

WARREN A. BISHOP  
Chair



DOCKET NUMBER **PR-60** (10)  
~~PROPOSED RULE~~  
(52 FR 5992)

DOCKETED  
USNRC

STATE OF WASHINGTON  
NUCLEAR WASTE BOARD

Mail Stop PV-11 • Olympia, Washington 98504 • (206) 459-6670

'87 APR 29 P3:23

April 28, 1987

OFFICE OF THE SECRETARY  
DOCKETING  
BRANCH

Secretary of the Commission  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attn: Docketing and Service Branch

Dear Mr. Secretary:

Please find enclosed the state of Washington's comments on the February 27, 1987 Federal Register Notice regarding an Advanced Notice of Proposed Rulemaking for changes to 10 CFR Part 60 on the Definition of High-Level Radioactive Waste. These comments were developed by the state's Nuclear Waste Board under their authority to develop state policies relating to the management of radioactive wastes and represent the citizens of Washington State in these issues.

As noted in our comments, the brevity of the comment period has not allowed for an intensive review of the consequences associated with this proposal. Therefore, the state requests the Commission to consider additional comments submitted after the April 29, 1987 deadline.

Thank you in advance for your consideration of the state's concerns associated with this proposed rulemaking.

Sincerely,

Warren A. Bishop, Chair  
Washington State  
Nuclear Waste Board

WAB/JS:ht

Enclosure

*DS10*  
*add: W. Clark Peckard, 11K-005*

8705110360 870428  
PDR PR  
60 52FR5992 PDR

MAY 08 1987



STATE OF WASHINGTON

## NUCLEAR WASTE BOARD

Mail Stop PV-11 • Olympia, Washington 98504 • (206) 454-6670

### COMMENTS ON THE NUCLEAR REGULATORY COMMISSION'S ADVANCED NOTICE OF PROPOSED RULEMAKING

#### DEFINITION OF HIGH-LEVEL WASTE

##### Introduction

The Washington State Nuclear Waste Board developed the following comments on the Federal Register Notice dated February 27, 1987 regarding an Advanced Notice of Proposed Rulemaking for changes to the 10 CFR Part 60, Definition of High-Level Radioactive Waste. Washington State legislation gives the Nuclear Waste Board the responsibility for developing state policies related to the management of radioactive wastes, evaluating federal actions, and serving as a spokesman on behalf of Washington State citizens.

The Board's principal focus in the comments is on the impacts that waste definitions will have on the disposal of reprocessing wastes presently stored at Hanford, and on the requirements for the geologic repository system.

While the Board accepts the principle that disposal standards should reflect the risks and hazards associated with the wastes as attempted in the Commission's proposal, redefinition of waste classes, as proposed, may fail to achieve this goal due to several legal and jurisdictional constraints. Therefore, the Board cannot support the high-level waste definition proposed in the Advanced Notice due to numerous unresolved issues and the lack of specific information. As Commissioner Asselstine points out, the proposed definition creates a high potential for confusing the waste disposal issue.

The future of the Hanford tank wastes is of particular concern. These tanks present a unique situation in that these wastes are a complex mixture of chemical and radioactive materials unlike others in the country. The search for a conceptual definition of high-level wastes should not interfere with the timely and proper disposal of these wastes. Irrespective of the definition, we need to assure that the risks posed by these wastes are matched by an appropriate disposal medium. The Commission's definition could cast the future disposal of these wastes into a legal maze.

In addition, the brevity of the comment period has not allowed for an intensive review of the consequences of this rulemaking, and the state requests the Commission to consider additional comments submitted after the deadline.

The Board's major concerns center on four points: (1) Modifications to the Scope of the Commission's Authority, (2) Conflicting Definitions of High-Level Waste, (3) Impacts on Regulatory Authorities of Other Agencies, and (4) Lack of Information Necessary to Evaluate the Impact of the Commission's Proposals.

1. Modifications to the Scope of the Commission's Authority

The development of a definition for high-level waste should not alter the Commission's existing authority to license Department of Energy "Retrievable Surface Storage Facilities and other facilities authorized for the express purpose of subsequent long-term storage of high-level radioactive waste" under the Energy Reorganization Act of 1974 (42 U.S.C. 5842 (4)).

Any wastes understood to be high-level wastes at the time of this Act, including the Hanford tank wastes, must be disposed of in facilities licensed by the Commission. As stated in the proposal, any classification of wastes as non-HLW on the basis that they do not contain "sufficient concentrations" of fission products would be irrelevant in determining whether such wastes must be disposed of in licensed disposal facilities. For example, if DOE were to pursue its proposal for in-place stabilization of the Hanford "tank" wastes, most or all of the disposal "facilities" for those wastes would need to be licensed by the NRC.

It is useful in this respect to examine NRC's previous comments about these wastes, made in response to the DEIS on Hanford wastes (DOE/EIS-0113). Mr. Robert Browning, NRC's Director of Waste Management, wrote: "it appears that the Hanford 'tank wastes,' which from the information presented in the draft EIS would have been regarded as HLW when the Energy Reorganization Act was passed, remain HLW for purposes of determining whether or not NRC has such jurisdiction . . . . [L]icensing of Hanford wastes tanks for HLW disposal will be procedurally complex because of the need to develop appropriate standards and procedures, the existing fait accompli status of the waste tanks, and the difficulty in reasonably evaluating alternatives . . . as required by the National Environmental Policy Act . . . [W]e believe establishing the feasibility of [in situ] disposal as technically adequate to protect the public health and the environment will be exceedingly difficult and may not be achievable.", (see also DOE/EIS-0113, Vol. 1, 6.11).

In this regard, the Board is interested in the Commission's plans for licensing of any facilities for the disposal of high-level wastes that are not geologic repositories. The proposed rule should discuss the Commission's authority to license and regulate alternative disposal, given that the Nuclear Waste Policy Act does not authorize the DOE to construct or operate facilities for the disposal of high-level waste by means other than deep geologic.

In addition, this proposal should review Commission authority over the long-term storage of these wastes. At what point in the defense waste storage at sites around the nation does the Commission's licensing authority begin? Could these wastes be "stored" for hundreds of years without entering into the licensing process for disposal? The consideration of this information is important in evaluating the effect of any high-level waste definition.

## 2. Conflicting Definitions of High-Level Waste

In Section II B 3 of the Advanced Notice the Commission proposes a conceptual revised definition for high-level wastes as follows:

*"High-level radioactive waste" or "HLW" means: (1) irradiated reactor fuel. (2) liquid wastes resulting from the operation of the first cycle solvent extraction system, or equivalent, and the concentrated wastes from subsequent extraction cycles, or equivalent, in a facility for reprocessing irradiated reactor fuel. (3) solids into which such liquid wastes have been converted and solid radioactive wastes from other sources, provided such solid materials contain both long-lived radionuclides in concentrations exceeding the values of Table 1 and short-lived radionuclides with concentrations exceeding the values of Table 2.*

In this definition the Commission classifies solidified reprocessing wastes as high-level only if they contain both short- and long-lived radionuclides in concentrations greater than the Class-C low-level waste standards of 10 CFR Part 61. The Board feels that the adoption (and application) of this definition, as is, would not resolve our present difficulty and in fact, fails to recognize the realities of reprocessing waste management, especially as they pertain to Hanford and its tank wastes.

However, before elaborating on this position, it is important that the reader recognize two key elements in the genesis of the HLW definition as it stands today. These are:

- a) The Atomic Energy Commission's 1970 definition of HLW in 10 CFR 50, Appendix F, which included:

*". . . those aqueous wastes resulting from the operation of the first cycle solvent extraction system, or equivalent, and the concentrated wastes from subsequent extraction cycles . . ."*

(This was the definition in use when Congress passed the Energy Reorganization Act of 1974. The Board believes that the intent of the Congress under the Energy Reorganization Act was clearly to define reprocessing wastes as high-level, and that long-term storage of these wastes were to be licensed by the NRC. A rulemaking by the Commission that overrides the definition assumed within the Energy Reorganization Act is clearly suspect); and

- b) The Nuclear Waste Policy Act of 1982, in which Congress defined HLW as

*"(A) the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and (B) other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation."*

We feel that in these two successive definitions, Congress intended reprocessing wastes to be included within the HLW category and to force these wastes to a repository in toto. (See the following section for further comments.)

From a historic perspective, we find the only real reference to waste concentration criteria for inclusion in a high-level waste definition to be within Clause A of the NHPA, which requires "fission products in sufficient concentrations". In its proposed definition, the Commission appears to be using the authority granted in the NHPA Clause B to include solids into which reprocessing wastes have been converted.

As stated in the introduction to these comments, the Board understands and accepts the concept of structuring waste disposal standards according to the hazards those wastes present. However, the Commission appears to be going beyond the intent of Congress by including their proposed requirements for the classification of solidified reprocessing wastes as high-level. A rulemaking of the type being proposed, without changes to the definitions within Congressional acts, may not be legal and could be fruitless.

### 3. Impacts on Regulatory Authorities of Other Agencies

One of the key deficiencies which we find in the Commission's Advance Notice of HLW is that no stance has been taken, or information offered, regarding the degree to which this proposal would affect the regulatory responsibilities (or programs) of other state and federal agencies.

We have already noted our understanding of Congress' initial intent (to classify Hanford's reprocessing wastes as HLW, and force them, as generated, to a repository). However, since this initial stance, we have gained a significantly improved understanding of the waste streams in question. There appears to be a misconception on the part of the Commission, as evidenced by their statement on page 5994 of the Advanced Notice that:

*"Wastes which have historically been referred to as HLW (i.e. reprocessing wastes) are initially both intensely radioactive and long lived."*

This statement is not consistent with our knowledge of the approximately 27 waste streams routed to Hanford's double shell and single shell tanks. The majority of these waste streams contain relatively low levels of radioactivity (less than Class-C). Only three have been identified as having significant concentrations of long-lived isotopes. DOE's plans for separation, vitrification, and disposal in a repository encompass only these three waste streams. The remainder are scheduled for surface solidification and disposal as generated.

The Board feels that the Commission's proposed redefinition has not incorporated adequate consideration of the realities of the Hanford situation. No consideration has been given to the mixed waste nature of these reprocessing wastes, or USDOE's many existing or planned facilities for the surface disposal of these wastes. It is the Board's firm conviction that if these wastes are treated, stored, disposed, or otherwise managed using means outside the repository program, then they should be subject to state and federal hazardous waste management programs. The DOE should not be allowed exclusion from these regulatory structures as well as exclusion from geologic disposal.

Draft legislation in the United States House and Senate is attempting to address this issue by excluding only wastes disposed via the repository program from EPA's RCRA program, or authorized state programs. This approach stems from the assumption that a repository will afford equivalent or greater environmental protection than a RCRA facility.

DOE Hanford staff have also begun working in this direction, with specific activities including detailed chemical waste analyses and the development of draft RCRA permit applications for facilities planned for solidification and land disposal of Hanford's reprocessing wastes. Unfortunately DOE Headquarters staff continue to press for exclusion from regulation of Hanford reprocessing wastes. We find these attempts unjustified and highly improper.

The Board also notes that DOE planning is going forward to decommission Hanford's old federal reactors. These activities will generate a wide range of wastes, including substantial volumes of wastes greater than Class-C. The timing of the Commission's present proposal and its implications may have a major impact on these activities. The proposed rulemaking should describe in greater detail the Commission's estimate of the definitions impact and how it would be implemented in regard to these particular Hanford programs.

4. Lack of Information Necessary to Evaluate the Impact of the Commission's Proposal

The Commission should provide estimates of the costs necessary for disposal and the volumes of additional high-level wastes that would be included under Clause B and intended for deep geologic disposal. The definition proposed in the Advanced Notice may include significant quantities of wastes that are not presently considered by nuclear utilities to be destined for permanent isolation in a geologic repository. The costs for disposal of these additional wastes may not be covered by established contractual arrangements with DOE, and the volumes these wastes represent may not be included in total repository volume estimates. This type of information is necessary to evaluate the impact of the Commission's proposed rulemaking.

In order to evaluate the adequacy of 10 CFR Part 61 standards as a dividing line between low-level wastes and wastes with "fission products in sufficient concentration" and the need for "permanent isolation", more information is necessary. The Board feels that the use of those low-level standards is probably a conservative approach in trying to establish boundaries between what is allowed for shallow land burial and what requires additional controls. However, the Commission should provide assessments of the protection afforded, and costs incurred by using enhanced disposal systems for above Class-C wastes as well as protection afforded by deep geologic disposal.

These assessments could then be used to estimate concentrations of radioactive wastes that could safely be disposed of in a given system. The differences in concentrations and types of wastes that could be disposed in enhanced systems could be compared with what is allowed in shallow land burial. This comparison would provide insight into cost/benefit analyses on the use of the low-level standard, particularly in terms of total program costs and repository waste capacities. This approach may provide information on the need for another set of standards for Above Class-C (intermediate level wastes), and the associated costs for developing a disposal program, including the licensing of sites.