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CHEMICALS

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

DOCKET NUMBER
PROPOSED RULE PR 20 et al.
(59FR43200

Attention: Docketing and Service Branch

Dear Sir or Madam:

AlliedSignal Inc. appreciates the opportunity to comment on the proposed rule: "Radiological Criteria for Decommissioning" which appeared in the August 22, 1994 issue of the Federal Register. We applaud NRC's efforts to develop uniform dose limits, and radioactivity levels for decommissioning, which will adequately protect members of the public during future use of a decommissioned site.

Our specific comments are as follows:

1. The soil concentration limit for natural uranium at 15 mrem/year is shown to be 19.3 pCi/gm (Table B-2, NUREG-1500) for the residential scenario. This value is based on the conservative assumption that all uranium is Class Y solubility (Table E.6, NUREG/CR-5512) for inhalation pathways, and Class D solubility for ingestion pathways. This approach will significantly overestimate the dose for all scenarios except the external dose pathway.

   The document should be revised to allow the use of actual solubility class in determining the dose, and associated concentration values, as was done in the revised 10 CFR 20 for all radionuclides.

   Some fuel cycle facilities may only process UF_6/UO_2F_2 (Class D), or UF_4 (Class W). The calculated dose for specific solubility class would be realistic, with more than adequate conservatism added through the maximized intake and transfer factors utilized in NUREG/CR-5512.

2. The agricultural pathway (home gardening, etc.) appears to misrepresent current agricultural practices in the United States. Per capita sales of garden seeds, canning jars, home freezers, and consumption of home grown beef and milk should be examined for the past 10-20 years to determine if the assumption is valid that 25% of an individual's diet is indeed obtained from a home garden. This assumption, when combined with the "Worst Case" assumption of solubility class, and the assumption that fresh vegetables are not washed prior to eating, may overestimate the dose by a factor of 100 or more.

3. Better guidance should be provided which indicates how a particular pathway within a scenario can be eliminated when that pathway cannot be expected to contribute to the dose. For example, a facility located in an area which receives 60 inches of annual rainfall would be extremely unlikely to practice irrigation of agricultural crops. Likewise, an individual would be

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extremely unlikely to pay the cost of drilling a drinking water well when a reliable municipal water system is only a few hundred feet away.

The criteria documents should provide some flexibility in calculating a realistic dose to the average member of the critical group, without requiring a property deed restriction due to dose contribution from some pathway which does not exist.

4. There appears to be inconsistencies in the proper approach for performing a realistic public dose assessment. While the methods utilized in the decommissioning criteria documents are ultra conservative, USNRC Regulatory Guide 8.37 "ALARA Levels for Effluents from Materials Facilities" (July, 1993) states, "Licensees need not assume worst case models when calculating dose but rather should make assumptions that will result in realistic estimates of actual dose received by the member of the public likely to receive the highest dose".

   Some measure of uniformity must be achieved in dose assessment parameters to avoid confusion of licensees, and the public in what constitutes a realistic dose estimate. Information then should be provided on how to relate the realistic dose estimate to risks routinely accepted by society.

5. Many fuel cycle facilities have disposed of slightly contaminated (less than 30-35 pCi/gm) soil and other materials using NRC guidance provided in the Branch Technical Position "Disposal or On-site Storage of Thorium or Uranium Wastes from Past Operations". The Branch Technical Position indicates a concentration of 30-35 pCi/gm of uranium would produce an annual dose commitment of less than 1 millirad to the lung or 3 millirads to the bone "Under any foreseeable use of the material or property".

   The currently proposed release criteria for decommissioning indicates a soil concentration of 19.3 pCi/gm of natural uranium would produce an annual TEDE of 15 mrem. Is it NRC's intent to now require remediation of materials previously released under the Branch Technical Position? It would appear more reasonable agreement could be obtained between these documents, or less conservation should be used in the currently proposed decommissioning criteria.

6. The summary of NRC's Branch Technical Position, 46 FR 52601 (October 1981) on page A-64 of NUREG-1496 indicates that a concentration of 30-35 pCi/gm of depleted or enriched uranium would produce a limiting dose of 60 mrem and 20 mrem to the bone and lung, respectively. However, our reading of the Branch Technical Position (as stated in our Comment No. 5) indicates a bone dose of 3 millirads, and lung dose of 1 millirad from this same concentration. Would you please explain this discrepancy?

7. Footnote 1 on page 7-3 of NUREG-1496 indicates the organ dose limits specified in 40 CFR 190.10 should be summed. The summary of this regulation on page A-67 of NUREG-1496 does not indicate they should be summed, and our understanding of 40 CFR 190 is that these are individual organ dose limits. Would you please clarify this misunderstanding?

Sincerely,

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