



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON NUCLEAR WASTE  
WASHINGTON, D.C. 20555

ACNWR-0120

PDR

November 20, 1996

The Honorable Shirley Ann Jackson  
Chairman  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Dear Chairman Jackson:

SUBJECT: SCREENING METHODOLOGY FOR ASSESSING PRIOR LAND BURIALS OF  
RADIOACTIVE WASTE AUTHORIZED UNDER FORMER 10 CFR 20.304  
AND 20.302

During its 87th meeting, October 22-23, 1996, the Advisory Committee on Nuclear Waste (ACNW) reviewed staff plans relevant to the decommissioning of sites in which radioactive waste had been buried as authorized under former 10 CFR 20.304 and 20.302. In addition to receiving information on the history and background leading to the development of the screening criteria to be promulgated in a branch technical position (BTP), the ACNW was briefed on related agency rules and information notices. The BTP, which was not available for ACNW review during its 87th meeting, will be finalized when more directly related field experience is obtained and public and licensee comments are evaluated.

These screening criteria are directed at potentially hundreds of onsite, non-reactor burial locations that will require an evaluation or screening process to determine if further remediation is required. The NRC staff has prepared a simple, conservative three-step method to evaluate the risk from these burial sites:

1. review burial records,
2. estimate the dose from ingestion of the total inventory in groundwater (a conservative approach), or
3. estimate the dose to a resident farmer from all pathways.

If the estimated dose from Step 2 or Step 3 is less than 100 mrem/yr, no further site work is required, and the site can be released for unrestricted use. The ACNW agrees with the NRC staff approach.

The ACNW offers the following comments and recommendations:

1. The NRC staff does have a responsibility to assure itself through independent audits and reviews that the risks are

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reasonably assessed. These reviews are especially important where, for example, the burials may include greater than anticipated inventories of uranium; disposed wastes that contain isotopes, such as chlorine-36, which at the time of disposal were not perceived to be a significant problem; the location and distribution of wastes are imprecisely recorded (or, in some instances, unrecorded).

2. In those situations requiring review and approval of the NRC staff prior to final site decommissioning, the staff must be certain that the risks and contributors to the risks are understood, and should not rely only on an assessment of how the input parameters were either measured or calculated.
3. We concur with the staff's position that licensees not be allowed to use Step 3 of the BTP screening process for isotopes with atomic numbers of 88 or higher due to the lack of confidence in the dose equivalent factors in the current version of NUREG-1500, "Working Draft Regulatory Guide on Release Criteria for Decommissioning: NRC Staff's Draft for Comment," August 1994.

The ACNW recognizes the benefit in providing a simple, relatively straightforward approach to resolving the problems extant from these past burials. We note that this issue might provide the Commission with an opportunity to advance its risk-informed, performance-based decision-making process. The ACNW anticipates further discussions on this specific issue with the NRC staff as the staff completes its evaluation of public comments and gains applicable field experience. Further, the ACNW intends to explore the compatibility of various screening criteria and methodology currently used by the NRC in the decommissioning process.

Sincerely



Paul W. Pomeroy  
Chairman

Reference:

Draft Branch Technical Position, "Screening Methodology for Assessing Prior Land Burials of Radioactive Waste Authorized Under Former 10 CFR 20.304 and 20.302," October 1996.