



BRIDGING THE GAP BETWEEN
NUCLEAR DANGERS & A SAFE,
SUSTAINABLE FUTURE

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11 February 2013

The Honorable Steven Chu
Secretary
U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

via email to The.Secretary@hq.doe.gov and Scrap_PEAcomments@hq.doe.gov

Re: Opposition to Proposed Lifting of Suspension of Recycling Radioactively-Contaminated Metals into the Consumer Metal Supply (77FR73996)

Dear Secretary Chu:

We write to express our concern about your recent decision to propose reinstating the problematic policy of releasing without restrictions radioactively contaminated metals from the Department of Energy (DOE) nuclear complex, permitting their recycle into the consumer metal supply. Because of widespread concern about the potential public health impacts of exposing the public to unnecessary radiation, Bill Richardson, when he was DOE Secretary, suspended the practice, directing that new rules be established that would bar the release of metals with detectible radiation above background. That suspension has remained in place for a dozen years, but the new rules were never finalized, and you have now signed off instead on a recommendation to end the suspension and resume recycling contaminated metals. We believe that this would be a significant mistake from a public health protection standpoint and urge you to reconsider.

Your decision, if finalized, would, by its own terms, allow members of the public to be exposed to the equivalent of dozens of chest X-rays over their lifetimes from exposure to DOE nuclear waste, with no medical benefit and no informed consent. Physicians are careful to not order X-ray examinations unnecessarily because, as the National Academy of Sciences has repeatedly determined, all doses of radiation increase the risk of inducing cancers and leukemias as a result. Yet, to avoid the obligation of disposing of nuclear waste in authorized and appropriately designed disposal facilities, DOE proposes widespread exposure of the public by recycling this waste into the consumer metal supply. We think this would be misguided and violate the fundamental requirement to “do no harm.”

Background

Decades of secrecy and inadequate environmental practices resulted in severe pollution throughout the DOE nuclear complex. Its facilities are among the most contaminated sites in the world. Cleanup activities, however, have not always learned the lessons of past mistakes. In the late 1990s it was revealed, for example, that DOE was proposing to not dispose of contaminated metals from its Oak Ridge facility in appropriate disposal sites but rather to sell the material as scrap to enter consumer use. Shortly thereafter it was revealed that contaminated metals from DOE's Santa Susana Field Laboratory had already been shipped to a metal recycler and melted down into the consumer metal supply. These and other actions produced an outcry which led Secretary Richardson to suspend the practice, and then issue an order requiring new rules be established barring release of metals with detectable contamination above background. Subsequently, when public comment expressed concern about potential loopholes in the proposed rules and inadequate controls to assure that materials declared clean really were, he ordered that a Programmatic Environmental Impact Statement (PEIS) be performed, making that a condition for ending the moratorium on releasing clean metals from radiological areas. Secretary Richardson also set as conditions waiting for results of a National Academy of Sciences study and, for volumetrically contaminated materials at least, for NRC to establish rules.

NRC decided against issuing rules allowing release and recycling of contaminated metals. The NAS study concluded that there was such public concern about such a practice that it should not be approved unless there were significant public processes initiated to create a consensus on its acceptability. And no PEIS has ever been conducted.

Yet DOE now proposes ignoring all those past conditions and simply reviving the same old troubling policy of recycling contaminated metals, indeed, using 40-year-old standards that were never based on health considerations in the first place. As the NAS noted, those release criteria were established not based on risk but on the ready capability of field measurement instruments at the time—in other words, what was easy to measure 40 years ago, as opposed to what was arguably safe. But even by their own terms, as put forward by DOE in its Draft Programmatic Environmental Assessment (PEA), such standards pose an unacceptable and unnecessary health risk.

Discussion

DOE proposes to return to release criteria based on disintegrations per minute (dpm) per 100 square centimeters for different groupings of radionuclides. These come from Regulatory Guide 1.86 of the old Atomic Energy Commission—an agency that doesn't even exist any more—and were never intended to be used for release contaminated materials for recycling. As indicated above, the levels in Reg. Guide 1.86 have no health basis, but were purely based on what a hand-held instrument could easily see nearly half a century ago. DOE claims—but nowhere produces in the documents released an iota of proof that this is the case—that those levels would result in no more than 1 millirem per year (mr/yr) of exposure. Failure to provide any documentation supporting this claim, a claim which is demonstrably untrue for various radionuclides, is a fundamental defect in the Draft PEA.

An NRC report, Draft NUREG-1640, demonstrates that that claim is incorrect. For many isotopes, doses an order of magnitude higher are estimated. For example, cobalt-60 is estimated in that report to produce about 15 mr/yr at the dpm specified in Reg. Guide 1.86.

Furthermore, DOE makes clear that the limits it proposes returning to for free release apply to each consignment of material, and that there could thus be multiple amounts of contaminated material

released over the years, each supposedly producing 1 mr/yr of exposure. DOE concedes that doses would thus be some multiple of 1 mr/yr, but asserts that this would be OK because it would be unlikely to exceed 100 mr/yr. As indicated in the previous paragraph, because DOE has made no attempt in the PEA to demonstrate that these limits in fact would produce no more than 1 mr/yr individually, multiple shipments collectively could produce far more than 100 mr/yr.

But even if one merely focuses on the 1 mr/yr public exposure assertion by DOE for each shipment, this would be unacceptable from a public health standpoint. A single PA chest X-ray for medical purposes, for example, produces about 2 mr of exposure. Thus 1 mr/yr, allowed as it is year after year over one's lifetime, would, yield 70 mr, or about 35 chest X-rays. But there would be no medical benefit, no informed consent, only added risk with no commensurate health reason for taking on that risk.

Even if DOE were correct that the maximum dose was 1 mr/yr per shipment of contaminated material, that dose is at the upper end of what EPA considers acceptable for a Superfund site after cleanup. The official conversion for dose to risk, from EPA and from the NAS, is about 1.14×10^{-3} cancers per person-rem of exposure. 70 mr (1 mr/yr over a lifetime, as allowed under the DOE standard per contaminated group of metal released) thus increases cancer risk by about 10^{-4} , the upper end of the risk range EPA uses for all carcinogens. It aims for 10^{-6} risk and falls back to no higher than 10^{-4} if 10^{-6} for some reason can't be achieved.

But since multiple shipments, each at 1 mr/yr, are allowed under the proposed policy, producing up to 100 mr/yr collectively, one should note that 100 mr/yr produces about a one in a hundred risk. Do we really find it medically acceptable to give people radiation for no medical purpose and which will result in a cancer in, on average, every hundredth person exposed? We say no.

However, the actual situation in the DOE PEA and proposed policy is actually far worse than described above. While DOE claims that the radioactivity levels allowed under the DOE release criteria would result in no more than 1 mr/yr per shipment, footnote "e" to the release criteria table [Table A-1 Release Criteria for Surface Activity (dpm/100 cm²)] on p. 30 states that contaminated metals can be free released if the dose rate at 1 cm is no more than 1 millirad per hour for beta-gamma activity. For beta-gamma radiation, a millirad and a millirem are essentially interchangeable, so DOE's actual release table, rather than restricting doses to 1 millirem per year, are actually restricting it to 1 millirem per hour. Since there are 8760 hours in a year, DOE's actual dose limit is 8760 mr/yr, not 1 mr/yr, according to DOE's own table. (The dose at 1 cm is actually relevant, because metal recycling can result in metals being in intimate human contact, for example, earrings, belt buckles, zippers, dental braces, surgical implants, and so on.)

8760 mr/yr per shipment results in an increased risk of cancer such that over a lifetime of exposure, such a dose would cause a cancer in roughly two out of three people exposed. Even assuming one doesn't have a full-lifetime of exposure, the risk from doses that high is beyond defense from a public health standpoint.

Let us be clear: even were the claim in the beginning of the PEA accurate (and no technical basis for it is provided) that each shipment would result in doses no greater than 1 mr/yr, and even assuming only one shipment, not multiple ones as permitted under the proposed standard, 1 mr/yr is the equivalent of a medically unnecessary chest X-ray every other year of one's life. There is no justification for such an imposition on the American public.

DOE produces the radioactive waste. It contaminated these materials. It should dispose of them properly. The American public should not be made into a kind of cheap disposal receptacle for DOE's

radioactive waste.

If you insist on proceeding with this dangerous proposal, at minimum a Programmatic Environmental Impact Statement is required under NEPA (and as originally promised by DOE). This ill-advised proposal could have a significant impact on the human environment and thus triggers the requirement for an EIS.

Furthermore, the DOE proposal amounts to illegal rulemaking in violation of the Administrative Procedures Act (APA). The free-release standards, procedures, and authorization are found in a DOE Order, not a regulation in the Code of Federal Regulations. As U.S. District Judge Rafeedie found in *Committee to Bridge the Gap v. Department of Energy*, calling a DOE rule an Order rather than a regulation does not make it so and DOE must still comply with the APA.

We need to carefully limit public exposure to radiation to that which is unavoidable or is medically necessary, i.e., when the health benefit outweighs the health risk. Exposing members of the public to radiation, without their knowledge or consent, merely to avoid the trouble of properly disposing of radiation waste, is unwise at best from a public health standpoint. We urge you to maintain the ban on the practice of recycling contaminated metals that has been in place for the decade.

Sincerely,

/s/

Daniel Hirsch
President