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Rules and Procedures Branch
Division of Rules and Records
Office of Administration
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Sir or Madam:

In accordance with Section 309 of the Clean Air Act, the U. S. Environmental Protection Agency (EPA) has reviewed the U. S. Nuclear Regulatory Commission's (NRC) Branch Technical Position Paper (TPP) for Environmental Monitoring of Low-level Radioactive Waste Disposal Facilities. This publication is intended to provide guidance to applicants, licensees, and other regulatory authorities for meeting NRC's monitoring requirements at 10 CFR 61.53.

EPA generally supports the TPP. However, it is sometimes vague or overly general and would benefit from more detail or examples. It particularly needs to address the potential application of the Resource Conservation and Recovery Act (RCRA) to wastes that are both radioactive and hazardous. Similarly, the TPP needs to link the monitoring program with the modelling of site behavior prior to licensing.

We are attaching comments for your consideration and would be willing to meet with the NRC staff to discuss our comments further. If we can provide further assistance, please contact me or Dr. W. Alexander Williams (382-5909) of my staff.

Sincerely,

Richard E. Sanderson
Director
Office of Federal Activities

Attachments

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Letter sent 1/25/88

U. S. Environmental Protection Agency Comments On The Draft NRC
Technical Position Paper (TPP) On Environmental Monitoring of
Low-level Radioactive Waste Disposal Sites

1. Much of the document is well-written and will serve as excellent guidance to operators of low-level radioactive waste disposal facilities. The sections on individual pathway monitoring are especially well done.
2. A major problem with the document is a failure to link the monitoring effort with the modelling that was done to predict site behavior. A site operator is appropriately required to predict site behavior with models. It should be one of the purposes for all phases of site monitoring to compare findings against the assumptions and results of the modelling, and for modelling predictions to be modified as indicated. This is perhaps most relevant to pathway parameters such as ground-water flow and infiltration.
3. It would be helpful to site operators to include a bibliography on specific techniques and equipment for the various monitoring requirements.
4. The document does not tie in any RCRA requirements or acknowledge potential RCRA applicability. This is relevant since the facilities are likely to fall under RCRA jurisdiction and the subject matter in the Technical Position Paper (TPP) overlaps with many RCRA technical requirements.
5. In discussing the technical objectives and the need for 1 year of preoperational data, the TPP should stress the need to assure that this year is representative. The TPP should also note that the lack of representative data may extend the time needed for preoperational monitoring.
6. Pp. 4, 19, 20 and 21: Reference to "non-hazardous" should be changed to "hazardous", as on page 8.
7. P. 4: There is no regulatory requirement that a statistical data base be developed or that statistical analyses be performed. If the NRC wishes to encourage this kind of analysis, much more detail should be included or referenced.
8. P. 5: The monitoring program components listed on this page are the subject of this Technical Position Paper. As our cover letter points out, most of those components are discussed in a cursory fashion, providing little guidance or detail on the baseline characterization/ monitoring systems that the NRC would consider adequate. We also note that three of the listed components (geology, geochemistry, and seismology) are not addressed at all.

9. A serious omission from this TPP is the role that NRC anticipates it will perform in reviewing ongoing site activities, accessing the data collected, and determining when additional monitoring or remedial activities need to be performed. For example, who would be responsible for comparison of preoperational and postoperational levels (p. 6)? Also, will NRC involve itself in setting "Action Levels" (levels which trigger mitigative action) or will that be left to the facility operator, States, or EPA?

10. P. 7: The drinking water standards are mentioned as possible monitoring action levels for non-radiological contaminants. It may be well to include the radionuclide constituents in this same context, especially since future Superfund liability may be related to these levels.

11. P. 7: What is a "thorough corrective action plan"? Much more detail is needed to flesh this out. Also, since the regulations only require "[a] description of the ... plan for taking corrective measures if mitigation of radionuclides is indicated" [10 CFR 61.12 (a)], what weight will the submittal of a "thorough" corrective plan have?

12. P. 8: What is a "contingency plan"? Is it a regulatory requirement to have or submit one?

13. P. 8: What is a "postoperational monitoring plan"? Is it a regulatory requirement to have or submit one? Part 61.12 (1) requires that a "description of the environmental monitoring program" be submitted. Is this the same as the postoperational plan?

14. P. 9: The TPP should recommend a minimal baseline frequency for long term monitoring. By not proposing minimal standards, the TPP fails to provide adequate guidance.

15. P. 9: The TPP should provide specific guidance on NRC's interpretation of the "buffer" zone. The buffer zone concept is likely to be a source of major confusion, especially where waste management activities constitute a small portion of the activities of a large facility.

16. P. 10: Saturated zones in arid environments should also be monitored. Heterogeneous properties of the unsaturated media make it much more difficult to detect small releases in the unsaturated zone than in the saturated zone.

17. P. 10: Is it the NRC's intent that the monitoring wells are only piezometers? If they are intended to serve a dual purpose (i.e., to provide both water level data and water quality data), greater detail should be given to well boring, construction, and developmental guidance.

18. P. 12: Who makes the determination that "no significant change" in the groundwater quality has occurred? When is it made? (See comment 9). On what basis is that determination made?

19. P. 12: Provide more detail and/or examples of complexing agents in the soil that might affect site performance. The TPP might suggest specific compounds that the facility owner or operator should analyse for.
20. P. 14: The TPP should provide more guidance on where and how the NRC expects stream sediments to be collected.
21. P. 15: Nowhere in the regulations is it stated that "the applicant must demonstrate that the seasonal variations noted in the characterization period represent historical conditions" (emphasis added).
22. P.16: It is incorrect to state that the NRC has no authority to enforce against non-compliance with air emission standards since the NRC can enforce through its license against releases that exceed the radionuclide performance standards of 10 CFR Part 61.41 [see Part 61.83].
23. P. 16: The TPP should provide guidance on how far downwind of the facility the continuous air sampler should be located.
24. P. 16: The TPP suggests that air monitoring should continue "for several years" after closure. The TPP should provide more specifics on what the NRC expects to see in this regard.
25. P. 17: The TPP should introduce and discuss in some detail a vegetation sampling protocol, i.e.: How much is to be sampled? Where? When?
26. P. 19: Is an "accident" the same as a release?
27. P. 19: What is meant by "nonradiological nonhazardous constituents" (emphasis added)? (See comment 6). If constituents are nonradiological and nonhazardous, then there should be no need to monitor (except as an indicator of a radiological release). How does NRC define nonhazardous (or hazardous) constituents?
28. P. 19: What does the NRC recommend as a minimal sampling density for gamma radiation detection devices?
29. P. 20: Reword bullet 1 to read "Determine the concentration, rate, extent and direction of migration."
30. P. 21: Reword first sentence of third paragraph as follows to parallel the regulatory language: "... treatment to the maximum extent practicable of waste containing hazardous materials ..."
31. P. 21: The second paragraph discusses the concept that the NRC will require nonradiological hazardous constituent monitoring, in part due to the potential of a threat to the public health. Does the NRC have the authority to require monitoring on these grounds? If so, what corrective action could or would the NRC require in the event of such a release?
32. P. 21: The last line of the page should be reworded as follows to parallel the discussion in the previous paragraphs: "... form chemical complexes, or which serve as indicators of hazardous constituent releases, or which serve as indicators of radionuclide releases."