THE WEST VALLEY
CITIZEN TASK FORCE

July 23, 2015

Secretary, U.S. Nuclear Regulatory Commission
Washington, DC 20555–0001
ATTN: Rulemakings and Adjudications Staff
Rulemaking.Comments@nrc.gov

Docket ID NRC–2011–0012

Dear Secretary:

We submit the following comments on NRC's proposed revision of 10 CFR 61. This revision would, among other things, ensure that low-level radioactive waste (LLRW) streams "that are significantly different from those considered during the development of the current regulations (i.e., depleted uranium and other unanalyzed waste streams) can be disposed of safely and meet the performance objectives for land disposal of LLRW…"[1] We recognize the importance of ensuring safe disposal of wastes not previously considered when the 10 CFR 61 regulations were initially written in the early 1980s. At the same time, we are concerned that the proposed revision makes fundamental changes that go beyond filling such gaps. Some of these proposed changes would add too much flexibility and would make the regulations less protective. For example:

Conceptual basis and site characterization

1. Section 61.50(a)(1) (part of "Disposal site suitability requirements for land disposal") would be weakened by eliminating existing language that says "The primary emphasis in disposal site suitability is given to isolation of wastes, a matter having long-term impacts, and to disposal site features that ensure that the long-term performance objectives of subpart C of this part are met, as opposed to short-term convenience or benefits." This is an interpretive statement rather than a substantive requirement, but its deletion seems illustrative of some of the changes that are being proposed. We believe that the existing wording ("The primary emphasis in disposal site suitability is given to isolation of wastes, a matter having long-term impacts, and to disposal site features that ensure that the long-term performance objectives of subpart C of this part are met, as opposed to short-term convenience or benefits") needs to be retained within these regulations[2] and should remain a guiding principle of 10 CFR 61.

2. The proposed change in section 61.50(a)(2), which is another part of "Disposal site suitability requirements for land disposal," would make that requirement essentially meaningless. The existing requirement is that "The disposal site shall be capable of being characterized, modeled,

[1] U.S. Nuclear Regulatory Commission, 80 *Federal Register* 16082-125 (March 26, 2015) at 16082.

[2] We recognize that similar wording can be found in the *Federal Register* notice for the proposed rule (*id.* at 16103) but believe that the wording needs to remain within the actual regulations at 61.50(a)(1).

analyzed and monitored." This seems like an obvious and crucial requirement. The proposed revision would weaken it by saying, "To the extent practicable, the disposal site shall be capable of being characterized, modeled, analyzed and monitored." This change should not be made. In order to qualify for a license, any LLRW disposal site should be capable of being characterized, modeled, analyzed and monitored with the best available techniques. Sites incapable of meeting this requirement should not be eligible for land disposal of LLRW, and the requirement should not be weakened by adding the words "To the extent practicable."

3. Section 61.7(a)(1) would be weakened by a new sentence that emphasizes the availability of exemptions under existing section 61.6 and suggests that such exemptions are available "as needed." Exemptions are already available under section 61.6 but should be the exception rather than the rule. It's not appropriate to feature them in section 61.7(a)(1) as part of the "concept" of the 10 CFR 61 disposal requirements.

Radiological protection and dose limits

4. New section 61.7(c)(5), in combination with 61.41(a), would change and weaken the dose methodology for thyroid protection. The allowable dose to the thyroid would be increased by a substantial factor (ranging up to a factor of 11) in an exposure scenario dominated by radioiodine.[3] We recognize the attraction of using a revised method of dose calculation that combines internal and external dose into a single value, as currently used in 10 CFR 20; however, such a revision should not be portrayed as a neutral or purely scientific change in calculation method. The *Federal Register* notice for the proposed rule explains the change by claiming that "A holistic approach [using a dose limit expressed as an effective dose such as TEDE] provides a large benefit in LLRW disposal dose assessment because of the range of radionuclides that comingled within the LLRW."[4] In our view, the claimed "large benefit in LLRW disposal dose assessment" is primarily a short-term computational convenience which relies unduly on an assumption that the radionuclides "comingled within the LLRW" would remain comingled at the point of human exposure. This is not likely to be true for long-lived mobile radionuclides such as Iodine-129 which may migrate more quickly than other radionuclides into contact with humans and (in the case of I-129) be taken up by the thyroid. Given the importance of thyroid protection, we believe that the existing thyroid dose limit in 10 CFR 61.41 should be retained as a more protective standard than the proposed revision. If and when the standard is revised, it should be supported by a more complete and explicit analysis than is provided in the *Federal Register* notice for the proposed rule.

5. Standards for protection of the general public (section 61.41) are currently not restricted to any particular time span but would be revised to provide a 25 mrem/year whole-body dose limit during the next 1,000 years, followed by a 500 mrem/year whole-body dose limit for the period beyond the next 1,000 years. In our view, the 25 mrem/year whole-body dose limit should be applied in perpetuity (or as long as the radiological hazard persists) to ensure protection of

---

[3] The increase in thyroid dose "ranging up to a factor of 11" is based on a tissue weighting factor of 0.03 for the thyroid, as expressed in 10 CFR 20.1003 and ICRP Publication 26.

[4] *Federal Register, op. cit.,* at 16104.

human health. There is no justification for offering future members of the general public a 20-fold lower standard of protection than is set for the general public during the next 1,000 years. The primary emphasis in disposal site suitability should be given to isolation of wastes and to minimization of long-term impacts, as opposed to short-term convenience or benefits. Thus, the general public's whole-body exposure limit from a closed disposal facility should continue indefinitely at a 25 mrem/year standard.

6. Standards for protection of inadvertent intruders (section 61.42) are currently expressed qualitatively ("must ensure protection") but would be revised by setting a quantitative annual exposure limit of 500 mrem/year. We recognize the value of a quantitative limit but believe that the whole-body dose limit should be set at 25 mrem/year rather than 500 mrem/year, consistent with the 25 mrem/year whole-body dose limit for the general public in section 61.41. There is no justification for offering "inadvertent intruders" a 20-fold lower standard of protection than is set for the general public. NRC asserts that "it is possible, though unlikely, that an inadvertent intruder might occupy a disposal site in the future and engage in normal pursuits without knowing that they are receiving radiation exposure."[5] However, for various closed waste sites, including the West Valley site when closed, it seems *likely* (rather than unlikely) that inadvertent intruders will occupy the site in the future and engage in normal pursuits without knowing that they are receiving radiation exposure. In other words, inadvertent intruders are members of the general public who may come into closer contact with radiological contamination through no fault of their own – and as such, they deserve the same protection as the general public. An inadvertent intruder's whole-body exposure limit from a closed disposal facility should be set at 25 mrem/year and should continue indefinitely at a 25 mrem/year standard.

7. According to a new definition of "Intruder assessment" that is proposed in Section 61.2, "Intruder assessment is an analysis that: (1) Assumes an inadvertent intruder occupies the site and engages in normal activities or other reasonably foreseeable pursuits that are realistic and consistent with expected activities in and around the disposal site at the time of site closure and that might unknowingly expose the person to radiation from the waste..." This proposed new language contains unduly restrictive words ("consistent with expected activities in and around the disposal site at the time of site closure") that should be eliminated from the definition of "Intruder assessment." An intruder assessment should cover site occupation and normal activities "or other reasonably foreseeable pursuits that are realistic and that might unknowingly expose the person to radiation from the waste..." Expected activities in and around the disposal site "at the time of site closure" are *not* a realistic indicator of reasonably foreseeable pursuits in the future (e.g., 1,000 years from now).

8. Revised standards for protection of the general public and of inadvertent intruders beyond 1,000 years (sections 61.41 and 61.42) could allow relatively unprotective standards "based on technological and economic considerations." Technological and economic considerations should not supersede the dose limits in sections 61.41 and 61.42. The primary emphasis in disposal site suitability should be given to isolation of wastes and to minimization of long-term impacts, as opposed to short-term convenience or benefits.

---

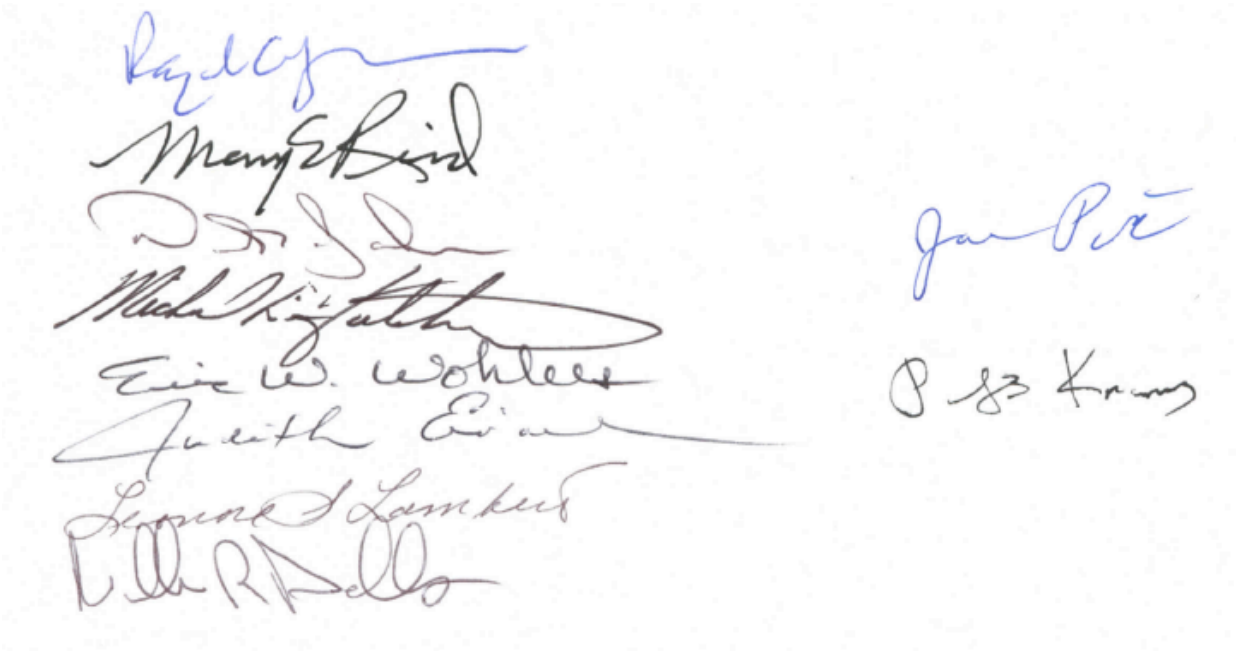
[5] *Id.* at 16090.

Agreement State Compatibility

9. As part of the proposed revision, NRC may limit the ability of Agreement States to set more protective requirements for certain sections of 10 CFR 61.[6] The CTF does not support any part of the proposed revision that would limit New York State's ability to set more protective requirements.

We appreciate the opportunity to comment and trust that NRC will give these comments full consideration.

Sincerely,



The West Valley Citizen Task Force

[6] This is discussed under the heading "Agreement State Compatibility," *id.* at 16111-114.