

July 20, 2020

Via Electronic Mail

Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Rulemakings and Adjudications Staff
VLLWTransferComments.Resource@nrc.gov

RE: NRDC, et al., Comments on Docket ID NRC-2020-0065.

Dear Sir/Madam:

The Natural Resources Defense Council (“NRDC”), the Committee to Bridge the Gap (“CBG”), Physicians for Social Responsibility-Los Angeles (“PSR-LA”), and San Francisco Bay Physicians for Social Responsibility (“SFBayPSR”) write collectively today to timely respond to the Nuclear Regulatory Commission’s (“NRC”) *Request for Comment on Proposed Interpretative Rule on Transfer of Very Low-Level Waste to Exempt Persons for Disposal*, 85 Fed. Reg. 13076-13079 (Mar. 6, 2020) (hereinafter “NRC Request for Comment” or “proposed rule”) (comment period extended to this day via 85 Fed. Reg. 27332 (May 8, 2020)).

We provide detail in the following pages, but we commence with a succinct response to the NRC – the agency should not take this action; it should withdraw this proposed rule and instead work on improving the existing standards for land disposal of low-level radioactive waste.

I. Summary of Comments

For the reasons described below, NRC’s proposed rule violates the Administrative Procedure Act (APA), 5 U.S.C. §500 *et seq.*, (APA), the Atomic Energy Act (AEA), 42 U.S.C. § 2011 *et seq.*, the Resource Conservation & Recovery Act (RCRA), 42 U.S.C. § 6901 *et seq.*, and the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321, *et seq.*

What the NRC has proposed is not an interpretive rule, but a substantive rulemaking that alters substantial rights and duties. It is, bluntly, a backhanded way to avoid NRC's land disposal requirements for a sizable portion of the nation's radioactive waste that is likely to emerge from the coming decommissioning of dozens of commercial nuclear power reactors. In this proposed rule, NRC has provided no meaningful technical underpinnings that would justify such a deregulatory action that undercuts existing standards meant to protect the public, workers, and the environment. The agency provides no description or analysis of (1) the precise universe that can potentially be designated to move outside of any regulatory protections to be disposed of by land burial across the country; (2) the potential "exempt" recipients and their suitability to dispose of this undetermined waste; (3) any protective criteria that might apply to this undetermined amount of deregulated radioactive waste (except to suggest a dose standard that is profoundly less protective than the current standard that applies to licensed radioactive waste); or (4) the dozens of affected environments and communities that are likely to receive and be forever harmed by this now deregulated waste. All of this NRC proposes to do via an alteration of how it understands guidance that applies to its radiation protection standards, not even the exemption process that already exists for land disposal of low-level radioactive waste (LLRW).

Perhaps most remarkably, in failing to identify the potential universe of "exempt" recipient sites and any protective criteria that might apply to this now deregulated radioactive waste, NRC is entirely silent on how the Environmental Protection Agency's (EPA) waste disposal standards – which currently exempt from their coverage NRC regulated wastes – might (or might not) apply. Truly, the proposed rule posits a regulatory black hole for some sizable portion of the coming tsunami of decommissioned nuclear power waste. None of this is lawful and the NRC would be wise to withdraw this and turn to substantially improving the radioactive waste land disposal protections for workers, the public and the environment.

We provide one additional note to these comments at this late hour on July 20, 2020. The undersigned learned this day that NRC was considering extending the comment period. We did not learn in written form that such an extension was a potential reality until well after the close of business at 5pm on east coast time. While we would feel relatively confident that our comments would be timely if filed prior to the new October 21, 2020 deadline that we understand will be announced in the Federal Register at some undetermined date in the future, we file these comments timely today for the following reasons. First, in an abundance of caution, without notice in the Federal Register or an official statement on the NRC's website, we do not have full confidence that we could extend reliance on any extension granted after business hours and by assurances from a single, even if well intentioned, NRC staffer. Second, we urge the NRC to consider that such late notice on the date of filing presents a difficult challenge, especially as it relates to grave matters of public concern. Whether one represents industry, non-government, tribal, or other public actors of any sort, efforts such as comments like these are substantial pieces of work and learning well after business hours on the day comments are due that an extension has been granted illustrates a disregard on the agency's part for the time and resources of its interested public.

For the reasons cited in the paragraph above, we file our comments timely, but also reserve the right to supplement, amend, and otherwise add to the work we place before the NRC this day, prior to the October deadline we understand may be forthcoming.

II. Statement of Interest

NRDC is a national non-profit environmental organization with over one million combined members and activists. NRDC's activities include maintaining and enhancing environmental quality and monitoring federal agency actions to ensure that federal statutes enacted to protect human health and the environment are fully and properly implemented. Since 1970, NRDC has sought to improve the environmental, health, and safety conditions at the civil nuclear facilities licensed by the NRC.

CBG, founded in 1970, is a nuclear policy organization that works to improve protections from nuclear risks and assists communities near nuclear facilities and contaminated sites.

PSR-LA and SFBayPSR are the Los Angeles and San Francisco chapters of the U.S. branch of the international physicians organization that won the Nobel Peace Prize in 1985 for its work on the nuclear threat.

III. Background

A. Current Regulatory System

As we commence our comments on the proposed rule, we remind NRC that the AEA precludes the agency from issuing a license for any act covered under its statutory authority if it would be “inimical . . . to the health and safety of the public.” 42 U.S.C. §2133(d).¹ Further, the “provisions of [the APA] shall apply to all agency action taken under this chapter, and the terms ‘agency’ and ‘agency action’ shall have the meaning specified in [the APA].” 42 U.S.C. §2231.

With these requirements in mind, we next remind NRC what “low-level radioactive waste” (LLRW or LLW) is. The AEA defines it as follows in pertinent part:

The term ‘low-level radioactive waste’ means radioactive material that—(i) is not high-level radioactive waste, spent nuclear fuel, or byproduct material...; and (ii) the Nuclear Regulatory Commission, consistent with existing law and in accordance with paragraph (A), classifies as low-level radioactive waste. . . . The term ‘low-level radioactive waste’ does not include byproduct material . . .

42 U.S.C. §2021(b)(9).²

Thus, LLRW is defined not by how radioactive it is but by its source: LLRW is *not* spent nuclear fuel, waste from reprocessing spent fuel (which hasn't occurred commercially in the U.S. for decades), or uranium tailings.³ As the National Academy of Sciences states, “[i]n the United

¹ *See, cf.*, 42 U.S.C. §2232 and 42 U.S.C. §2235(b).

² *See* Low-Level Radioactive Waste Policy Amendments Act of 1985, 42 U.S.C. §2021(b) *et seq.* (“To amend the Low-Level Radioactive Waste Policy Act to improve procedures for the implementation of compacts providing for the establishment and operation of regional disposal facilities for low level radioactive waste...”).

³ 10 CFR §61.2

States, LLW is not necessarily defined by low levels of radioactivity.... LLW is defined by exclusion (i.e., by what it is not)."⁴ For example, plutonium-239, strontium-90, and cesium-137 are considered high-level waste when inside irradiated nuclear fuel but LLRW when the very same radionuclides, with the same half-lives and toxicity, leak out of the nuclear fuel and contaminate filters, piping, etc.⁵ By any measure, the radiation produced by and pursuant to the activities of the commercial and defense nuclear power industries are extraordinarily dangerous. At high doses, radiation exposure will cause death.⁶ At lower doses, radiation still has serious health effects, including increased cancer risks and serious birth defects such as mental retardation, eye malformations, and small brain or head size.⁷ "Radioactive waste" as used in NRC Regulations Part 61 (and Part 20, Standards for Protection Against Radiation) follow these statutory requirements and are defined as "low level radioactive waste."⁸

Under longstanding NRC statutory⁹ and regulatory requirements, because it is dangerous, disposal of LLRW by land burial must be in a licensed LLRW land burial disposal facility meeting the requirements set forth in 10 CFR §61 (Licensing Requirements for Land Disposal of Radioactive Waste):

(a) No person may receive, possess, and dispose of radioactive waste containing source, special nuclear, or byproduct material at a land disposal facility unless authorized by a license issued by the Commission pursuant to this part, or unless exemption has been granted by the Commission under §61.6 of this part.

10 CFR §61.3 ("License required").

Under 10 CFR Part 61, licensed LLRW disposal sites are required to abide by a wide range of technical, safety and environmental requirements to ensure that the performance objectives are met. Those performance objectives include requirements to assure that land disposal facilities for LLRW "be sited, designed, operated, closed, and controlled after closure so that reasonable assurance exists that exposures to humans are within the limits established." § 61.40. The regulations include requirements regarding, for example, protection of individuals from inadvertent intrusion (§ 61.42), protection of individuals during operations (§61.43), and stability of the disposal site after closure (§ 61.44).

⁴ National Academies of Sciences, Engineering, and Medicine 2017. *Low-Level Radioactive Waste Management and Disposition: Proceedings of a Workshop*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/24715>, pp. 1-2.

⁵ 10 CFR §60.2 defines "high level radioactive waste" as (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, and (3) solids into which such liquid wastes have been converted.

⁶ See National Institutes of Health, Fact Sheet: <http://www.nlm.nih.gov/medlineplus/radiationexposure.html> (last visited July 18, 2020).

⁷ See Environmental Radiation Protection Standards for Yucca Mountain, Nevada, 64 Fed. Reg. 46,976, 46,978 (Aug. 27, 1999).

⁸ 10 CFR §§61.2 and §20.1003

⁹ See Low-Level Radioactive Waste Policy Act of 1985 (P.L. 99-240), 42 U.S.C. §2021(b) *et seq.*

Further, a licensed LLRW disposal site must be chosen with consideration to population growth and future developments (§61.50(a)(3)), avoid areas with known natural resources which if exploited would result in failure to meet the performance objectives (§61.50(a)(4)), be well drained and free of areas prone to flooding (§61.50(a)(5)), provide sufficient depth to the water table so that ground water intrusion will not occur (§61.50(a)(7)), and avoid areas where tectonic and geologic processes would affect the performance objectives of the site (§61.50(a)(9),(10)). Further, §61.52 outlines specific requirements for disposing of and covering the waste and §61.53 requires the disposal facility maintain an environmental monitoring program and plans for taking corrective measures if need arises. No radioactive waste may be disposed of until the NRC has inspected the land (§61.24(g)). The monitoring system must be capable of providing early warning of releases of radionuclides from the disposal site before they leave the site boundary (§61.53(c)).

This is but a brief summary of the requirements set forth in the 27 pages of Part 61. We do not take the position that Part 61 is sufficiently protective of public health and the environment or even fully consistent with the AEA's requirement that it protect public health; there are areas where Part 61 should be strengthened.¹⁰ More to the point, licensed LLRW sites have not been free of problems.¹¹ But disposing of LLRW in licensed sites meeting Part 61 requirements and subject to continuing NRC inspection, enforcement, closure and post-closure obligations is far superior to allowing such waste to go to unlicensed sites, not required to meet any of these safety measures, and with no continuing oversight whatsoever, as now proposed by the NRC in this interpretation.

By far the main method of disposing of LLRW is land disposal, which must be in a licensed facility meeting the requirements of Part 61. However, 10 CFR §20.2001- 2006, in addition to specifying land burial, set forth alternatives for certain types of waste: storage-to-decay for short-lived radionuclides (§20.2001(a)(2)), release into sanitary sewers (§20.2003), and incineration (§20.2004).¹² If a licensee wishes to request permission for a method of disposal other than land burial, storage-to-decay, incineration, or release into sewers, it may request permission on a case-by-case basis under §20.2002.

¹⁰ For example, the allowable radiation levels in §61.41 should be tightened; a separate groundwater protection standard consistent with EPA water protection limits should be included; liners and leachate collection systems should be required; and characterization, monitoring, manifest, and closure and post-closure provisions should be improved.

¹¹ The Maxey Flats, Kentucky LLRW site leaked plutonium within a few years, resulting in it being listed on the National Priority List (Superfund); the Sheffield, Illinois LLRW site leaked tritium offsite; radioactivity was found to have migrated offsite from the Beatty, Nevada LLRW site; leakage has also been reported from the Richland, Washington LLRW site. Southern California Federation of Scientists and the Committee to Bridge the Gap, "The Proposed Ward Valley Radioactive Waste Facility: Papers Submitted to the National Academy of Sciences," October 12, 1994. A November 1996 study, prepared for the U.S. Nuclear Regulatory Commission and the Department of Energy, found evidence of leakage from all six LLRW sites that had been in existence by the time of the report. National Low-Level Waste Management Program, *Environmental Monitoring Report for Commercial Low-Level Radioactive Waste Disposal Sites (1960's Through Early 1990's)*, DOE/LLW-241, November 1996. This includes the Barnwell, South Carolina LLRW site, which has leaked tritium. *ibid.* The Utah LLRW site, formerly operated by Envirocare, was subject of controversy and plea agreements involving payments to state regulators. See <https://www.deseret.com/1998/7/23/19392670/envirocare-prosecutors-place-focus-on-extortion>.

¹² Additionally, wastes with tritium and carbon-14 in concentrations of less than 0.05 microcuries per gram are allowed to be disposed of as though they weren't radioactive. 10 CFR §20.2005

NRC has in the past unsuccessfully attempted to deregulate portions of the “low-level” radioactive waste stream. On August 29, 1986, and July 3, 1990, NRC issued policy statements declaring significant amounts of the waste stream to be “Below Regulatory Concern” (BRC). 51 Fed. Reg. 30,839 and 55 Fed. Reg. 27,522. These policy statements were intensely controversial, resulting in sixteen states passing laws and regulations against BRC, allowing waste deregulated by NRC as BRC to continue to be regulated as radioactive in those states.¹³ Eventually Congress in the Energy Policy Act of 1992 revoked the NRC BRC policies.¹⁴ NRC has several times since then considered reviving BRC under various names (e.g., “low activity waste”) but in the face of significant public concern reversed course.¹⁵ Seemingly, the agency is now trying again, in the guise of “very low level waste,” which the agency admits is a term found neither in statute or regulation, the subject of this purported “interpretative rulemaking.”¹⁶

B. Rulemaking Intent

In its notice, NRC writes:

Summary

The U.S. Nuclear Regulatory Commission (NRC) is issuing a proposed interpretation of its low-level radioactive waste disposal regulations that would permit licensees to dispose of waste by transfer to persons who hold specific exemptions for the purpose of disposal. The NRC will

¹³ National Research Council/National Academy of Sciences, *The Disposition Dilemma: Controlling the Release of Solid Materials from Nuclear Regulatory Commission-Licensed Facilities*, 2002, p. 43

¹⁴ See 42 U.S.C. § 2023 *et seq.*, and in pertinent part: “REVOCATION OF RELATED NRC POLICY STATEMENTS- The policy statements of the Nuclear Regulatory Commission published in the Federal Register on July 3, 1990 (55 Fed. Reg. 27522) and August 29, 1986 (51 Fed. Reg. 30839), relating to radioactive waste below regulatory concern, shall have no effect after the date of the enactment of this Act.” *Id.* at 2023(b), Energy Policy Act of 1992, P.L. 102-486 (Oct. 24, 1992), found at 106 STAT. 3122.

¹⁵ See, e.g., SECY-02-0133, Control of Solid Materials: Options and Recommendations for Proceeding, October 25, 2002; Rulemaking on Controlling the Disposition of Solid Materials: Scoping Process for Environmental Issues and Notice of Workshop, 68 Fed. Reg. 9595 – 9602, February 28, 2003; SECY-05-0054, Proposed Rule: Radiological Criteria for Controlling the Disposition of Solid Materials, March 31, 2005; Letter to NRC Commissioners from 120 organizations, March 31, 2005, Re: Opposition to Proceeding with Rulemaking on the Release of Currently Regulated Radioactive Waste and Materials to Unlicensed Destinations (“Controlling the Disposition of Solid Materials”); Commission Voting Record, June 1, 2005, Disapproving Proposed Rulemaking, “Radiological Criteria for Controlling the Disposition of Solid Materials”; see also Staff Requirements - SECY-05-0054 - Proposed Rule: Radiological Criteria for Controlling the Disposition of Solid Materials, June 1, 2005,

ML051520185: “The Commission has disapproved publication of this proposed rule at this time. The Commission’s decision is based on the fact that the Agency is currently faced with several high priority and complex tasks, that the current approach to review specific cases on an individual basis is fully protective of public health and safety, and that the immediate need for this rule has changed due to the shift in timing for reactor decommissioning. As such, the Commission is deferring this rulemaking for the time being.” On February 22, 2018, NRC held a workshop in Rockville, MD, to discuss a scoping study on “Very Low-Level Waste.” See NRC meeting announcement, ML18040B304. Diane D’Arrigo of the Nuclear Information and Resource Service made detailed comments criticizing any such VLLW effort and submitted written comments. See transcript of the Rockville workshop (ML18068A075) and the NIRS written comments on the proposed scoping study, dated May 15, 2018. See also, D’Arrigo PowerPoint presentation “VLLW Radioactive Waste Equals Very Large Loophole Waste” delivered at NRC Regulatory Information Conference, March 13, 2018. The idea of a scoping study on VLLW was abandoned and no such study was conducted.

¹⁶ NRC Proposed VLLW Rulemaking, 85 Fed. Reg. 13,077

*consider approval of requests for specific exemptions for the purpose of disposal if they are for the disposal of very low-level radioactive waste by land burial. Therefore, **the NRC's intent is that this interpretive rule will allow licensees to transfer very low-level radioactive waste to exempt persons for the purpose of disposal by land burial.** The NRC is requesting comment on this proposed interpretive rule.*

emphasis added

NRDC *et al.* comment:

The NRC's proposal is not an "interpretive rule," and is barred by existing NRC regulations detailing requirements for licensed land burial of LLRW. 10 CFR §61.3.

As we describe in detail below, what NRC has proposed is *not* an "interpretive rule," despite its claim to the contrary. By allowing licensed LLRW to depart NRC regulatory standards and instead be managed and disposed of by "exempt recipients" is, without question, a substantive, legislative rule that alters the rights and duties of many parties. When invoked, this change could create extraordinary new impacts of burying LLRW in unlicensed land disposal in as yet undetermined communities across the country. Indeed, this is seemingly a backhanded effort to rescind 10 CFR §61.3, which requires a license to dispose of LLRW by land burial that meets the detailed requirements for such a facility set forth in the rest of 10 CFR Part 61. Mischaracterizing a substantive regulation change, indeed one of great significance, as a mere "interpretive rule," violates APA requirements. *NRDC v. Wheeler*, 955 F.3d 68, 83 (D.C. Cir. 2020) ("An interpretive rule, instead of creating legal effects, thus puts the public on notice of pre-existing legal obligations or rights."). That is not what has happened here. The NRC's proposal precisely deregulates the disposal path for some sizeable but as yet undetermined set of LLRW, something accomplished only via a legislative rulemaking.

NRC's statement of intent reverses decades of its own consistent interpretation of its regulations and, once finalized, would allow exemptions from a host of protective requirements for the specific purpose of land disposal of LLRW in facilities with no license. The regulations NRC now wishes to allow exemptions under for "the purpose of disposal by land" do not even cover land disposal of waste. Exemptions to those specific regulations could not allow such unlicensed land disposal, even if the reinterpretation were legally permitted. But it is not. Furthermore, NRC has made no showing of why its longstanding interpretation was wrong but instead is arbitrarily and capriciously waving a magic wand to turn its prior interpretation on its head.

Notably, NRC does not claim to try it has reinterpreted 10 CFR §61.3 (License Required)—nor has it even mentioned the provision in the proposal. As indicated above, 10 CFR §61.3 directly prohibits what NRC is attempting to do—allowing LLRW to be received for land burial without a Part 61 license or an exception pursuant to 10 CFR §61.6 (Exemptions). The NRC Federal Register notice, however, is explicit that the proposal does not cover 10 CFR §61.6: "this interpretive rule would not apply to exemptions issued under § 61.6, because no provision in Part 61 permits the transfer of licensed material to exempt persons." 85 Fed. Reg. at 13077.

The proposal is not an “interpretive rule,” and is barred by 10 CFR §61.3. It is a brazen attempt to deregulate most, if not all, LLRW and rescind the detailed requirements for licensed land burial for such wastes, without actually rescinding it. In the process, numerous laws are violated.

IV. Specific Comments & NRC’s Questions

We turn to addressing the specific text of the proposed rule and the numbered items on which NRC specifically seeks comments. As we have made clear throughout this comment, the proposal is not an “interpretive rule,” would violate existing regulations and statutes, and would pose a significant threat to public health and the environment.

NRC writes:

Background

The NRC's regulations in Title 10 of the Code of Federal Regulations (10 CFR) Part 20, Subpart K, “Waste Disposal,” govern the disposal of licensed material by NRC licensees.

NRDC *et al.* comment:

This statement is misleading by its omissions—NRC’s primary, and detailed, regulations for the vast majority of its LLWR disposal are found, as discussed above, in 10 CFR Part 61. The omission is at the heart of the failure of this proposal, because one cannot rescind Part 61 via an interpretive rulemaking addressing only the guidance of how the agency purports to interpret a particular subsection found in Part 20 radiation protection standards.

NRC writes:

Section 20.2001 provides the general requirements for disposal, and paragraph (a) requires that a licensee only dispose of licensed material using the methods listed in that paragraph. The authorized method of disposal listed in paragraph (a)(1) is “transfer to an authorized recipient as provided in § 20.2006 or in the regulations in parts 30, 40, 60, 61, 63, 70, and 72 of this chapter.”

NRDC *et al.* comment:

NRC is not wrong when it initially asserts that §20.2001 identifies acceptable methods by which a licensee may dispense with licensed material it possesses. Subsection 20.2001(a) directs that it may transfer the licensed material to another party *authorized* to possess licensed radioactive material, pursuant to the code parts identified, in particular, parts 30, 40, and 70. But NRC’s description fails to reference paragraph (b) of §20.2001, which states that a person must be specifically licensed to receive waste containing licensed material from other persons for, among other purposes, treatment prior to disposal, incineration, decay-in-storage, or *land burial*.

Reading §20.2001(a) and (b) together, as one must, it is plain that if a licensee wishes to permanently dispose of the material by land burial, it must transfer it to a licensed Part 61 LLRW

disposal site.¹⁷ See §61.3 (explaining that no person may dispose of LLRW by land disposal except pursuant to a license issued under Part 61). Further, §20.2006, which governs the transfer for disposal and manifests, refers only to “licensed” disposal facilities.¹⁸ NRC’s interpretation ignoring §2001(b) runs afoul of well-established law. See *Connecticut Nat. Bank v. Germain*, 503 U.S. 249, 253–54 (1992) (applying the “one, cardinal canon before all others,” i.e., considering the regulatory language for its plain meaning). If the language on its face is unambiguous and “uncertainty does not exist, . . . [t]he regulation then just means what it means—and the court must give it effect, as the court would any law.” *Kisor v. Wilkie*, 139 S. Ct. 2400, 2415 (2019). It is not just every word that must be given effect, but every “clause and word” as well. *United States v. Menasche*, 348 U.S. 528, 538–39 (1955).

An agency may not construe a regulation “in a way that negates its plain text,” but that is exactly what the NRC has done. *Honeycutt v. United States*, 137 S. Ct. 1626, 1635 n.2 (2017); see also *Nat’l Ass’n of Home Builders*, 551 U.S. at 668–69 (court cannot interpret a regulation to render part of it surplusage); *Gardebring v. Jenkins*, 485 U.S. 415, 430 (1988) (court should reject agency’s interpretation of its own regulation in favor of an alternative if that alternative “is compelled by the regulation’s plain language”). The NRC, by ignoring §2001(b), in essence, writes it out of the regulations. Indeed, the same could be said for the proposed rule’s treatment of §20.2006(a)-(e). This interpretation violates the plain language rule and would renders entire subsections of regulatory requirements surplusage.

NRC writes:

Parts 30, 40, and 70 of 10 CFR contain provisions that authorize the transfer of material to exempt persons. Specifically, §§ 30.41(b)(3)-(b)(4), 40.51(b)(3)-(b)(4), and 70.42(b)(3)-(b)(4) each provide that “[e]xcept as otherwise provided in his license . . . any licensee may transfer [byproduct, source, or special nuclear] material: [t]o any person exempt from the licensing requirements of the Act and regulations in this part, to the extent permitted under such exemption; [or] [t]o any person in an Agreement State, subject to the jurisdiction of that State, who has been exempted from the licensing requirements and regulations of that State, to the extent permitted under such exemption.”

¹⁷ The regulatory scheme set up by Part 20’s Subpart K (Waste Disposal) is straightforward and provides no exemption process such as the NRC contemplates here. §20.2001(a)(1) allows transfer to authorized recipient; it may also dispose of certain wastes by storage-to-decay [§20.2001(a)(2)], release in effluents within the limits set in §20.1301 [§20.2001(a)(3)], release to sewers or incineration [§§20.2001(a)(4), 20.2003, 20.2004]. And it may request case-by-case approval for an alternative method of disposal other than land burial or the other releases described above [§§20.2001.(4) and 20.2002]. §2005 addresses disposal for specific wastes not at issue in this proposal; and §20.2006, as noted above, sets the manifest and tracking requirements for land disposal, with direct reference to Part 61 requirements (“(a) The requirements of this section and appendix G to 10 CFR Part 20 are designed to—(1) Control transfers of low-level radioactive waste by any waste generator, waste collector, or waste processor licensee, as defined in this part, who ships low-level waste either directly, or indirectly through a waste collector or waste processor, to a licensed low-level waste land disposal facility (as defined in Part 61 of this chapter)”).

¹⁸ See 10 C.F.R. § 20.2006(a)(1), (b), (e).

NRDC *et al.* comment:

Parts 30, 40, and 70 cover the *possession and use* of byproduct, source, and special nuclear material and, except in the instance of Part 40's treatment of uranium mill tailings (§40.27), they do not address the land burial of those materials.¹⁹ Rather, an exemption to the requirement that transfer of materials be to a licensed recipient granted under any of these Parts, even were it allowable, would not permit what NRC says is its intent with this proposal: to “allow licensees to transfer very low-level radioactive waste to exempt persons *for the purpose of disposal by land burial.*” Since Parts 30, 40 and 70 do not govern land disposal of LLRW, exemptions to the requirements found in these parts cannot create an exemption to the Part 61 requirement that land disposal of LLRW be at a site licensed pursuant to Part 61 for such disposal.

NRC writes:

The NRC's guidance on § 20.2001 states that the transfer of material to exempt persons is not an authorized method of disposal. This guidance is contained in NUREG-1736, “Consolidated Guidance: 10 CFR part 20—Standards for Protection Against Radiation,” Section 3.20.2001. This guidance explains that an “authorized recipient is a person or an organization licensed to possess the material being transferred.”

NRDC *et al.* comment:

The longstanding NRC interpretation is correct: transfer of licensed material to exempt persons *is not an authorized method of disposal.* An authorized recipient for purposes of land disposal is only a person or organization licensed to receive such material for such disposal. This is made clear both in §20.2001(b) and §61.3. There is a clear and unmistakable policy reason for this prohibition. Specifically, disposal of radioactive waste of any kind is of grave public concern and should only be done according to strict, protective requirements. These requirements are found in the statutory and regulatory regimes for land disposal of LLRW described *supra* in the background section of these comments. Again, while in another forum we might suggest that Part 61 standards should be strengthened, ignoring them altogether and providing exemptions that allow for waste to be disposed of outside of their requirements is unacceptable.

NRC writes:

With respect to exemptions, the guidance explains that “[e]xemption of certain types, quantities, or concentrations of materials from the licensing requirements applies to the initial decision of whether or not the material should be licensed. However, once licensed, no quantity of that material, however small, is exempt from the applicable regulations in this section.”

¹⁹ 10 CFR Part 40 does cover disposal of uranium mill tailings (§40.27), but they are not LLRW. 10 CFR Part 30, 40 and 70 do have record-keeping requirements regarding shipments of LLRW for disposal elsewhere.

NRDC *et al.* comment:

Again, the NRC’s longstanding interpretation is correct. Indeed, even the NRC’s proposed new “interpretation” would have the radioactive waste in question somehow remain licensed, despite having been transferred to an exempt recipient, unlicensed and free from any Part 61 regulatory requirements.²⁰ Thus, NRC is now proposing to allow licensed radioactive waste to be disposed of at unlicensed land burial sites, despite the clear prohibitions in its regulations and its longstanding affirmation of them for the reasons described above.

NRC writes:

The proposed interpretive rule provided in this notice would modify the current guidance that states that § 20.2001 only allows the transfer of licensed material for disposal to licensed persons. The proposed interpretive rule would allow the transfer of licensed material to persons who hold specific exemptions, issued pursuant to §§ 30.11, 40.14, or 70.17, if those exemptions are for the purpose of disposal.

NRDC *et al.* comment:

Despite the clear prohibition against receipt of licensed material for land disposal by unlicensed persons, as set forth in both the regulations and NRC’s own longstanding interpretation of them, NRC is now proposing to turn those prohibitions on their head. The operative part of the NRC statement above is “if those exemptions are for **the purpose of disposal.**” (emphasis added). NRC’s proposed use of exemption provisions of §§30.11, 40.14, and 70.17 is irrelevant since those sections of Parts 30, 40, and 70 cover only possession and use of radioactive material—but do not cover land disposal of LLRW. Exemptions to those Parts cannot provide exemption from the rules in Part 61 requiring a license for receipt of such waste “for the purpose of disposal.”

Without explanation or any attempt whatsoever to describe the potential universe of both the waste and potential “exempt” disposal operators contemplated under this action, we can only surmise NRC is attempting to permanently deregulate a sizable majority of radioactive waste from civilian reactors (other than spent nuclear fuel). And the NRC is doing so under the cover of the coronavirus pandemic, trying to usher in an extraordinary elimination of the rules about radioactive waste disposal with no environmental review and no formal proposed changes to its regulations.

First, regarding the universe of waste contemplated by this rule, NRC admits that the term “very low-level waste” (VLLW), the waste it says is its “intent” to deregulate, has no statutory or regulatory definition, a problem we will discuss later. NRC says that it intends the term to apply

²⁰ See email from Marlayna Doell, Decommissioning Project Manager, NMSS/DUWP/LLWPB at NRC to Diane D’Arrigo, Radioactive Waste Project Director at the Nuclear Information and Resource Service, June 9, 2020: “The VLLW does remain licensed, although the disposal facility would have an exemption from needing its own license to possess the waste material. The original licensee for the material would continue to be responsible for the safe disposal of the VLLW, under the requirements of Part 20.”

to the lower portion of Class A waste, without even defining what “lower” means.²¹ Class A waste currently represents 96% of LLRW nationally, according to the NRC.²² Because of recent relaxing of NRC rules about averaging LLRW concentrations in the updated NRC *Branch Technical Position on Concentration Averaging and Encapsulation*, it is now estimated that amounts of any kinds of Class B and C LLRW could go down to essentially zero, because they would all be grouped in as Class A.²³ So, just deregulating the lower concentration range of Class A waste could in fact amount to deregulating the majority of LLRW.

Indeed, in a 2017 National Academy of Sciences Proceedings on LLRW, it was estimated that VLLW, if such a category were created, would make up 80% of decommissioning wastes.²⁴ Decommissioning wastes will, in the years ahead, make up the great bulk of LLRW from reactors. Energy Solutions’ preliminary estimates are that 59% of the decommissioning waste from San Onofre and 65% of such wastes from Fort Calhoun would be VLLW.²⁵ Thus, even were NRC to restrict the proposed deregulation to the lower portion of Class A waste—and there is nothing legally binding in its proposal to limit the deregulation thereto—the majority of LLRW, and perhaps as much as 80% or more of it, would be deregulated.

Furthermore, the actual proposal could result in essentially all commercial LLRW being allowed to go to unlicensed dumps. That is because, as explained in greater detail below, NRC is proposing to indirectly define VLLW as all LLRW that collectively is estimated by the landfill operated to produce no more than 25 millirem a year effective dose equivalent (EDE). Under the current regulations, a licensed LLRW disposal facility that is permitted to take all classes of LLRW is limited to 25 millirem whole body, 75 millirem to the thyroid, and 25 millirem to any other critical organ per year. EPA has said that this 25/75/25 standard is equivalent to 10 millirem EDE. Therefore, **under the NRC proposal an unlicensed site could actually take everything that a licensed site can, plus more.**

Second, NRC provides no analysis or clarity on the potential “exempt” recipients of this waste for burial via land disposal. NRC has publicly suggested that under the proposed VLLW rule, once NRC grants an entity an exemption to dispose of radioactive waste without a license, the NRC will have no continued oversight or regulatory authority over the radioactive waste or the

²¹ Low-level radioactive waste is currently divided into three classes: Class A, B, and C. (10 CFR §61.55 Waste Classification) For wastes containing only specified long-lived radionuclides, it is Class A if the concentrations are below 10% of the value in Table 1, it is Class A, between 10% and 100% of the Table 1 values it is Class C. 10 CFR 61.55(a)(3) If there are only specified short-lived radionuclides, and the concentrations do not exceed the values in Columns 1, 2, or 3 of Table 2. the waste is Class A, B, or C respectively. [10 CFR §61.55(a)4]. If the waste consists of radionuclides in neither Table, the waste is classified as Class A, no matter the concentration. *ibid.* There is also a grouping called Greater Than Class C which is generally not suitable for disposal at a Part 61 LLRW land disposal site. [§§61.55(a)(2)(iv), (3)(iii) and 4(iv)].

²² U.S. NRC, “Waste classification (classes of waste),” “Page Last Reviewed/Updated Tuesday, June 30, 2020” <https://www.nrc.gov/reading-rm/basic-ref/glossary/waste-classification-classes-of-waste.html> last accessed July 15, 2020.

²³ National Academies of Sciences, Engineering, and Medicine 2017. Low-Level Radioactive Waste Management and Disposition: Proceedings of a Workshop, Washington, DC: The National Academies Press, pp.18,27. <https://doi.org/10.17226/24715>.

²⁴ *ibid.*, p.19.

²⁵ Energy Solutions, Utah Clean Transfer Cell Permit Application, April 10, 2020, p. 1.

facility that receives it.²⁶ It follows that RCRA titled landfills might become exempt recipients of this waste and thus potential disposal sites. Indeed, most (save for radioactive waste) land disposal of waste in this country is done under the auspices RCRA. But as the environmental community, industry and NRC are keenly aware, RCRA specifically exempts radioactive source, special and byproduct material from its statutory and regulatory scheme. 42 U.S.C. §6903(27). Bluntly, EPA has no authority over LLRW disposal sites. Once “VLLW” has been jettisoned from the protections of Part 61 requirements, RCRA protections may be expressly unavailable and proscribed. In creating such a regulatory black hole, NRC has failed to even analyze any of the potential exempt recipients of the waste for land burial, how (whomever they might be) they might operate within the regulatory black hole, whether it be an analysis of the viability of RCRA protections that may not apply or some unknown set of criteria, as yet to be determined by an unknown responsible party. Nor does NRC examine in any fashion how its proposed rule is to interact with (and not flatly violate) the requirements of RCRA, and the agency fails to explain what happens to EPA’s jurisdiction over those sites.

For these reasons NRC’s proposed rule is arbitrary, capricious, and contrary to law. NRC has failed to provide any support whatsoever for this proposal, and certainly nothing that could explain the regulatory black hole of no regulatory and public health protections for a vast amount of licensed LLRW. *See Motor Vehicle Mfrs. Assn. of United States, Inc. State Farm Mt. Automobile Ins. Co.*, 463 U.S. 29, 43 (1983) (“Nevertheless, the agency must examine the relevant data and articulate a satisfactory explanation for its action including a “rational connection between the facts found and the choice made;” citing *Burlington Truck Lines v. United States*, 371 U.S. 156, 168, (1962)). Further, the agency has not even commenced a discussion that could support a reasoned explanation for its wholesale reversal of policy concerning the regulation of radioactive waste disposal.²⁷

Proposed Interpretive Rule

NRC writes:

Pursuant to § 20.2001(a)(1), licensees may dispose of licensed material by transfer, in accordance with §§ 30.41(b)(3)–(b)(4), 40.51(b)(3)–(b)(4), and 70.42(b)(3)–(b)(4), to persons who hold specific exemptions issued pursuant to §§ 30.11, 40.14, and 70.17 for the purpose of disposal. This interpretive rule would only apply to persons who hold specific exemptions from the licensing requirements of the Atomic Energy Act and the regulations in Parts 30, 40, or 70.

²⁶ Statement by Chris McKenney, Branch Chief for the Risk and Technical Analysis Branch, Division of Decommissioning, Uranium Recovery, and Waste Programs, Official Transcript of Proceedings: “Category 3 Meeting on Draft Interpretive Rule for Very Low-level Waste (VLLW) Disposal Activities,” March 31, 2020, ML20112F441, p. 12.

²⁷ *Cf. Physicians For Social Responsibility, et al., v. Wheeler*, 956 F.3d 634, 647 (D.C. Cir. 2020) (“core principles of administrative law dictate that “an agency changing its course must supply a reasoned analysis indicating that prior policies and standards are being deliberately changed, not casually ignored,” *Lone Mountain Processing, Inc. v. Secretary of Labor*, 709 F.3d 1161, 1164 (D.C. Cir. 2013) (emphasis added) (internal quotation marks omitted). That “analysis” is entirely missing from the Directive and its accompanying Memorandum. An agency’s wholesale failure to address “past practice and formal policies regarding [an issue], let alone to explain its reversal of course ... [is] arbitrary and capricious.” *American Wild Horse Preservation Campaign v. Perdue*, 873 F.3d 914, 927 (D.C. Cir. 2017)).”

The basis for this limitation is that Parts 30, 40, and 70 are the only parts listed in § 20.2001(a)(1) that contain provisions, namely §§ 30.41, 40.51, and 70.42, that explicitly permit the transfer of licensed material to exempt persons. Therefore, this interpretive rule would not apply to exemptions issued under other parts of 10 CFR. For example, this interpretive rule would not apply to exemptions issued under § 61.6, because no provision in Part 61 permits the transfer of licensed material to exempt persons.

NRDC *et al* comments:

We have previously explained that 10 CFR 61.3 [and 20.2001(b)] require a license to receive LLRW for land disposal and that granting exemptions via 10 CFR §§30.41, 40.51, and 70.42 cannot override those requirements, since Parts 30, 40 and 70 do not cover LLRW land disposal. Part 61 does. But, critically, as the NRC states above, “this interpretive rule would not apply to exemptions issued under §61.6, because no provision in Part 61 permits the transfer of licensed material to exempt persons.” Indeed, no provision in Part 61 permits such a transfer, and for NRC to attempt a backhanded reversal of long-established radioactive waste disposal policy contravenes the AEA’s entire statutory and regulatory scheme described throughout these comments. Further, the agency finds itself at odds with the APA via its failure to explain its wholesale policy reversal. NRC may not construe a regulation “in a way that negates its plain text,” *Honeycutt*, 137 S. Ct. 1635 n.2; *Nat’l Ass’n of Home Builders*, 551 U.S. at 668–69 (court cannot interpret a regulation to render part of it surplusage); *Gardebring*, 485 U.S. 430 (court should reject agency’s interpretation of its own statute in favor of an alternative if that alternative “is compelled by the regulation’s plain language”).

NRC writes:

This interpretive rule would also only apply to the transfer of licensed material to persons who hold specific exemptions for disposal because §§ 30.41, 40.51, and 70.42 only permit transfer to exempt persons “to the extent permitted under such exemption.” The NRC’s regulations contain several regulatory exemption provisions, for example, §§ 30.14, “Exempt concentrations,” and 30.18, “Exempt quantities.” These provisions exempt persons from the requirement to obtain a license to receive, possess, use, transfer, own, or acquire certain material. However, these provisions do not permit the exempt person to dispose of licensed material. In other words, most regulatory provisions that exempt persons from the requirement to obtain a license to possess or use material do not authorize that exempt person to receive licensed material from others and then dispose of that material. Under this interpretation, such an exempt person must hold a specific exemption for possession and disposal in order to be authorized to dispose of that material. The NRC may grant specific exemptions for disposal in accordance with the “Specific exemption” provisions in §§ 30.11, 40.14, and 70.17. The section in this notice titled “Specific Exemptions for Disposal” explains the criteria that the NRC will use to review applications for specific exemptions for the purpose of disposal.

NRDC *et al* comments:

As the NRC says in this passage, “Most regulatory provisions that exempt persons from the requirement to obtain a license to possess or use material do not authorize that exempt person to

receive licensed material from others and then dispose of that material.” Indeed, the provisions in §§ 30.11, 40.14, and 70.17 similarly don’t authorize an exempt person to receive licensed materials for land disposal. As indicated earlier, land disposal of radioactive is not regulated by Parts 30, 40, and 70—it is expressly regulated by Part 61. NRC’s attempt to obviate Part 61 requirements by an “interpretive rulemaking” dealing with Parts 30, 40, and 70 are arbitrary, capricious, and not in accordance with law.

NRC writes:

This interpretive rule would not supplant any disposal method currently authorized under the NRC’s regulations. Rather, this interpretive rule would modify the guidance in NUREG–1736 that states that licensees may only dispose of licensed material under § 20.2001(a)(1) by transferring it to licensed persons. By modifying the guidance in this way, the interpretive rule describes a method by which licensees could dispose of licensed material—by transfer to persons who hold specific exemptions for the purpose of disposal.

NRDC *et al.* comment:

The assertion that this “interpretive rule” wouldn’t supplant any disposal method currently authorized under NRC regulations is disingenuous. Clearly, the rights and duties of a host of parties are altered. As indicated above, the great majority of LLRW, and perhaps almost all of it, would cease to be required to be disposed of according to the detailed disposal methods set forth in Part 61. If a nuclear waste generator can send its LLRW to a regular garbage dump,²⁸ designed for rotting cabbages and discarded milk cartons but not for plutonium-239, cesium-137, or strontium-90, with a tipping fee a fraction of that required at a licensed LLRW site, no one will be sending such radioactive wastes to the sites licensed and designed to handle them. Similarly, no waste disposal entity would spend the significant extra money to operate a licensed LLRW site that meets Part 61 criteria when it could take most, if not all that waste in a regular landfill neither so licensed or designed.

Current guidance in NUREG-1736 accurately states the regulations that bar transfer of LLRW for land disposal to unlicensed for such disposal entities. NRC presents no basis for modifying this guidance, and thus, any attempt to do so would violate the law. But even if the agency altered that one sentence in the guidance, it cannot change the express and clear requirements found in the statute and regulations – specifically the requirements found in Parts 20 and 61. If the agency wishes to attempt to alter those regulatory requirements to deregulate vast portions of LLRW, it is free to undertake such an unwise venture. But it cannot do so via the back door interpretation attempted here and the agency should withdraw this notice.

²⁸ See discussion, *supra* at 13, where it is by no means clear that a RCRA permitted municipal waste landfill would have any authority to accept such waste. Nor can NRC direct EPA or any delegated State program under RCRA to accept such waste.

NRC writes:

In accordance with §§ 30.41(b)(4), 40.51(b)(4), and 70.42(b)(4), this interpretive rule would permit NRC licensees to transfer licensed materials to persons who hold specific exemptions for disposal issued by Agreement States as well. Like the NRC, Agreement States have the authority to exempt persons from the requirement to hold a license when doing so continues to adequately protect the public health and safety from radiation hazards. The NRC recognizes that Agreement States' exemptions may not be titled "exemption" or be in the same form as NRC exemptions. Agreement States' regulatory approvals might be exemptions or be in another form, such as an approval letter. This is due, in part, to the fact that the exemption provisions in §§ 30.11, 40.14, and 70.17 are category D compatibility regulations, which Agreement States are not required to adopt for purposes of compatibility. Where Agreement States have exercised their exemption authority to authorize persons who do not hold a license to receive and dispose of licensed material, this interpretive rule contemplates the transfer of licensed material to those persons for disposal.

NRDC *et al.* comment:

Under the AEA, the Commission can enter into agreements with states whereby the NRC relinquishes authority over certain arenas of radioactive materials regulation to states. "Agreement States" are generally required to have regulations that are "compatible" with the NRC's, although different NRC regulations have different "Compatibility Categories." Some Categories (A and B) require essentially identical regulations; under Category C, state regulations merely must be consistent with the "essential objectives" of NRC program but can be more protective; and for Category D, the Agreement State has the flexibility to choose whether to adopt the NRC program elements, but if adopted, they should be "comparable" to those of NRC.²⁹

Along with the regulatory black hole described above, NRC's deregulatory effort here guarantees the prospect of substantial confusion among Agreement States. By asserting that some of the provisions being reinterpreted are Compatibility Category D, it is not clear if NRC is saying that states could adopt deregulation policies that allow for even higher radiation doses to the public from unregulated dumps than the NRC says it is itself considering. Furthermore, since the guidance that is being proposed to be changed is guidance for 10 CFR 20 provisions that are Category C, it is not clear how NRC can claim that its interpretive rule is Category D.

Additionally, when the Congress rescinded NRC's previous Below Regulatory Concern policies in the Energy Policy Act of 1992, it also included a new Sec. 276 of the AEA, *State Authority To Regulate Radiation Below Level Of Regulatory Concern Of Nuclear Regulatory Commission*, which states in pertinent part:

²⁹ USNRC Management Directive 5.9, *Adequacy and Compatibility of Program Elements for Agreement State Programs*, ML18081A070, April 26, 2018

(a) IN GENERAL- No provision of this Act, or of the Low-Level Radioactive Waste Policy Act, may be construed to prohibit or otherwise restrict the authority of any State to regulate, on the basis of radiological hazard, the disposal or off-site incineration of low-level radioactive waste, if the Nuclear Regulatory Commission, after the date of the enactment of the Energy Policy Act of 1992 exempts such waste from regulation.

(b) RELATION TO OTHER STATE AUTHORITY- This section may not be construed to imply preemption of existing State authority. Except as expressly provided in subsection (a), this section may not be construed to confer on any State any additional authority to regulate activities licensed by the Nuclear Regulatory Commission.

Thus, were NRC to withdraw its regulatory authority over disposal of what it is calling VLLW and allow such disposal at sites without a license, the states within which those sites were located would be able to continue to regulate such radioactive material. This would create additional potential conflicts.

NRC writes:

Licensees must verify that the exemption holder is authorized to receive the licensed material for disposal. The transfer provisions in §§ 30.41, 40.51, and 70.42 only allow transfer “to the extent permitted under such exemption;” therefore, licensees must verify that the exemption authorizes receipt of the type, form, and quantity of material for disposal that the licensee plans to transfer. Licensees may perform this verification in the same manner that they would verify that a licensee is authorized to receive licensed material for disposal in accordance with §§ 30.41(c)–(d), 40.51(c)–(d), or 70.42(c)–(d). Licensees must maintain records of transfers of material for disposal in accordance with §§ 20.2108, 30.51, and 40.61.

NRDC *et al.* comment:

Telling licensees to verify that the potential exempt recipients receiving the licensed radioactive waste can do so “to the extent permitted under such exemption” is disingenuous, because under Part 61.3 they aren’t permitted to do so. There are very good reasons why land disposal of radioactive waste has a substantial history of meaningful requirements that include ensuring no leakage to the public, monitoring and institutional controls that must last for a long time. None of these long agreed upon safeguards will be required of the unlicensed, exempt recipients of the sizable majority of the nation’s radioactive waste volumes, nor can the licensee be the party to enforce any requirements under law. Further, NRC, without any explanation or analysis that would support how such “verifications” could happen, place burdens on their licensees to exact some measure of certainty from exempt recipients of LLRW for land disposal. There is no analysis of how it should happen, and any discussion of what might constitute “verification” amounts to the agency making suggestions, as opposed to meaningful requirements that protect human health and safety. Any verification process, which a licensee has no authority to conduct and is not found in any law or regulation, offers the public no protections and assurance that the

agency's "intent" in limiting the exemption to "very low-level" wastes and land burial is met. NRC's suggestions are not enforceable requirements and carry no imprimatur of law.³⁰

Discussion

NRC writes:

This interpretive rule would apply to persons who hold specific exemptions for disposal, as well as those that would transfer licensed material to such persons for disposal. Consistent with longstanding NRC guidance on disposal by land burial outside of facilities licensed under Part 61, such disposal would also apply only to exemptions for the disposal of very low-level waste (VLLW) by land burial. Therefore, the NRC's intent is that this interpretive rule would in effect only provide for the transfer of VLLW to persons who hold specific exemptions for disposal of VLLW by land burial.

NRDC *et al.* comment:

There is no "longstanding NRC guidance" for disposal of so-called "very low-level waste" by land burial outside of facilities licensed under Part 61. The guidance for 10 CFR 20.2002 approvals was only approved in April 2020—*after* the issuance of the Federal Register notice regarding the proposed "interpretive rule" in question. The notice does not provide any citation for the supposed "longstanding NRC guidance" on VLLW disposal by land burial in unlicensed sites.

In response to an email inquiry to NRC, NRC asserted that the guidance it referred to was found in NUREG-1757, "Consolidated Decommissioning Guidance," Volume 1, "Decommissioning Process for Materials Licensees," Sections 15.11 and 15.12.³¹ However, the term "very low-level waste" does not appear in those sections of that document, nor is there any discussion of disposal of VLLW by land burial in facilities not licensed under 10 CFR 61. In the same email, NRC also relied upon EPPAD (Environmental Protection and Performance Assessment

³⁰ It should also be considered that once the radioactive waste has entered this regulatory black hole – meaning no entity will be accountable for it – other long held concerns are presented. For example, we expect there to be substantial potential for the waste to be recirculated into the commercial waste stream as recycled material, particularly radioactive metals that could be sold as scrap, but also radioactive tools that could be sold, or contaminated concrete and asphalt that could be recycled. The potential for radioactive metal, for example, that enter the consumer metal supply chain could and will pose a serious risk to public health. Imagine belt buckles, zippers, children's toys, braces, etc. could be made from metal recycled from radioactive reactor parts. Furthermore, if the LLW proposal were approved, rescinding decades of NRC interpretation that a license is required to receive radioactive materials, holders of such licensed materials could request exemptions to allow recycling. The changed interpretation, that licenses aren't required to receive such materials, could open the door to such recycling, and widespread exposures to the public from recycled contaminated metals and other materials. NRC's claim that its current "intent" is to only use the exemptions under the reinterpretation for land disposal is non-binding, since the reinterpretation of the requirement for a license to receive radioactive materials would be lifted by this proposal, allowing transfer in the future not just for land disposal but also for recycling. Since disposal costs money but scrap metal can be sold, radioactive recycling would be allowable under this supposed reinterpretation of NRC's long-held prohibition on such unlicensed transfers.

³¹ Electronic mail exchange between NRC's Marlayna Doell and CBG's Daniel Hirsch, March 29, April 7, and April 8, 2020.

Directorate Operating Procedures) 3.5, “Review, Approval, and Documentation of Low-Activity Waste Disposals in Accordance with 10 CFR 20.2002 and 10 CFR 40.13(a).” However, that was merely a draft document; it did not become actual guidance until finalization in April of this year. There thus is no “longstanding NRC guidance” of the sort claimed in the interpretive rulemaking notice.

Based on the unsupported claim of longstanding NRC guidance, NRC asserts that its “intent” to only provide for the transfer of VLLW to persons with specific exemptions for disposal of VLLW by land burial. As indicated above, there is no legal mechanism through Parts 30, 40, or 70, as asserted by NRC in this proposal, to create exemptions for the purpose of disposal by land burial. As described now multiple times, there is also no analysis or cited to studies on the precise universe of potential recipients and their ability to safely receive and dispose of such waste (which is also an indeterminate universe as NRC admits there is no regulatory or statutory definition of “VLLW.”)

Additionally, NRC’s stated “intent” in the proposed rule is unenforceable. In the absence of specific language in regulations or statute, let alone any definition, NRC’s current supposed intent has no binding effect. Furthermore, if its new interpretation of its regulations were to take effect, overriding decades of prior interpretation, the NRC would be declaring it can grant exemptions to the requirement of disposal in a Part 61 facility. If that interpretation held, there is no legal restraint to only allow VLLW—whatever that is—in unlicensed disposal sites. If NRC were to successfully reinterpret its exemption authority under Parts 30, 40, and 70 to allow exemptions to the requirement of disposal in a licensed site, there would be no legal restraint for that interpretation to be restricted to only part of LLRW.

NRC writes:

The term VLLW is not defined by statute or in the NRC’s regulations. *The lowest portion of Class A waste has been referred to as VLLW. The NRC has described VLLW as waste that contains some residual radioactivity, including naturally occurring radionuclides, which may be safely disposed of in hazardous or municipal solid waste landfills. VLLW poses a small fraction of the hazard of waste at the Class A limits in Part 61. Currently, VLLW is typically disposed of either in a low level waste disposal facility licensed under Part 61 or equivalent Agreement State regulations, or in accordance with a § 20.2002 approval of proposed disposal procedures. The NRC plans to limit the specific exemptions it issues for disposal to VLLW, because the intent is that only the least hazardous level of waste may be disposed of in exempt facilities. Additionally, the NRC also plans to limit the specific exemptions it issues for disposal to land burial, because the intent of such disposal is to safely isolate waste from people and the environment.*

(emphasis in bold, underline added)

NRDC *et al.* comment:

This strikes at the heart of the issue. NRC is proposing to deregulate a portion of the radioactive waste stream it calls “VLLW,” **while admitting there is no statutory or regulatory definition of VLLW.** Again, we repeat that “low-level radioactive waste” (LLRW) itself is not defined by its hazard but rather by where it comes from, and NRC is proposing neither a sourced definition

or even quantitative measures or limits for what it calls VLLW. Rather, it simply a term of convenience and no prescriptive meaning, under which, as shown earlier, most if not all of licensed LLRW could be disposed in some sort of local garbage dump rather than, as the regulations require, in a specially designed and licensed LLRW disposal facility.

NRC makes a vague assertion of what its “intent is”—to have only the “least hazardous level of waste” go to unlicensed landfills. However, it does not propose a quantitative level for the hazard, with one exception that completely contradicts NRC’s repeated claims, nor does the agency cite to or provide any analysis of the precise universe of waste contemplated under this interpretive rule. NRC states that any radioactive waste can be disposed of in an unlicensed landfill under this proposal if the landfill operator estimates that the acceptance of such waste would result in doses below 25 millirem EDE. Since a licensed LLRW site can take all waste that would collectively produce doses of 25 millirem whole body, 75 millirem thyroid, and 25 millirem to any other critical organ (under 10 CFR§61.41), the radwaste that the unlicensed dump could take would be as much, if not more, than the licensed dump. VLLW therefore, based on the only numerical measure NRC has proposed of 25 millirem/year EDE, would encompass essentially all LLRW.

None of this can stand. It is well established that “one of the basic procedural requirements of administrative rulemaking is that an agency must give adequate reasons for its decisions. The agency “must examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made.” *Encino Motorcars, LLC. v. Navarro*, 136 S.Ct. 2117, 2125 (2016), *citing Motor Vehicle Mfrs. Assn. of United States, Inc. v. State Farm Mut. Automobile Ins. Co.*, 463 U.S. 29, 43, 103 S.Ct. 2856, 77 L.Ed.2d 443 (1983) (internal quotation marks omitted).

Separate from the APA and AEA violations, the National Environmental Policy Act (NEPA) requires that NRC must evaluate the environmental impacts of its decisions in an EIS. 42 U.S.C. § 4321, *et seq.*; 10 C.F.R. § 51.20(b)(2). And by proposing to exempt from protective licensing requirements the vast majority of the nation’s LLRW, NRC’s action is unequivocally a “major federal action” under NEPA and its associated regulations (40 C.F.R. § 1508.18(b)(1)), requiring the preparation of an environmental impact statement and a programmatic EIS. An EIS must address the environmental impacts of the proposed action and connected actions, including cumulative impacts. 10 C.F.R. § 51.71(d). It must also weigh the costs and benefits of a reasonable array of alternatives for avoiding or mitigating the consequences of the proposed action. *Id.*

This is not an interpretive rule and it violates the law in the myriad of ways described above.

NRC writes:

The NRC expects that this interpretive rule would provide an efficient means by which the NRC may issue specific exemptions for disposal, and by which licensees may transfer appropriate material to these exempt facilities. The NRC currently issues specific exemptions for the purpose of disposal in conjunction with individual § 20.2002 authorizations for offsite disposal of VLLW at unlicensed facilities. The NRC reviews licensees’ § 20.2002 requests for approval of

proposed alternate disposal procedures on a case-by-case basis. If a licensee proposes to dispose of the material in an unlicensed facility under NRC jurisdiction, then the NRC would issue the specific exemption to the disposal facility in conjunction with the issuance of a § 20.2002 approval to the licensee if the proposal is acceptable. If the NRC licensee proposes to dispose of the material in an unlicensed facility under Agreement State jurisdiction, then the Agreement State would separately authorize such disposal, whether by license, exemption, or other regulatory vehicle. For these types of offsite disposals, the § 20.2002 process remains an available disposal method, and the NRC will continue to review § 20.2002 disposal requests on a case-by-case basis, and issue specific exemptions in conjunction with these approvals for disposal facilities under NRC jurisdiction, as appropriate.

NRDC *et al.* comment:

NRC asserts this new approach would be an “efficient means” by which NRC could deregulate a large portion of the radioactive stream. But such a sizable deregulation of the nation’s radioactive waste does not comply with law, and it is not safe and protective. It would allow dangerous radioactive waste to be disposed of in numerous locations not designed or regulated so as to protect the public from radioactivity.

As we did above, we note that §20.2002 is designed for licensees to request case-by-case approvals for disposal of licensed materials by methods other than those specified in §20.2001 (i.e., other than land disposal, storage-by-decay, incineration, release to sewers). It is not designed for approving disposal by land disposal but in an unlicensed land disposal facility. 10 CFR §61.3 forbids that. That NRC may have nonetheless been violating its own regulations by misusing 10 CFR § 20.2002 for such a purpose goes beyond the focus of these comments, but is a concern.

Nonetheless, 10 CFR §20.2002 allows for an exemption process that is rarely used. NRC reports only 34 such exemptions were requested (and 27 granted) over 15 years, or less than two exemptions allowed per year.³² Here NRC is proposing to use an exemption process in Parts 30, 40, and 70 never before used and with no specific allowance for land disposal in those provisions, and not for the narrow case where special circumstances suggest the need for the basic rule to not be applied in that unique case. NRC is proposing, via exemption, to gut the basic radioactive waste land disposal regulations, leaving them as a tottering bit of debris. The proposed exemption is essentially as large as the rule.

NRC writes:

Specific Exemptions for Disposal

Consistent with longstanding NRC guidance on disposal by land burial outside of facilities licensed under Part 61, the NRC would only consider the issuance of a specific exemption for

³² Email from Patricia K. Holahan, Ph.D. Director, Division of Decommissioning, Uranium Recovery, and Waste Programs to Diane D’Arrigo, Radioactive Waste Project Director, June 12th, 2020, and attachment thereto: “10 CFR 20.2002 Alternative Disposal Requests Received by the NRC since 2005.”

VLLW disposal by land burial. The NRC would consider approval of such an exemption if the cumulative dose were to be maintained below 25 millirem per year. Agreement States may issue exemptions subject to different criteria, consistent with their adequate and compatible programs. Applicants should request exemptions pursuant to §§ 30.11, 40.14, or 70.17. Applications should explain why the requested exemption is authorized by law, will not endanger life or property or the common defense and security, and is otherwise in the public interest.

NRDC *et al.* comment:

As indicated earlier, there is no “longstanding NRC guidance on disposal by land burial outside of facilities licensed under Part 61.” Part 61 bars disposal by land burial outside of facilities licensed under it. Indeed, longstanding NRC guidance—NUREG-1736, the very guidance NRC now says it wants to revise—says such burial in a facility without an NRC license is not permitted.

One key to the entire proposal is the 25 millirem/year criteria for approving exempting a landfill from the requirements to have a radioactive materials license and to follow the requirements of 10 CFR Part 61. As indicated earlier, this is the only numerical criterion or definition NRC provides. To put this one criterion in perspective, 25 millirem/year is the equivalent roughly of a dozen medically unneeded chest X-rays a year, year after year, with no consent or even knowledge one is receiving them. If received over a lifetime at that dose, which the NRC proposal would allow, the excess cancer risk would be one in every 500 people getting a cancer, using the official risk estimates from EPA and the National Academy of Sciences for cancers per unit dose of radiation. This is 2000 times the goal for a Superfund site under CERCLA and 20 times the upper limit of EPA’s acceptable risk range. EPA has long found that such a dose limit would be non-protective of public health.

As discussed elsewhere, however, NRC is now using different units in its proposed dose limit for unlicensed disposal sites compared to those required for licensed disposal sites. Licensed sites cannot exceed doses to the public of 25 millirem per year to the whole body, 75 millirem to the thyroid gland, or 25 millirem to any other critical organ.³³ However, for this proposal NRC is using 25 millirem Total Effective Dose Equivalent.³⁴ This different measure has the effect of being about 2.5 times higher than the 25/75/25 limit for Part 61 facilities. Thus, the NRC proposal would allow an unlicensed site to give off 2.5 times more radiation to the public than a licensed site, and thus to also receive at least as much radioactive waste as a licensed disposal facility. NRC provides no substantive analysis of any of these impacts on workers, human health

³³ 10 CFR§61.41

³⁴ NRC in its proposal is not explicit about what it means by 25 millirem per year, but during the public webinar convened by NRC about its proposal on March 30, 2020, NRC staff stated that the standard was the same as that of its license termination rule, which is based on 25 millirem/year Total Effective Dose Equivalent. (10 CFR§20.1402) Chris McKenney, Branch Chief for the Risk and Technical Analysis Branch, Division of Decommissioning, Uranium Recovery, and Waste Programs, NRC. Official Transcript of Proceedings, Category 3 Meeting on Draft Interpretive Rule for Very Low-Level Waste Disposal Activities, March 30, 2020, p. 15.

or the environment. Nor does the agency provide any analysis of potential exempt recipients and where this undetermined portion of the nation's LLRW might ultimately find itself.

NRC writes:

Applications should include a safety analysis containing: (i) A description of the proposed method of land burial at the disposal facility (e.g., steps after arrival at the disposal facility to disposal in the ground); (ii) a description of the source term (i.e., radionuclide identification and concentration); (iii) a description of the proposed disposal site (e.g., name, location, and design and size of the disposal area including any unique features of the disposal facility); (iv) a discussion regarding the conceptual and mathematical models and parameters used in the applicant's dose assessment related to proposed disposal (e.g., site specific parameters and modeling data and results); and (v) site-specific dose assessments or sensitivity and uncertainty analyses when performing the dose assessments to estimate the radiological impacts to members of the public and ensure that the 25 millirem per year cumulative dose limit is not exceeded. The applicant should address the cumulative effects of multiple VLLW disposals, ensuring that the dose limit is not exceeded.

NRDC *et al.* comment:

The criteria offered above are not codified regulatory language and carry no imprimatur of law. They are merely suggestions and offer the public no protections and no assurance that the agency's "intent" in limiting the exemption to "very low-level" wastes and land burial can or will be met. Further, it's almost beside the point that the information that such an application to receive LLRW at an unlicensed site must contain is far less than that required for a license application. The ability to determine that such a facility will, over decades, meet the dose limits and not pose a risk to the public is essentially non-existent from such a paltry showing. Furthermore, NRC's practice in §20.2002 matters has been to keep secret both the models that applicants use to claim safety and the NRC's review thereof, declaring them to be "proprietary." This prevents full public scrutiny, even if there were public notice of a proposal, and thus makes close to non-existent the ability to avoid false or erroneous assertions of safety.³⁵

NRC writes:

VI. Backfit Considerations

The NRC staff considered whether the proposed interpretive rule would constitute a backfit. Backfitting occurs when the NRC imposes new or changed regulatory requirements or staff

³⁵ Such models and NRC's reviews of the applicant's models are generally shielded from public review and scrutiny. See e.g., WESTINGHOUSE ELECTRIC COMPANY LLC, "Copy of Letter from L. Camper to J. Weismann approving use of USEI SSDA for 10 CFR 20.2002 Alternate Disposal Authorization Requests," August 24, 2015, p. 2, ML15125A364. <https://adamswebsearch2.nrc.gov/webSearch2/view>, which declares that the Site-Specific Dose Assessment Methodology of an operator of a dumpsite not licensed to receive low-level radioactive waste who nonetheless wished to receive such waste and the NRC's Technical Evaluation Report (TER) of that model and its inputs "are considered proprietary and will not be available for public review." (While a second TER with key model information removed would be released, the actual model and TER would not be.)

interpretations of the regulations or requirements on nuclear power reactor licensees, certain nuclear power reactor applicants, or select nuclear material licensees. The backfitting requirements are in §§ 50.109, 70.76, 72.62, and 76.76. Provisions analogous to the backfitting requirements, referred to as issue finality provisions, are set forth in Part 52. The proposed interpretive rule is a non-mandatory, voluntary relaxation. The NRC licensee could continue to comply with the requirements of its current licensing basis or choose to adopt the alternative method of sending VLLW to a specifically exempted facility under §§ 30.11, 40.14, or 70.17. If a licensee chooses to adopt the alternative method of disposal, then it must comply with the applicable requirements. This is not backfitting because it is an additional available option that the licensee may choose to adopt.

NRDC *et al.* comment:

We have long opposed the backfitting rule, which creates barriers to changes to regulations that enhance public safety while facilitating proposals like this one that would increase dangers to public health.

NRC writes:

(1) This interpretive rule would authorize the transfer of licensed material to persons who hold specific exemptions for disposal without a case-by-case review and approval of the transfers. Do you think that case-by-case review and approval of these transfers is necessary?

NRDC *et al.* comment:

Yes, of course case-by-case reviews and approvals should occur if this dramatic change in nuclear waste disposal were to go forward despite our objections. Radioactive waste occurs in many forms, with different mixes of radionuclides and chemicals. Some chemicals, for example, include chelating compounds that would dramatically increase the mobility of radioactive materials in the environment, causing rapid migration into groundwater for example. NRC's failure to examine these matters would further increase the risk to public health that this proposed rule would unleash.

NRC writes:

(2) Transboundary transfer of VLLW associated with the approved disposal actions is an important consideration. What issues associated with transboundary transfer of VLLW should be considered with this interpretive rule?

NRDC *et al.* comment:

It is not clear what NRC means by "transboundary" transfers. Assuming that NRC is intending to refer to transfers of radioactive waste across both state and national boundaries for purposes of disposal in unlicensed disposal sites, there are indeed serious issues associated with the potential transfers.

For example, it's entirely unclear if NRC posits this proposal opening local municipal landfills to receiving radioactive waste shipped in from numerous countries around the world. Such an extraordinary environmental impact has not disclosed or discussed in the proposal.

Additionally, the proposal raises the question of radioactive waste being shipped to unlicensed sites in states where the state has had no say in the matter. If the municipal landfill is in a non-Agreement State, the proposal appears to contemplate forcing radioactive waste into that state's landfills without it having the ability to refuse, despite the fact that municipal landfills are state and local jurisdictions.

And as we described above (p. 13), the proposal is silent about how there will be any regulation of radioactive waste going to either RCRA Subtitle C or Subtitle D landfills, which specifically exempt coverage of radioactive materials. If NRC washes its hands of licensed nuclear material and that waste somehow finds its way into RCRA facilities (and while it is unclear how that can legally occur, NRC has describe no other option for land disposal), should there be a failure and a release of radioactivity, it is unclear who would have the authority, if any, to remedy the situation. NRC would have relinquished its regulatory authority, and EPA and the states would not have any express authority over radioactive materials either. It appears to be a deregulatory nightmare and the regulatory black hole described above.

NRC writes:

(3) 10 CFR 20.2006 states that “[a]ny licensee shipping radioactive waste intended for ultimate disposal at a licensed land disposal facility must document the information required on NRC’s Uniform Low-Level Radioactive Waste Manifest and transfer this recorded manifest information to the intended consignee in accordance with appendix G to 10 CFR part 20.” Should the exempt persons authorized to dispose of certain VLLW that would be considered § 20.2001 “authorized recipients” under this proposed interpretive rule be required to use Uniform Waste Manifests (consistent with § 20.2006) for waste transferred to the exempted disposal facility?

NRDC *et al.* comment:

Yes, manifests should be required, as they are now. The disposal facility will not know what it is receiving otherwise, and there will be almost no oversight of transportation. We note that in the recently approved 10 CFR §20.2002 guidance, NRC asserts on the one hand that VLLW is so harmless it can be disposed of in unlicensed municipal garbage dumps while on the other hand says the reason to allow it to go to unlicensed sites is because it is so dangerous that reducing the distance it must travel would reduce health risks.³⁶

³⁶ “Although these materials could be disposed in a low-level waste (LLW) disposal facility licensed under 10 CFR Part 61, use of alternative disposal procedures under § 20.2002 may reduce overall risk (e.g., risk associated with increased transportation distances and associated radiological and non-radiological impacts). US NRC, “Guidance for the Reviews of Proposed Disposal Procedures and Transfers of Radioactive Material Under 10 CFR 20.2002 and 10 CFR 40.13(a),” ML18296A068, April 2020, p. 2.

NRC writes:

(4) Are there any other criteria that the NRC should consider when it reviews a request for a specific exemption for the purpose of disposal?

NRDC *et al.* comment:

We reiterate that the entire proposal should be withdrawn. The only criteria NRC should consider when it reviews a request to receive radioactive waste for land disposal is whether the request meets the requirements of 10 CFR 61, which governs land disposal for radioactive waste.

NRC writes:

(5) The regulation in § 20.2001 is currently identified as a compatibility C regulation for purposes of Agreement State compatibility. In light of this proposed interpretive rule, does the compatibility designation raise issues that the NRC should consider?


NRDC *et al.* comment:

As indicated earlier, the NRC proposal carries with it the prospect of creating substantial confusion regarding Agreement States. By asserting that some of the provisions being reinterpreted are Compatibility Category D, it is not clear if NRC is saying that states could adopt deregulation policies that allow for even higher radiation doses to the public from unregulated dumps than the NRC says it is itself considering. Furthermore, since the guidance that is being proposed to be changed is guidance for 10 CFR 20 provisions that are Category C, it is not clear how NRC can claim that its interpretive rule is Category D.

Additionally, as discussed previously, when Congress rescinded NRC's previous Below Regulatory Concern policies in the Energy Policy Act of 1992, it also included a provision regarding state authority to regulate the disposal of any low-level radioactive waste that NRC might subsequently declare the disposal of which no longer requires an NRC license. This can create conflicts not addressed in the NRC VLLW proposal.

V. Conclusion

For the reasons described above, we urge NRC to withdraw this Federal Register Notice and commence work on improving health and safety protections for land disposal of low-level radioactive waste. We thank you for the opportunity to provide these comments and can be reached at the contact information below.



Geoffrey H. Fettus
Caroline Reiser
Natural Resources Defense Council
1152 15th St. NW, #300
Washington, D.C. 20005
(202) 289-2371
gfettus@nrdc.org



Daniel Hirsch
Taylor Altenbern
Committee to Bridge the Gap
P.O. Box 4
Ben Lomond, CA 95005
(831) 336-8003
DanielHirsch558@gmail.com



Robert Gould, M.D.
San Francisco Bay Physicians for
Social Responsibility
548 Market Street #90725
San Francisco, CA 94104
(415) 562-6726
rmgould1@yahoo.com



Denise Duffield
Physicians for Social Responsibility-
Los Angeles
617 S. Olive St., Ste. 1100
Los Angeles CA 90014
(310) 339-9676
dduffield@psr-la.org