

**Certified Mail - Return Receipt Requested**

January 16, 2007

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Washington, DC 20530-0001

SUBJECT: *Sixty-Day Notice of Intent to File Suit for Violations of the Safe Drinking Water Act.*

Dear Messrs. Johnson and Gonzales:

On behalf of the Institute for Energy and Environmental Research (“IEER”), I am writing to ask you to take immediate action to correct the U.S. Environmental Protection Agency’s (“EPA’s”) ongoing violation of Section 1412 of the Safe Drinking Water Act (“SDWA”), 42 U.S.C. § 300g-1(b)(9). Section 1412 requires that the EPA must review and revise, as appropriate, each national primary drinking water standard every six years. In violation of Section 1412, the EPA has exceeded the statutory time limit for revision of primary drinking water standards for radionuclides. The radionuclide standards, which EPA issued on December 7, 2000, should have been reviewed and revised by December 7, 2006. If you do not correct this violation within 60 days, we intend to file suit pursuant to Section 1449 of the SDWA, 42 U.S.C. § 300j-8.

**I. REQUIREMENTS OF THE SAFE DRINKING WATER ACT**

The purpose of the SWDA, 42 U.S.C. §§ 300f to 300j-26, is to “assure that water supply systems serving the public meet minimum national standards for protection of public health.” Safe Drinking Water Act, Legislative History, H.R. Rep. No. 93-1185 (1974), reprinted at 1974 U.S.C.C.A.N 6454. The Act thus authorizes the EPA to:

establish federal standards applicable [to public water supplies] for protection from harmful contaminants, and establish a joint federal-state system for assuring

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compliance with these standards and for protecting underground sources of drinking water.”

*Id.* at 6454-55.

Section 1412(b)(1)(A) of the SWDA requires the EPA to identify contaminants in public water supply systems that may have an adverse human health effect and for which regulation would present a “meaningful opportunity” for reduction of that health risk. 42 U.S.C. § 300g-1(b)(1)(A). For each of the contaminants identified under Section 1412(b)(1), Section 1412(b)(1)(E) requires EPA to establish maximum containment level goals (“MCLGs”) and maximum contaminant levels (“MCLs”). 42 U.S.C. § 300g-1(b)(1)(E).

Section 1412(b)(9) of the SDWA, 42 U.S.C. § 300g-1(b)(9) mandates that “the Administrator [of the EPA] shall, not less often than every 6 years, review and revise, as appropriate, each national primary drinking water regulation” promulgated under 42 U.S.C. § 300g-1. Successive regulations must maintain or provide for greater levels of protection of public health. *Id.*

## II. FACTUAL BACKGROUND

The EPA has a history of delay with respect to implementing the SDWA’s requirements for primary drinking water standards with respect to radionuclides. Although EPA issued partial permanent standards in 1976 (41 Fed. Reg. 28,402 (July 9, 1976)) and proposed further standards in 1991 (56 Fed. Reg. 33,050 (July 18, 1991)), it did not establish a complete set of final drinking water standards for radionuclides until 2000, after it was forced to do so by a court order in *Miller v. Browner*, Civ. No. 89-6328-HO. EPA published the regulations in the Federal Register on December 7, 2000, at 65 Fed. Reg. 76,708.

Both the 1976 regulations and the 2000 regulations establish an MCL of 15 picocuries per liter (“pCi/l”) for gross alpha particle activity excluding radon and uranium. 40 C.F.R. § 141.66(c), 65 Fed. Reg. at 76,748; 40 C.F.R. § 141.15, 41 Fed. Reg. at 28,404. All alpha-emitters are covered by the regulation, including man-made transuranics, *i.e.*, neptunium-237, plutonium-238, plutonium-239, plutonium-240, plutonium-242, americium-241, and americium-243. Separately, the 1976 and 2000 rules set a limit of 4 millirem/year to the most exposed organ for beta particle and photon radioactivity from man-made radionuclides in drinking water. 40 C.F.R. § 141.66(d), 65 Fed. Reg. at 76,748; 40 C.F.R. 141.16, 41 Fed. Reg. at 28,404. The limit of 4 millirem/year is based on the EPA’s assumption that radioactive fallout from nuclear weapons-testing, particularly from the beta- and photon-emitters strontium-90 and tritium, constitutes the

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greatest man-made contributor to radioactivity in public water supply systems. Proposed Rule, 40 Fed. Reg. 34,324 (August 14, 1975).

In addition, EPA assumed that the existing aggregate radiation dose from *all* man-made sources of radiation did not exceed 4 millirem/year:

Considering the sum of the deposited fallout radioactivity *and additional amounts due to effluents from other sources currently in existence*, the total dose equivalent from man-made radioactivity is not likely to result in a total body or organ dose to any individual that exceeds 4 millirem per year...

*Id.*, 40 Fed. Reg. at 34,325 (emphasis added). Thus, for example, EPA estimated that the dose equivalent to individual users of public water systems in some United States from radioactive fallout was in the range of 1 to 2 millirem/year, and that the dose equivalent from public water systems contaminated by effluents from the nuclear fuel cycle was only 0.5 mrem/year or less. 40 Fed. Reg. at 34,324.

In the preamble to the 1975 proposed rule, the EPA also made clear its intent to limit doses from future contamination by man-made radionuclides:

EPA recognizes that the national use of radionuclides in medicine and industry and the utilization of nuclear power to supply energy needs will unavoidably lead to some radioactivity entering the aquatic environment so that the quality of some surface waters is likely to decrease slightly in the future. *Even though the increase of radioactivity in drinking-water will normally be small, the Agency believes that the risk of future contamination warrants vigilance. It is the intent of the proposed monitoring and compliance requirements to provide a mechanism whereby the supplier of water can be cognizant of changes in the level of radioactivity in its water sources, so that the appropriate remedial measures may be taken.*

40 Fed. Reg. at 34,324 (emphasis added).

Further, the EPA explicitly declared that the intent was to limit future drinking water doses from man-made sources to 4 millirem per year, without limiting it to any particular subset of radionuclides:

The 4 millirem per year standard for man-made radioactivity was chosen on the basis of *avoiding undesirable future contamination* of public water supplies as a result of controllable human activities.<sup>1</sup>

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<sup>1</sup> In seeking to avoid “undesirable future contamination” the EPA distinguished “uncontrollable sources of radiation, such as geologic formations,” *i.e.*, natural sources, from industrial and medical sources, which “are controlled by a number of regulatory

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40 Fed. Reg. at 34,325 (emphasis added). Plutonium-239 and the long-lived transuranic alpha-emitting radionuclides, like beta and photon emitters in fallout, are man-made radionuclides that fall into the category of “undesirable future contamination.” In fact the beta and photon emitters in fallout were generated in large measure by the fissioning of plutonium-239 in the testing of nuclear weapons.

It is also clear from the EPA’s concentration limit of 15 pCi/l for gross alpha particle activity (excluding radon and uranium) that the EPA intended to limit radioactive emissions from man-made alpha emitters to 4 millirem/year. If one were to use dose assessment methods available in 1975 to estimate the radiation dose yielded by plutonium-239 in drinking water, even a concentration as high as the regulatory limit of 15 pCi/l would have yielded an estimated radiation dose falling within the EPA’s overall goal of maintaining radiation doses from man-made contributors below 4 millirem per year. For instance, applying the 1959 National Bureau of Standards Handbook “NBS 69” (EPA’s standard tool in the mid-1970’s for radiation dose assessments), the estimated radiation dose to a person who ingested 2 liters of drinking water contaminated with plutonium-239 at a concentration of 15 pCi/l would have been about 1.8 millirem per year to the bone, well within the 4 millirem/year limit. See Arjun Makhijani, *Bad to the Bone: Analysis of the Federal Maximum Contaminant Levels for Plutonium-239 and Other Alpha-Emitting Transuranic Radionuclides in Drinking Water, Section II.A* (August, 2005) (“*Bad to the Bone Report*”).

Since publication of NSB 69, however, the scientific understanding of plutonium and its behavior in the body has changed considerably. Recent analyses show that the radiation dose from a given concentration of man-made transuranics such as plutonium-239 in drinking water yields a radiation dose to the most exposed organ (the bone surface) that is approximately 100 times greater than estimated using the framework of NBS 69. See *Bad to the Bone, Section II.B*. The updated science has been evaluated and accepted by the EPA and published in Federal Guidance Reports numbers 11 and 13. See Federal Guidance Report 11, EPA 520/1-88-020, *Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors to Inhalation, Submersion, and Ingestion* (1988); Federal Guidance Report, 13, EPA 402-R-99-001, *Cancer Risk Coefficients for Exposure to Radionuclides* (September 1999) and the associated CD containing dose conversion factors, published in 2002. Therefore, EPA’s MCL of 15 picocuries per liter for gross alpha emitters is completely inadequate to maintain the radiation doses from man-made radionuclides to less than 4 millirem/year to any organ in the human body or to meet the EPA’s intent with respect to the protection of public health.

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authorities so that the build-up of man-made radioactivity in public water systems should be minimal.” 40 Fed. Reg. at 34,324-25. Plutonium and other man-made transuranics clearly fall into the category of industrial sources.

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Accordingly, on August 1, 2005, IEER submitted the *Bad to the Bone Report* to EPA with a request, supported by 21 other signatories, to reduce the MCL for long-lived alpha-emitting transuranic radionuclides by a factor of 100 from 15 picocuries per liter to 0.15 picocuries per liter. (Letter from Dr. Arjun Makhijani et al. to Cynthia Dougherty, August 1, 2005. IEER's request for regulatory action was subsequently endorsed by hundreds of other signatories, and a total of 375 names was sent to Ms. Dougherty on January 13, 2006. The Governor of New Mexico, Bill Richardson, also wrote to EPA in general support of IEER's request to tighten standards for long-lived, alpha-emitting, transuranic radionuclides. Letter from Gov. Bill Richardson to Stephen Johnson, EPA Administrator (November 2, 2005).

In response to IEER's request, the EPA announced that it would consider the *Bad to the Bone Report* in its next review of its national primary drinking water standards. See Memorandum from Veronica Blette, EPA, to Arjun Makhijani, IEER, re: Statement on IEER Report (August 5, 2005). At the same time, the EPA stated that the "Six Year Review" that would encompass the radionuclide standards would not be completed until 2008. *Id.* See also E-mail message from David Huber, EPA, to Jodi Dart, Alliance for Nuclear Accountability (August 18, 2006).

On October 30, 2006, this firm and the Natural Resources Defense Council notified the EPA of its statutory obligation to revise its MCLs for radionuclides by December 7, 2006. Letter from Diane Curran and Geoffrey Fettus to Cynthia Dougherty, EPA. By letter dated November 21, 2006, Ms. Dougherty responded that the EPA:

is reviewing the suite of contaminants included under the radionuclides rule as part of the current Six Year Review Process, which is currently in progress and scheduled to be completed within the next few years.

Ms. Dougherty predicted that EPA "will release a final notice by the end of 2009 describing the outcome of the review and the Agency's recommendations for any regulations it may consider revising."<sup>2</sup>

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<sup>2</sup> Ms. Dougherty's letter also stated that in the Federal Register notice for the first Six Year Review (67 Fed. Reg. 19,030) and in the EPA Protocol for the Review of Existing National Primary Drinking Water Regulations (EPA 81-R-03-002), the EPA noted that the national primary drinking water regulations for radionuclides were excluded because they "had been promulgated on December 7, 2000 and that they would be considered during the subsequent Six Year Review." However, no such statements can be found in the Federal Register notice or the EPA Protocol. In any event, EPA lacks authority to extend the SDWA's deadlines for promulgation of drinking water regulations. Only Congress may change those deadlines.

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Thus, not only is EPA's review schedule for radionuclide standards non-compliant with the SDWA's deadline of December 7, 2006, but over the past four months the agency's internal deadline for completion of the review has slipped from 2008 to 2009.

### **III. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY'S VIOLATIONS OF THE FEDERAL SAFE DRINKING WATER ACT**

EPA has violated its non-discretionary duty under Section 1412(b)(9) of the SDWA, 42 U.S.C. § 300g-1(b)(9), to review and revise, as necessary, its MCLs for radionuclides within six years after promulgation of the last set of MCLs for radionuclides. The last set of MCLs was published in the Federal Register on December 7, 2000; and thus the SDWA required that EPA must review and revise those regulations by December 7, 2006. Moreover, as demonstrated in the *Bad to the Bone* report, revisions of the MCLs for alpha-emitting radionuclides are necessary to protect public health. The EPA has violated the SDWA by failing to strengthen the drinking water limits for plutonium and other alpha-emitting radionuclides in a timely way.

### **IV. CONCLUSION**

IEER is interested in discussing effective remedies for the violation noted above. If you wish to pursue discussions with us in the absence of litigation, we suggest that you initiate those discussions within the next 20 days, so that they may be completed before the end of the 60-day notice period. Although IEER is always interested in avoiding unnecessary litigation, it does not intend to delay the filing of a complaint if discussions are continuing when the notice period ends.

Sincerely,

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