

March 12, 2004

Gary L. Smith, Ph.D.  
Deputy Director  
Environmental Assessments  
Bureau of Radiation Control  
Texas Department of Health  
1100 West 49<sup>th</sup> Street  
Austin, Texas 78756-3189

Dear Dr. Smith:

I am responding to an e-mail dated December 4, 2003 from Ms. Patricia Bobeck, Geologist, Technical Assessments, Division of Licensing, Registration & Standards, Bureau of Radiation Control, Texas Department of Health, to Mr. Ron Linton, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission (NRC) on questions concerning groundwater issues at a Title II site in Texas. Following are our responses to the four questions:

1. They (licensee) want to know if the rules allow them to rely on "institutional controls" such as deed restrictions on well drilling, water well use, surface disturbance, etc., as a limitation on exposure?

Response: Before the discussion of institutional controls (ICs) can be initiated, the licensee must demonstrate that it cannot comply with 10 CFR Part 40, Appendix A. Compliance with 10 CFR Part 40, Appendix A is the ultimate objective of a reclamation plan and a corrective action plan. The licensee must first fully evaluate the following issues (as outlined in NUREG 1620, Rev. 1, Section 4.0): (1) Site Characterization; (2) Groundwater Protection Standards; (3) Hazard Assessment, Exposure Assessment, Corrective Action Assessment, and Compliance Monitoring for Alternate Concentration Limits [this section includes a discussion on the importance of demonstrating that these limits are ALARA (as low as reasonably achievable) for alternate concentration limits, as defined by 10 CFR Part 40, Appendix A, Criteria 5B(5) and 5B(6)]; (4) Groundwater Corrective Action and Monitoring Plans.

In brief, a licensee must develop a site characterization plan that fully delineates the extent and severity of contamination at the site. After a thorough site characterization, the site can be evaluated for compliance with ground-water protection standards of either background concentrations, maximum concentration limits (MCLs), or alternate concentration limits (ACLs). If the background concentrations or MCLs cannot be achieved at the point of compliance, ACLs may be considered; however, ACLs should only be considered after a corrective action assessment is performed. Meeting the requirements of the correction assessment and providing a basis that ACLs are ALARA may be difficult without attempting active corrective action first. NUREG 1620, Rev. 1 states in Section 4.3.3.3:

The corrective action assessment should demonstrate that the proposed alternate concentration limit is as low as reasonably achievable, considering practicable corrective actions, as required by 10 CFR Part 40 Appendix A, Criterion 5B(6).

If groundwater protection standards cannot be achieved by either background concentrations, MCLs, or ACLs, after practicable corrective actions are considered, ICs may be proposed with an alternative standards application. NUREG 1620, Rev. 1 states in Section 4.3.3.2 (5):

The applicant for an alternate concentration limit should make *every reasonable effort* [emphasis added] to keep the point of exposure at the long-term care site boundary. If this cannot be achieved, a *good-faith effort* [emphasis added] must be made to acquire the land between the license area boundary and the point of exposure, for ultimate transfer to the long-term custodian. If the land cannot be acquired through a *good-faith effort* [emphasis added], then institutional controls other than ownership by the long-term custodian may be initiated. These institutional controls must be enforceable, durable, and legally defensible; and will be applied in addition to the numerical limits of the proposed alternate concentration limit. This approach must be reviewed as an alternative to the specific regulatory requirements contained in 10 CFR Part 40, Appendix A, Criterion 5B (6).

In support of an ACL application, the most effective land use control is transfer, in fee, to a long-term custodian, i.e., the Department of Energy (DOE) or the state in which the site is located; however, ICs may be proposed to limit exposure (as described above), but only if they are deemed enforceable, durable, and legally defensible. ICs can only be used in support of an alternative standards application after every reasonable effort is made to keep the point of exposure at the long-term care site boundary and a good-faith effort has been made to acquire the land between the license area boundary and the point of exposure for ultimate transfer to the long-term custodian. Examples of enforceable, durable, and legally defensible ICs are: Subsurface estates, to be transferred, in fee, to DOE; Easements; and Restrictive Covenants/Negative Easements which restrict access to contaminated material and provide DOE (or the state) with enforcement authority.

2. What about a facility that has no intention to purchase the land?

Response: The licensee of a facility *must show a good faith effort* to purchase land for use in an ACL application that proposes to use ICs when practicable corrective actions cannot stop migration of contaminants off the site. Only after demonstrating that a good faith effort to purchase the land has failed can the licensee of a facility consider using alternative standards with ICs.

3. In the event the facility doesn't own the land and instead plans to use institutional controls, do the institutional controls have to be approved/coordinated with the NRC?

Response: If the licensee has shown a good faith effort to purchase the land and has been unsuccessful, ICs may be considered in support of an alternative standards application. When the site is located in an Agreement State, the State is responsible for reviewing and analyzing the application for the alternative standards proposal. If the State determines that the proposed alternative standards are acceptable, the State is obligated to submit the proposed

alternative standards along with the analysis that supports its determination, for NRC review. In order for the NRC to approve the use of alternative standards which, in this case, includes the use of ICs, the analysis must support the State's finding that the proposed alternative standards "will achieve a level of stabilization and containment of the sites concerned, a level of protection for public health, safety, and the environment from radiological and nonradiological hazards associated with the site, which is equivalent to, to the extent practicable, or more stringent than the level which would be achieved by the standards and requirements adopted and enforced by the Commission for the same purpose..." [see section 274o of the Atomic Energy Act of 1954, as amended (Act)]. The Commission is obligated to conduct a hearing on whether the State proposed alternative standards meet these criteria before such standards can go into effect. The Commission has determined that notice in the *Federal Register* which provides an opportunity to provide comments, meets the requirement in Section 274o.(3)(A)(i) of the Act to provide notice and the opportunity for a public hearing.

4. NUREG 1620 states ICs must be enforceable, durable and legally defensible. Can NRC offer any guidance on how to accomplish this standard?

Response: If the licensee fails to meet the provisions of 10 CFR Part 40, Appendix A and, is unsuccessful in purchasing the land after making a good faith effort, the licensee may propose the use of alternative standards using ICs that are enforceable, durable, and legally defensible. Since ICs are often enforced at the local level, the specific mechanisms of the ICs may be dependent on State and local laws; however, the ICs must be capable of restricting access to contaminated material and provide DOE (or the state) with enforcement authority. The State will need to evaluate the licensee's proposed ICs and the licensee's justification that the ICs can be effective during the period that the site will not be able to meet the primary standards. The State's evaluation would be part of the analysis to be submitted to NRC in support of the State's proposed alternative standards.

If you have any questions regarding the correspondence, please contact me at (301) 415-3340 or Osiris Siurano of my staff at (301) 415-2307.

Sincerely,

*/RA/*

Paul H. Lohaus, Director  
Office of State and Tribal Programs

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