PROPOSED RULE PR-(60) (3)
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April 16, 1987

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

Attn: Docketing and Service Branch

RE: Comments Concerning the ANPR on the Definition of "High-Level Radioactive Waste."

We have reviewed the advance notice of proposed rulemaking. We would like to offer our comments for your consideration.

First, we think it is appropriate for the Commission to seek input at this stage. We are vitally interested in the eventual disposal of defense wastes of the Hanford site. We have played a significant role in the building of a regional consensus regarding the disposal of existing defense wastes.

1. We strongly agree with the NRC interpretation of Clause A. This would require NRC licensing authority for defense waste single-shell tank contents. Licensing would be required even if the waste is not considered high-level. We believe this to be the only reasonable interpretation of existing law.

2. To require permanent isolation only for wastes that produce heat and are long-lived is faulty. Permanent isolation should also be required for long-lived wastes with no heat component.

   Our concern on this point is not just academic. Single-shell tank wastes have most of the heat producing isotopes removed. What is left is long-lived fission products in a soluble form. We find no logic in relegating such wastes to a less stringent containment because there is no heat generated. The need for long-term containment is the same, particularly given the chemical and physical form of the tank wastes.

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Add: W. Mark Pickard, NM-005

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3. Material should be considered high-level waste based on the probability that people will be exposed. To base any definition on specific activity and heat generation alone is incomplete. If the solubility of a waste form is 1,000 times higher than metal clad ceramic fuel, the threshold of definition in terms of specific activity should be 1,000 times less. The more soluble a radionuclide, the more likely it will travel in the environment.

4. A minimum total quantity of activity should be included in the high-level waste definition. Some waste may have high concentrations but have a small total quantity of activity. This addition would avoid the unnecessary deep geologic disposal of these waste materials.

5. Currently, high-level radioactive wastes are those that exceed Class C concentration limits. Some of these will not meet the proposed high-level waste definition. As proposed, the rule would leave this waste undefined. The Commission should adopt a definition or definitions to encompass all material above Class C concentration limits.

6. The Commission should reexamine the assumptions made in developing the numbers in Table 1 and 2. If those assumptions included characteristics of host rock, waste form, geochemistry or others, do these assumptions still hold? If these characteristics were used to arrive at high-level waste concentrations, is current knowledge about host rock and all possible waste forms consistent with past information?

7. The Oak Ridge background paper on the definition of high-level waste advises the use of power density as a qualifier. The Commission should indicate why that advise was not used.

Conflicting high-level waste definitions in several laws will only compound confusion regarding this issue. Every effort should be made to reconcile the West Valley Act, the Marine Sanctuaries Act, the Nuclear Waste Policy Act, and the proposed NRC definitions of high-level waste. It is imperative that further conflicting definitions be avoided.

Thank you for the opportunity to comment on this rule. We look forward to continued discussion on this matter.

Sincerely,

David A. Stewart-Smith

David A. Stewart-Smith, Chair
Hanford Review Committee

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