)(B)) on May 27, 1986; or

(2) The area under the control of DOE for the use of Yucca Mountain activities at the time of licensing, if the site designated under the Nuclear Waste Policy Act is amended by Congress prior to the time of licensing.

### § 197.3 How is subpart A implemented?

The NRC implements this subpart A. The DOE must demonstrate to NRC that normal operations at the Yucca

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Mountain site will and do occur in compliance with this subpart before NRC may grant or continue a license for DOE to receive and possess radioactive material within the Yucca Mountain site.

### § 197.4 What standard must DOE meet?

The DOE must ensure that no member of the public in the general environment receives more than an annual committed effective dose equivalent of 150 microsieverts (15 millirems) from the combination of:

(a) Management and storage (as defined in 40 CFR 191.2) of radioactive material that:

(1) Is subject to 40 CFR 191.3(a); and  
(2) Occurs outside of the Yucca Mountain repository but within the Yucca Mountain site; and

(b) Storage (as defined in §197.2) of radioactive material inside the Yucca Mountain repository.

### § 197.5 When will this part take effect?

The standards in this part take effect on July 13, 2001.

## Subpart B—Public Health and Environmental Standards for Disposal

### § 197.11 What does subpart B cover?

This subpart covers the disposal of radioactive material in the Yucca Mountain repository by DOE.

### § 197.12 What definitions apply in subpart B?

All definitions in subpart A of this part and the following:

*Accessible environment* means any point outside of the controlled area, including:

(1) The atmosphere (including the atmosphere above the surface area of the controlled area);  
(2) Land surfaces;  
(3) Surface waters;  
(4) Oceans; and  
(5) The lithosphere.

*Aquifer* means a water-bearing underground geological formation, group of formations, or part of a formation (excluding perched water bodies) that can yield a significant amount of ground water to a well or spring.

*Barrier* means any material, structure, or feature that, for a period to be determined by NRC, prevents or substantially reduces the rate of movement of water or radionuclides from the Yucca Mountain repository to the accessible environment, or prevents the release or substantially reduces the release rate of radionuclides from the waste. For example, a barrier may be a geologic feature, an engineered structure, a canister, a waste form with physical and chemical characteristics that significantly decrease the mobility of radionuclides, or a material placed over and around the waste, provided that the material substantially delays movement of water or radionuclides.

*Controlled area* means:

(1) The surface area, identified by passive institutional controls, that encompasses no more than 300 square kilometers. It must not extend farther:

(a) South than 36° 40' 13.6661" north latitude, in the predominant direction of ground water flow; and

(b) Than five kilometers from the repository footprint in any other direction; and

(2) The subsurface underlying the surface area.

*Disposal* means the emplacement of radioactive material into the Yucca Mountain disposal system with the intent of isolating it for as long as reasonably possible and with no intent of recovery, whether or not the design of the disposal system permits the ready recovery of the material. Disposal of radioactive material in the Yucca Mountain disposal system begins when all of the ramps and other openings into the Yucca Mountain repository are sealed.

*Ground water* means water that is below the land surface and in a saturated zone.

*Human intrusion* means breaching of any portion of the Yucca Mountain disposal system, within the repository footprint, by any human activity.

*Passive institutional controls* means:

(1) Markers, as permanent as practicable, placed on the Earth's surface;

(2) Public records and archives;

(3) Government ownership and regulations regarding land or resource use; and