



State of Utah

DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF RADIATION CONTROL

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Latif S. Hamdan
Uranium Recovery Branch
Division of Low-Level Waste and Decommissioning
Office of Nuclear Material Safety and Safeguards
Mailstop 5E-4, OWFN
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Hamdan:

We have reviewed the Nuclear Regulatory Commission (NRC) Draft Final Staff Technical Position on Alternate Concentration Limits for Title II Uranium Mills. In summary, the guidance appears to be reasonable, and is consistent with 10 CFR 40 Appendix A and 40 CFR 192. NRC should coordinate closely with the States on ACL applications, to ensure that any applicable State regulations are considered and complied with (for example non-radiologics, for which the State may have jurisdiction).

Implementing Alternate Concentration Limits (ACLs) is the "real" challenge to any groundwater program. Historically under the national hazardous waste program (RCRA), the Environmental Protection Agency (EPA) has struggled with the ACL concept. The application process itself is burdensome and time consuming and general public acceptance of ACLs is not good. The perception of granting an ACL is that the regulator has given a facility a "license to pollute", therefore granting of ACLs must be a last resort. Title II sites must demonstrate that a groundwater remediation program cannot achieve the established concentration limit. Too often, the thought process centers on the ACL petition being the groundwater remediation program with no effort expended by the licensee to examine the groundwater remediation alternatives. It also appears that NRC places a high value on "dilution as a solution to pollution" rather than groundwater remediation.

Licensees often opt for ACLs as the most economic solution to solving their groundwater contamination problem. In the early days of the RCRA program, ACL petitions were filed "matter of factly" by facilities with percentages of constituents in their groundwater with little or no concern for protection of public health and the environment. As a result EPA refined the process and the guidance. The other result of the ACL process recognized by EPA was the arbitrary granting of constituent levels above established risk criteria and the problem of

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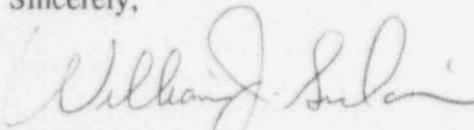
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consistent application of the ACL process and the constituent levels granted to facilities. However, the ACL process is necessary but it needs to be defined in terms of a "last resort" and not the process of choice for not cleaning up contaminated groundwater at a facility. Certainly, technical feasibility is another area where ACLs make sense. It may not be possible to clean up groundwater in a fractured bedrock situation to the concentration limit.

In Utah, the Atlas mill has groundwater contamination underneath the site in which the plume extends to the Colorado River. Historic groundwater sampling results have shown uranium contamination hundreds of times above the established EPA maximum concentration limit. To date, remediation has consisted of pumping of the tailings pile to minimize seepage from the existing tailings. Data presented to NRC has indicated that the MCL for uranium will continue to be exceeded on the order of 100 years with the present effort (capping the tailings and natural flushing). The only proposal being seriously considered by NRC and presented by Atlas is establishment of an alternate concentration limit. If an ACL is to be granted, NRC must insist that all groundwater remediation alternatives be explored prior to considering any ACL application.

Also enclosed are comments from the Division of Water Quality, Utah Department of Environmental Quality who have a direct implementation role in protecting the groundwater in the State of Utah. Thank you for consideration of these comments. If you have any questions, do not hesitate to contact me.

Sincerely,



William J. Sinclair, Director
Division of Radiation Control

Enclosure

c: Don Ostler, Division of Water Quality, UDEQ



State of Utah

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY

Michael O. Leavitt

Governor

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Executive Director

Don A. Ostler, P.E.

Director

MEMORANDUM

TO: Bill Sinclair, Director ^B
Division of Radiation Control

FROM: Don A. Ostler, Director
Division of Water Quality

DATE: June 16, 1994

SUBJECT: Comments on February, 1994 U.S. NRC Draft Final Staff Technical Position
on Alternate Concentration Limits for Title II Uranium Mills.

We have reviewed the NRC's technical position document regarding Alternate Concentration Limits (ACLs) for Title II or 11e.(2) uranium mill sites, referenced above. Our comments on this position paper are listed below:

1. General Approach to ACLs - the general approach the NRC has outlined appears satisfactory. The bulk of the paper presents a detailed description of the evaluations and review procedure to be followed in applying for ACLs. It appears that the NRC approach would allow ACLs to be considered for both cleanup of contaminated uranium mill sites and for off-site disposal of Title II materials at remote, unaffected locations.

Utah's Ground Water Quality Protection Regulations, however, make a distinction between these two possibilities. ACLs may be designated by the Utah Water Quality Board for newly constructed sites, which have not been adversely impacted by previous disposal activities, see Utah Administrative Code (UAC) R317-6-6.4B. Whereas, our new corrective action regulations, UAC R317-6-15, which would be applicable to corrective action at existing uranium mill tailings sites, set aside provisions for obtaining "Alternate Corrective Action Concentration Limits" (ACACLs), for sites undergoing cleanup. Both of Utah's procedures for ACLs or ACACLs would use a risk assessment-based approach which must be protective of human health and the environment. Because NRC's procedures are described in much

more detail than those in either UAC R317-6-6.4B or 15, they would seem to be included in the state's concept of an acceptable justification for ACLs or ACACLs.

2. State's Jurisdiction Regarding 11e.(2) Wastes - after consideration of relevant sections of the Atomic Energy Act and the Kerr-McGee case, it is clear that States have a joint jurisdiction with the NRC over the non-radiologic components of 11e.(2) waste. As a result, the NRC should closely coordinate review of all technical supporting information provided by the facility, and its determination and approval of any ACL considered for a Title II uranium mill site or 11e.(2) disposal operation in Utah. It is hoped that by doing so, any difficulties caused by regulatory differences between Utah Ground Water Quality Protection Program and the NRC regulations may be avoided.

By way of information, Utah's Ground Water Quality Protection Regulations require that all permittees secure prior approval of ACLs or ACACLs from the Utah Water Quality Board. This generally requires staff review of all relevant technical information and a formal presentation and request of the Water Quality Board.

3. Definition of Aquifer and Related Issues - NRC's regulations (in 10 CFR Part 40 Appendix A) define an "aquifer" in terms of a "significant" yield of usable water. In addition, both the points of compliance (POC) and exposure (POE) are established in the uppermost "aquifer". ACLs are therefore a function of the background ground water quality or remediation potential in this "aquifer".

However, under our Ground Water Protection Regulations, Utah Administrative Code (UAC) R317-6-1.1 and 6.9(A), points of compliance are not restricted to aquifers with "significant" yield, but are located in the uppermost **saturated zone** under a permitted facility. This is done to monitor the first ground water that would be effected by the permitted facility, and provide the earliest warning of a possible impending problem. Otherwise, a false-negative situation could develop where these shallow low-yield saturated zones accumulate large concentrations of pollutants while the deeper underlying "aquifer" does not exceed the ACL. Such a situation would unnecessarily delay remedial action and increase the extent of the problem and cost of cleanup. This approach could also save the permittee the cost of drilling deeper wells to the first "productive" aquifer.

The NRC must coordinate its selection of points of compliance, points of exposure, and determination of background ground water quality with the State before ACLs are considered for any 11e.(2) mill site or waste facility.

4. Ground Water Monitoring at Points of Exposure - after an ACL is approved for the facility, ground water quality monitoring must be conducted at the points of exposure for an extended period of time in order to confirm that the contaminant transport assessment used to support the ACL was valid and representative of field conditions.

5. Distant Points of Exposure - in Section 1.4 of the Technical Position, p. 4, the staff state that land ownership issues are not critical when siting a point of exposure at a large distance from the facility, when the ground water has a high total dissolved solids content, above 10,000 mg/l. For a facility where ACLs have been approved, the points of exposure form an important measure of facility compliance, and are therefore a type of compliance monitoring point.

While we agree that such a site is less sensitive, Utah's Ground Water Quality Protection Regulations, UAC R317-6.9(A), require that when any compliance monitoring point is located off-site or beyond property not owned and controlled by the facility, or its long-term custodian, the owner/operator must secure permission from all effected nearby landowners. This permission must be secured before the ACL is granted.

6. Determination of Carcinogenic Risk Level - review of Section 3.3.2.3.2 of the NRC February, 1994 Technical Position document, p.27, shows that the no carcinogenic risk level has been established by the staff for evaluation of the Risk Specific Dose (RSD), but that this section has been reserved for future determination. Since this is a critical criteria by which allowable ground water ACLs will be established, we strongly suggest a carcinogenic risk level be established.

Because drinking water exposure is the most significant exposure pathway for ground water, we recommend that the NRC adopt carcinogenic risk levels that are equivalent to or incorporate those used by the EPA drinking water program.

If you have any questions or concerns regarding these comments, please contact Mark Novak or Loren Morton of my staff. Thank you for the opportunity to comment on these issues.

MTN/LBM:lm

cc: Dane Finerfrock, DRC