

considering remedial or corrective actions to achieve the levels specified in paragraphs (c)(3)(i)(A) and (B) of this section, he has determined that the constituent will not pose a substantial present or potential hazard to human health and the environment as long as the alternate concentration limit is not exceeded, and the Commission has concurred.

(B) In considering the present or potential hazard to human health and the environment of alternate concentration limits, the following factors shall be considered:

(1) Potential adverse effects on groundwater quality, considering:

(i) The physical and chemical characteristics of constituents in the residual radioactive material at the site, including their potential for migration;

(ii) The hydrogeological characteristics of the site and surrounding land;

(iii) The quantity of groundwater and the direction of groundwater flow;

(iv) The proximity and withdrawal rates of groundwater users;

(v) The current and future uses of groundwater in the region surrounding the site;

(vi) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;

(vii) The potential for health risks caused by human exposure to constituents;

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to constituents;

(ix) The persistence and permanence of the potential adverse effects;

(x) The presence of underground sources of drinking water and exempted aquifers identified under § 144.7 of this chapter; and

(2) Potential adverse effects on hydraulically-connected surface-water quality, considering:

(i) The volume and physical and chemical characteristics of the residual radioactive material at the site;

(ii) The hydrogeological characteristics of the site and surrounding land;

(iii) The quantity and quality of groundwater, and the direction of groundwater flow;

(iv) The patterns of rainfall in the region;

(v) The proximity of the site to surface waters;

(vi) The current and future uses of surface waters in the region surrounding the site and any water quality standards established for those surface waters;

(vii) The existing quality of surface water, including other sources of

contamination and their cumulative impact on surface water quality;

(viii) The potential for health risks caused by human exposure to constituents;

(ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to constituents; and

(x) The persistence and permanence of the potential adverse effects.

(4) Point of compliance: The point of compliance is the location at which the groundwater concentration limits of paragraph (c)(3) of this section apply.

The point of compliance is the intersection of a vertical plane with the uppermost aquifer underlying the site, located at the hydraulically downgradient limit of the disposal area plus the area taken up by any liner, dike, or other barrier designed to contain the residual radioactive material.

(d) Each site on which disposal occurs shall be designed and stabilized in a manner that minimizes the need for future maintenance.

4. Section 192.03 is added to read as follows:

**§ 192.03 Monitoring.**

A groundwater monitoring plan shall be implemented, to be carried out over a period of time commencing upon completion of remedial actions taken to comply with the standards in § 192.02, and of a duration which is adequate to demonstrate that future performance of the system of disposal can reasonably be expected to be in accordance with the design requirements of § 192.02(c). This plan and the length of the monitoring period shall be modified to incorporate any corrective actions required under § 192.04 or § 192.12(c).

5. Section 192.04 is added to read as follows:

**§ 192.04 Corrective Action.**

If the groundwater concentration limits established for disposal sites under provisions of § 192.02(c) are found or projected to be exceeded, a corrective action program shall be placed into operation as soon as is practicable, and in no event later than eighteen (18) months after a finding of exceedance. This corrective action program will restore the performance of the system of disposal to the original concentration limits established under § 192.02(c)(3), to the extent reasonably achievable, and, in any case, as a minimum shall:

(a) Conform with the groundwater provisions of § 192.02(c)(3), and

(b) Clean up groundwater in conformance with subpart B, modified

as appropriate to apply to the disposal site.

6. Table 1 is added to subpart A to read as follows:

TABLE 1 TO SUBPART A.—MAXIMUM CONCENTRATION OF CONSTITUENTS FOR GROUNDWATER PROTECTION

Constituent concentration <sup>1</sup>	Maximum
Arsenic .....	0.05
Barium .....	1.0
Cadmium .....	0.01
Chromium .....	0.05
Lead .....	0.05
Mercury .....	0.002
Selenium .....	0.01
Silver .....	0.05
Nitrate (as N) .....	10.
Molybdenum .....	0.1
Combined radium-226 and radium-228.	5 pCi/liter
Combined uranium-234 and uranium-238 <sup>2</sup> .	30 pCi/liter
Gross alpha-particle activity (excluding radon and uranium).	15 pCi/liter
Endrin (1,2,3,4,10,10-hexachloro-6,7-exposy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo,endo-5,8-dimethanonaphthalene).	0.0002
Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer).	0.004
Methoxychlor (1,1,1-trichloro-2,2'-bis(p-methoxyphenylethane)).	0.1
Toxaphene (C <sub>10</sub> H <sub>10</sub> Cl <sub>6</sub> , technical chlorinated camphene, 67–69 percent chlorine).	0.005
2,4-D (2,4-dichlorophenoxyacetic acid).	0.1
2,4,5-TP Silvex (2,4,5-trichlorophenoxypropionic acid).	0.01

<sup>1</sup> Milligrams per liter, unless stated otherwise.

<sup>2</sup> Where secular equilibrium obtains, this criterion will be satisfied by a concentration of 0.044 milligrams per liter (0.044 mg/l). For conditions of other than secular equilibrium, a corresponding value may be derived and applied, based on the measured site-specific ratio of the two isotopes of uranium.

**Subpart B—Standards for Cleanup of Land and Buildings Contaminated with Residual Radioactive Materials from Inactive Uranium Processing Sites**

7. Section 192.11 is amended by revising paragraph (a) and adding paragraph (e) to read as follows:

**192.11 Definitions.**

(a) Unless otherwise indicated in this subpart, all terms shall have the same meaning as defined in subpart A.

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