United States Department of the Interior

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Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

(41)
DOCKET NUMBER
PROPOSED RULE PR-61
(46 FR 51776)

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PROPOSED RULE PR-2 etal
(46 FR 38081)

Dear Sir:

We have reviewed the proposed licensing requirements for Land Disposal of Radioactive Waste (10 CFR 61).

General Comments

In general, we are in agreement with the overall technical philosophy and strategy employed in the rule. It appears to be a major step forward in improving low-level radioactive waste management. We concur that many acceptable sites should be possible in most areas throughout the country and we agree, in general, with the flexibility and conservatism of the combined prescriptive and performance objective approach. Finally, we agree that waste classification is a cornerstone for a good waste management rule and that the classification scheme proposed is sensible and practical in terms of radionuclide content.

Our principal concern with the waste classification system is that it fails to address nonradioactive toxicity of the waste. We believe that any waste classification scheme should be based on total hazard. It would seem inappropriate for a particular waste to be declared as Class A radiologically when it might contain toxic metals or organic compounds with potential harmful effects several orders of magnitude greater than those of the radionuclides. Perhaps the rule should either prohibit components with greater potential toxicity than the radionuclides or provide for additional classification options based on other-than-radiological toxicity. This position would be consistent with recommendations of the Conservation Foundation Dialogue Group on Low-Level Radioactive Waste and the Department of Energy's Task Force on Radioactive Waste Management.

We believe that waste volume reduction is an important element in reducing overall magnitude and complexity of the problem. We therefore suggest giving it greater emphasis and perhaps offering additional incentives. We also believe that Federal/Defense generated low-level radioactive waste should come under the same earth-science guidelines and criteria.

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AOD:
R.D. Smith
Joe Donaghue
P. Goldberg
D. Nussbaumer

Participation of Bureau of Indian Affairs (BIA) and the Indian Tribes

The Secretary's trust responsibilities apply to waste disposal sites that are to be located on Indian reservations. The Bureau of Indian Affairs (BIA) provides the support services necessary to carry out the Secretary's trust responsibilities. Therefore, BIA area directors or their authorized representatives should be invited to participate in the review of applications for the location of low-level radioactive waste disposal sites on Indian reservations. In addition,

regulatory policy should also be coordinated with BIA's Office of Trust Responsibilities with respect to locating, licensing, operating and maintaining commercially operated disposal sites on Indian lands. Because of variations and changes in Indian land ownership, BIA's involvement will be essential.

Specific comments on the proposed rule and the environmental impact statement are attached separately.

We hope these comments will help you in the preparation of a final statement.

Sincerely,

Bruce Blanchard, Director
Environmental Project Review

Enclosures

PROPOSED RULE

The following more specific comments are addressed to the rule itself but would also apply to corresponding sections of the Summary and the environmental statement.

Section 61.2, Definitions

Buffer Zone. The buffer zone definition should include depth as well as lateral boundaries, and should be described as a three-dimensional zone. The performance standards might then apply to releases beyond the boundary of the buffer zone. Unrestricted use of land and resources beyond the buffer zone (laterally or at depth) would then be allowable during and after site operations.

61.50 Disposal Site Suitability Requirements for Land Disposal

(a)(2) We suggest being more specific in the "modeling" requirements. Do you mean physical scale model? numerical ground water/solute transport model? conceptual model? (There are many kinds of possible models.)

(a)(7) We endorse this option but suggest using "molecular diffusion" in place of "diffusing" and/or defining maximum hydraulic conductivity allowable such as 10^{-6} cm/sec.

61.51 Disposal Site Design for Land Disposal

(a)(4) It is impossible to totally "prevent" infiltration; suggest using "minimize" in place of "prevent."

(a)(6) This requirement appears inconsistent with 61.50(a)(7). The option of disposing in the saturated zone should be mentioned again.

61.52 Land Disposal Facility Operation and Disposal Site Closure

(a)(8) We believe the location of the buffer zone should be determined on the basis of site performance. The zone ideally would be enclosed within a three-dimensional surface surrounding and underlying the burial site. Our concept of the buffer zone is a zone that provides a controlled/restricted-access volume of earth material around and under the site, beyond which unrestricted use of land and resources, surface or subsurface, could be allowed during and after site operation. The 100 foot lateral extent listed in the rule appears somewhat arbitrary.

61.53 Environmental Monitoring

(a) We believe that "geochemistry" should be listed with the other subjects (ecology, meteorology, climate, hydrology, etc.). Although geochemistry is often an implied aspect of hydrology, we believe it deserves specific mention because it plays such an important part in radionuclide mobility in ground water.

61.55 Waste Classification

General: We believe waste should be classified according to total toxicity as described above under "General Comments."

(d) It is not clear what the disposition will be of wastes which exceed Class C concentrations. What type of disposal is envisioned by the Commission for those wastes?

61.56 Waste Characteristics

General: The non-radiological toxicity of the waste needs to be considered here, we believe. It is apparently ignored.

DRAFT ENVIRONMENTAL IMPACT STATEMENT

General Comments

Evidence of the life expectancy and other advantages of polyethylene drums over steel or others should be presented. Will they simply delay the compaction/degradation problem? The same question also applies to wooden boxes—are they significantly better than cardboard?

During extended dry periods, desiccation cracks tend to form in trench caps due to shrinkage of fine grained minerals. These cracks can extend several feet vertically and can provide avenues for rapid water infiltration. How can this problem be avoided?

We question the long-term viability of using plastic sheeting as an infiltration barrier in the trench cap. How can its integrity be assured? What is the evidence that this technique works consistently?

Also, the extent of hazard presented by low level radioactive wastes is not clearly indicated in the DEIS. While low level radioactive wastes are indicated for some of the more dangerous isotopes, a general definition of hazard or risk should be presented in the introduction to understand impact analyses.

Cultural Resources Protection

Section 2.3 of Appendix E of the DEIS discussing a reference disposal facility makes only passing reference to historic areas. Section 3 should make specific reference to historic and archeological resources.

Minor Comments

Volume I

Page 3, 1.5 Scoping for the EIS, line 2 - "501.7" should be "1501.7."

Page 55, The role of the U.S. Geological Survey should be defined.

Volume II

Page xi, top line - "Chapter 10" should read "Chapter 9."

Page 3-23, 3.5.2, line 16 - Identify the levels of "little high energy gamma emitting radionuclides."

Line 19 - Identify the level of "large quantities of high energy gamma emitting radionuclides."

Page 3-31, paragraph 2 - Would trench liners be required?

Page 4-8, 4.3.2, line 11 - "of" should read "at."

Page 4-69, Requirement, 2 - Delete "economically."

Page 5-69, table - Units should be presented.

Page 6-11, last paragraph, line 5 - Change ".033" to ".33."

Page 7-8, paragraph 4, line 5 - "C-137" should read "Cs-137."

Page 7-22, Mixtures of Radioisotopes, next-to-last line - Insert closing parenthesis.