

Barry R. McBee, *Chairman*  
R. B. "Ralph" Marquez, *Commissioner*  
John M. Baker, *Commissioner*  
Dan Pearson, *Executive Director*



## TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

*Protecting Texas by Reducing and Preventing Pollution*

December 20, 1996

OSP  
96 DEC 27 AM 10:51

Mr. Richard Bangart, Director  
U.S. Nuclear Regulatory Commission  
Office of State Programs  
Document Control Desk, P1-37  
Washington, D.C. 20555

RE: Proposed Radiation Rules

Dear Mr. Bangart:

The Texas Natural Resource Conservation Commission (TNRCC) is updating and amending its radiation control rules in accordance with the agreement between the State of Texas and the Nuclear Regulatory Commission. I am forwarding a copy of the proposed rules, along with supporting documentation, for your review and comments. These rules will be published in the *Texas Register* on January 3, 1997. If you wish to comment on the proposed rules, you must do so in writing within 30 days from the date of publication. Please submit any written comments to the Chief Clerk's Office, MC105, TNRCC, P. O. Box 13087, Austin, Texas 78711-3087.

When conducting your review, please note that proposed §336.356(a)(5) modifies the existing soil and vegetation contamination limits for natural uranium. Under existing rules a limit of 30 pCi/g has been set for natural uranium in soil. The commission now proposes a two-tiered limit of 30 pCi/g for the top 15 centimeters of soil and 150 pCi/g at depths greater than 15 centimeters below the surface. The commission actively seeks public comment from interested persons on proposed §336.356(a)(5) and may choose to retain the original standard of 30 pCi/g for natural uranium in soil if the information it receives from public comment suggests that the new standard is inconsistent with the goal of promoting public health and safety and environmental protection.

970116 0155 XA

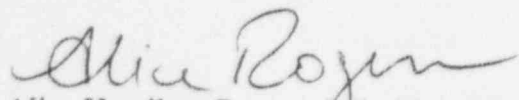
Mr. Richard Bangart, Director

Page 2

December 20, 1996

Thank you very much for your consideration of the proposed rule package. If you have any questions or require additional information, please feel free to contact me (512) 239-6846, or send correspondence to mail code MC131.

Sincerely,

A handwritten signature in cursive script, appearing to read "Alice Rogers".

Alice Hamilton Rogers, P.E., Manager  
UIC, Uranium, and Radioactive Waste Section  
Industrial and Hazardous Waste Division

AHR/AHR/lg

Enclosure

## **PRELIMINARY REVIEW OF PROPOSED STATE OF TEXAS REGULATORY LANGUAGE FOR ALLOWABLE CONCENTRATIONS OF URANIUM IN SOIL**

U.S. Nuclear Regulatory Commission, NMSS/DWM  
December 17, 1996

Staff have performed a preliminary review of the proposed language for a State of Texas regulation for allowable levels of uranium in soils. The context of the proposed regulatory language is not totally clear from the material we have received, but it is assumed that the proposed regulation would apply to residual radioactive contamination, remaining at a site, rather than to disposal of radioactive material. That is, it is assumed that the regulation expresses cleanup standards for termination of licenses and release of sites for unrestricted use.

The proposed regulatory language for cleanup standard for uranium in the top 15 cm of soil, in section (5) (A), is not inconsistent with the guidance given in option 1 of the BTP. However, it should be noted that this cleanup level may be inconsistent with the draft decommissioning rule proposed by the NRC (see also below).

However, based on our preliminary review, we have some serious concerns with the proposed regulatory language for acceptable concentration of uranium at depths greater than 15 cm. These concerns are briefly described below.

### **PROPOSED REGULATION IMPROPERLY APPLIES BTP OPTION 2**

Proposed language under section (5) (B) of the regulation, regarding acceptable concentrations of uranium at depths greater than 15 cm, indicates that ...the proposed uranium standard would be well within NRC's guidance published in Federal Register Vol. 46, No. 205, October 23, 1981, titled, Disposal or On-site Storage of Thorium or Uranium Wastes From Past Operations (the BTP).

For the following reasons, we believe that the proposed subsurface standard does not meet the guidance of the BTP. The BTP includes a number of conditions that should be met before disposal or storage of uranium below the surface should be approved. The BTP specifies a minimum depth of burial of 4 ft below the ground surface. In addition, it must be demonstrated that buried materials will be stabilized in place and will not be transported away from the site. Disposal conditions should be designed to minimize the likelihood of future intrusion into the buried material. Also, the site must be shown to be acceptable for disposal of the material. The BTP, and the language of 10 CFR 20.2002, under which materials may be disposed onsite, indicate that analyses of such proposed disposals should be evaluated on a case-by-case basis. The proposed regulatory language does not mention any similar conditions; rather the proposal appears to be a generic cleanup standard to be applicable to all sites. This is clearly a significant difference from the approach of the BTP.

Section (5) (B) of the proposed Texas regulation seems to indicate the equivalence of the concentration limit of 150 pCi/g with the dose limit of 100 mrem/year. (This appears to assume that uranium isotopes are the only radionuclides present.) The way this should be interpreted is not clear in the proposed language. However, it must be noted that the calculated potential

dose for a given uranium concentration will be based on site-specific conditions, so such equivalence is not expected.

In addition, as mentioned in the proposed language, the BTP provides for lower limits for soluble material, of 100 pCi/g. In the absence of site-specific information to indicate the solubility of the material, a generic cleanup criterion should use the more restrictive values for soluble uranium.

#### **INCONSISTENCY WITH PROPOSED DECOMMISSIONING RULE**

The NRC has proposed Radiological Criteria for Decommissioning, for Subpart E of 10 CFR 20 (Federal Register, Vol. 59, No. 161, p. 43200-43232, dated August 22, 1994). The cleanup standards proposed in the draft rule are dose-based standards; the basic cleanup standards would be expressed as acceptable dose rates. To show compliance with the standards, a licensee would presumably have to meet default concentration limits, which would be conservatively set to apply to all types of facilities, or would have to perform analyses more specific to the licensee's site to show that potential doses are acceptable. In addition, the draft decommissioning rule requires a 1000-year period for consideration of potential doses. In contrast, the proposed language for the Texas regulation is a concentration-based standard, rather than a dose-based standard. Thus, the proposed Texas regulation would probably be inconsistent with the draft decommissioning rule.

#### **NRC/AGREEMENT STATE COMPATIBILITY ISSUE**

The draft decommissioning rule also has proposed dose limits of some fraction of the 100 mrem/year limit for release for unrestricted release (the proposed rule indicated a limit of 15 mrem/year). Currently, dose limits developed for site decommissioning for termination of license are often set at some fraction of the 100 mrem/year limit. A fraction of the entire 100 mrem/year limit is used to account for potential exposures to multiple radiation sources, for compatibility with other regulations, and for other reasons. The proposed Texas regulation appears to use a limit of 100 mrem/year. This is inconsistent with the draft decommissioning rule and with current practice. With the additional discrepancy in using a concentration-based standard (the Texas proposal) versus a dose-based standard (the proposed decommissioning rule), the Texas proposal could be incompatible with the NRC draft decommissioning rule and with current NRC practice.

#### **EXAMPLE OF LICENSE TERMINATION FOR ENERGY FUELS NUCLEAR, INC. BINGHAM CANYON FACILITY COULD BE INCORRECT**

The Energy Fuels Nuclear, Inc. Bingham Canyon Facility was actually a State of Utah licensee. We have not been able to read the referenced final site survey, but did speak to staff of the State of Utah, Division of Radiation Control. State of Utah staff indicated that the only cleanup standard applied to this site for uranium in soils was that materials with concentrations greater than 30 pCi/g total uranium were to be excavated and disposed offsite. This appears to be inconsistent with information presented with the Texas proposed regulatory language. More importantly, we note that the particular cleanup limit used at a single site should not be used as a basis for cleanup standards for all sites.

#### **SUMMARY**

We recommend rejecting the proposed regulation on acceptable levels of uranium in soils. The most important reasons are: (1) Inconsistency with the guidance of option 2 of the BTP, including lack of requirements of specific conditions to be met, reliance on a generic cleanup level rather than case-by-case analyses, and a cleanup level inconsistent with the lowest levels provided in the BTP. (2) Inconsistency with the NRC proposed decommissioning rule, including use of concentration-based standard rather than dose-based standard, and use of the entire 100 mrem/year limit rather than a fraction of 100 mrem/year. (3) Potential NRC/Agreement State compatibility issue with the draft decommissioning rule and with current NRC practice.

# < TRANSACTION REPORT >

02-11-1997(TUE) 15:46

[ TRANSMIT ]

NO.	DATE	TIME	DESTINATION STATION	PG.	DURATION	MODE	RESULT
30889	2-11	15:45	5122394808	3	0' 0"	NORM.E	OK
<i>Chief Clerk's Office</i>				3	0' 0"		



## FAX INFORMATION

U. S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF STATE PROGRAMS

STATE PROGRAMS FAX: (301) 415-3502

NUMBER OF PAGES: 3 including this page

DATE: February 11, 1997

TO: Chief Clerk's Office  
Texas Natural Resource Conservation Commission

FROM: Richard Blanton

SUBJECT: Letter to Ms. Alice Hamilton Rogers

Response to Ms. Rogers' letter dated 12/20/96

---

---

---

---

---

---

---

IF RETRANSMISSION IS REQUIRED PLEASE CALL  
OFFICE OF STATE PROGRAMS ON 301-415-3340/2326