

BEFORE THE POLLUTION CONTROL BOARD  
OF THE STATE OF ILLINOIS

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APR 06 2005

STATE OF ILLINOIS  
Pollution Control Board

IN THE MATTER OF: )  
)  
REVISIONS TO RADIUM WATER )  
QUALITY STANDARDS: PROPOSED ) R04-21  
NEW 35 ILL. ADMIN. CODE 302.307 ) Rulemaking - Water  
AND AMENDMENTS TO 35 ILL. ADMIN. )  
CODE 302.207 AND 302.525 )

PC#39

NOTICE OF FILING

To: See Attached Service List

Please take notice that on April 6, 2005, we filed with the Office of the Clerk of the Illinois Pollution Control Board an original and ten copies of the attached **COMMENTS SUBMITTED BY BRIAN ANDERSON**, a copy of which is served upon you.

Respectfully submitted,

WATER REMEDIATION TECHNOLOGY, LLC

By:  \_\_\_\_\_  
One of its Attorneys

Jeffrey C. Fort  
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Sonnenschein Nath & Rosenthal LLP  
8000 Sears Tower  
Chicago, Illinois 60606  
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APR 06 2005

STATE OF ILLINOIS  
Dr. Brian D. Anderson  
Illinois Pollution Control Board  
33 Taft Drive  
Rochester, IL 62563

April 6, 2005

VIA ELECTRONIC MAIL

Ms. Amy Antonioli  
Hearing Officer  
Illinois Pollution Control Board  
100 West Randolph Street  
Suite 11-500  
Chicago, IL 60601

**Re: R04-21 Rulemaking - Water**

Dear Madam Hearing Officer:

I am asking permission to submit this public comment after the close of the public comment period. I testified in the hearings before the Illinois Pollution Control Board (the "Board") and submitted my own public comment during the public comment process. Since the close of the public comment period, I have come to learn of further information that exists with respect to the views of the United States Environmental Protection Agency ("U.S. EPA") that I believe the Board should consider. Because I only became aware of this information recently — indeed the U.S. EPA letter is dated in March 2005 — I ask the Board to make this comment part of the public record in this matter and to consider this information before proceeding to second notice. Moreover, this information appears to be significant to communities who are considering treatment technologies to meet the radium water quality standard as it reflects U.S. EPA's concerns with "disposing" of radionuclides into sewers, where they will be either mixed with sewage sludge and disposed of on crops, or to be discharged into Illinois' waterways.

During both the final day of hearing and in their public comments, the Illinois Environmental Protection Agency ("IEPA") said it would like to have U.S. EPA provide guidance on the issues raised in this proceeding. Although not disclosed in this proceeding, IEPA did seek U.S. EPA's guidance and has now received a response.

In a letter dated September 21, 2004, a month before the last day of hearing and over ten weeks before the close of the public comment period, IEPA asked U.S. EPA for its opinion "supporting the continued use of Illinois disposal practices" relating to disposal of treatment residuals from water treatment plants.

Ms. Amy Antonioli  
April 6, 2005  
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By letter dated March 4, 2005, U.S. EPA responded, and refused to endorse Illinois' existing practices, or the land application of water treatment residuals. With respect to the disposal of radionuclides, U.S. EPA stated it had "consistently expressed concern about the potential creation of new contaminated sites that would someday require remediation and/or the use of institutional or engineering controls." U.S. EPA also stated that it did not believe that it was appropriate to rely on data and reports pertaining to sewage sludge "when considering the land application of drinking water treatment residuals containing radionuclides." U.S. EPA clearly recognized that water treatment residuals are a different waste stream than sewer sludge, and rejected IEPA's suggestion that no distinction needed to be made. And U.S. EPA maintained its concern that the land application of radionuclide treatment residuals could create clean-up issues in the future.

Interestingly, the IEPA letter did not present for U.S. EPA approval the practice of allowing (or even encouraging) the uncontrolled discharge into sewers, farmland and watercourses of highly radioactive particles. (The record here makes clear that such discharges will occur if the IEPA proposal to the Board is adopted.) Of course, no federal or Illinois radioactive material licensee is permitted to release or discharge radioactive particles into a sewer system.

Clearly, the issue of how best to safely dispose of the radioactive treatment residuals resulting from meeting the radionuclide drinking water standard is a very serious issue and one that should not be ignored by the Board. Illinois communities deserve to be informed of these matters and U.S. EPA's views. I believe EPA's views should be shared with the Board and the public. Copies of the IEPA request and U.S. EPA's reply are attached hereto.

I appreciate the Board's consideration of these comments.

Sincerely,



Dr. Brian D. Anderson



# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276, 217-782-3397  
JAMES R. THOMSEN CENTER, 100 WEST RANDOLPH, STATE 11-300, CHICAGO, IL 60601, 312-814-6026

— ROBERT BLAGOVICH, GOVERNOR — RENEE CIRIACO, DIRECTOR

217/782-3397

SEP 21 2004

Mr. Benjamin H. Grumbles  
Acting Assistant Administrator  
Office of Water  
United States Environmental Protection Agency  
Washington, D.C. 20460

Dear Mr. Grumbles:

The Illinois EPA and Illinois Emergency Management Agency, Division of Nuclear Safety, have been working with the Office of Radiation and Indoor Air and Office of Ground Water and Drinking Water regarding disposal of drinking water treatment residuals containing radium. In particular, our discussions to date have dealt with certain provisions of the draft document, *A Regulators' Guide to the Management of Radioactive Residuals from Drinking Water Treatment Technology*. In addition, USEPA, in cooperation with other federal and state agencies of the Interagency Steering Committee on Radiation Standards, have produced another draft guidance document that deals with disposal of sewage treatment residuals, *ISCCORS Assessment of Radioactivity in Sewage Sludge: Recommendations on Management of Radioactive Materials in Sewage Sludge and Ash at Publicly Owned Treatment Works*. The two documents conflict on the issue of land application of these residuals for agronomically beneficial uses, a practice that Illinois initiated in 1984 after considerable evaluation by both state agencies.

In Illinois, disposal of residuals generated at a drinking water treatment plant or sewage treatment plant require that a permit for disposal be obtained from Illinois EPA. The treatment residuals are to be checked for a number of contaminants, including radium, if there is reason to believe radium may be present. Residuals containing 5 picoCuries per gram of radium or less are not considered to pose a threat of significant radiation exposure. Those residuals containing more than 5 picoCuries per gram and up to 50 picoCuries per gram of radium are reviewed for disposal alternatives by both IEPA and IEMA/Division of Nuclear Safety.

Illinois regulations allow that residuals containing 50 picoCuries per gram of radium or less may be buried in an Illinois EPA approved landfill provided there is at least 10 feet of uncontaminated soil cover. For agronomic applications, these residuals may be applied to cropland provided the incremental increase in radium does not exceed 0.1 picoCuries per gram above naturally occurring background levels. Residuals containing more than 50 picoCuries per gram of radium are reviewed individually by IEMA/Division of Nuclear Safety for conformance with Illinois Regulations for Radiation Protection. For certain types of higher concentration

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MARTIN - 2309 W. Main St., Suite 110, Martin, IL 62959 - (618) 991-7200

residuals, disposal may require shipment to an out-of-state facility that is licensed to accept such wastes.

Allowing use of material with agricultural value to farmers is no different than the fundamental basis for all federal and state regulation of any radioactive materials that have a beneficial use. Following international guidance, the beneficial use of the material in question is weighed against the risks involved and dose or concentration limits are established for the use of the material to limit the dose and risk to the general public. These limits take into consideration a number of factors including natural background and the potential for human exposures. In all areas where USEPA has authority to become involved in radiation protection, the material in question is already a waste or a contaminant.

As I am sure you are aware, USEPA has raised an issue regarding the impacts of implementation of this approach on the management of Superfund sites. The use of a water treatment by-product containing radioactive constituents for beneficial agricultural purposes is very different than the cleanup of a site with known contamination. In a Superfund case, no beneficial use of material containing radioactivity is purported.

Examination of radium site Superfund cleanups does provide a useful comparison in terms of radium concentrations considered protective of human health and the environment. As it happens, the incremental increase in radium concentration that would be permitted under regulated beneficial use of a water treatment plant residual, as is practiced in Illinois and a number of other states, is a small fraction (0.1 pCi/g) of the soil cleanup level of 5 pCi/g above background levels adopted for use at most radium sites. The use of USEPA's own 40 CFR 192 as a human health based Applicable, Relevant and Reasonable Requirement (ARAR) is a widely accepted practice. The incremental increase is also a small fraction of the total radium concentration of 2.2 pCi/g in Northern Illinois natural background.

Of great concern to Illinois EPA is the continued inconsistent position on land application/beneficial use articulated in the two draft guidance reports noted above, that address the same topic of disposal of residuals containing radionuclides. The conclusions reached in the sewage sludge report indicate that the residuals may be incorporated into agricultural land without undue exposure concerns even though the levels contained in the sewage residuals are at the same levels being found in drinking water treatment residuals. The issue is further confounded by the introduction of a USEPA argument that water treatment plant residuals should be handled the same as for waste materials involved in a Superfund radiation cleanup project. It is not clear why USEPA is differentiating between sewage treatment plant and water treatment plant residuals that have essentially the same level of radium. Illinois is asking that USEPA be consistent in its approach.

Illinois has about 100 community water supplies that are in the process of complying with the Radionuclide Regulations and are relying on Illinois EPA's advice and guidance on the proper residual disposal practices that can be employed. These systems are in the process of making decisions on alternatives for compliance that involve the commitment of millions of dollars and obligate the community to a number of years of financial burden. Water plants that employ a process that generates a solid waste (e.g. lime softening precipitation of radium) currently use

land application at agronomic rates. Water plants that generate a liquid waste must use a controlled discharge to a sewage treatment plant.

The purpose of this letter is to request a clear and consistent position by USEPA on the issue of land application of these residuals for agronomically beneficial uses, and request the written opinion of USEPA supporting the continued use of current Illinois disposal practices. As noted, our Illinois water supplies are considering a number of alternative treatment processes. One common element of concern is the cost of disposal of the treatment wastes. Alteration of the present disposal practice could very well make operation of the treatment facilities untenable for most of the water supplies classified as small systems, but if this alteration is necessary, now is the time for all of us to be advised so that millions of dollars are not wasted on an unacceptable disposal alternative.

Your immediate attention and reply to this matter will be very much appreciated. Please let me know if you would like to discuss this issue further or need additional information.

Sincerely,



Renee Cipriano  
Director



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAR 14 2005

OFFICE OF  
WATER

Ms. Renee Cipriano, Director  
Illinois Environmental Protection Agency  
1021 North Grand Avenue East, P.O. Box 19276  
Springfield, IL 62794-9276

Dear Ms. Cipriano:

Thank you for your letter dated September 21, 2004. Your letter seeks clarification from the U.S. Environmental Protection Agency (EPA) on discussions contained in two draft guidance documents regarding the use of land application as a disposal option for treatment residuals. In this reply, we hope to provide you with an update on the development of these documents and invite you to continue to work with us to better communicate EPA's position on the potential use of land application for this material.

EPA appreciates the difficult decisions that drinking water systems must make to comply with drinking water standards for radionuclides. Affected water systems will need to find alternative sources of water or apply treatment technologies to remove the radionuclides from their source water, balancing source availability, treatment and disposal costs. EPA recognizes that systems will be seeking cost-effective solutions for these management issues, but has consistently expressed concern about the potential creation of new contaminated sites that would someday require remediation and/or the use of institutional or engineering controls.

You expressed concerns that the language within the following two draft documents were inconsistent: (1) *A Regulators' Guide to the Management of Radioactive Residuals from Drinking Water Treatment Technologies*; and (2) *ISCORS' Assessment of Radioactivity in Sewage Sludge: Recommendations on Management of Radioactive Materials in Sewage Sludge and Ash at Publicly Owned Treatment Works*. We are in the process of revising both documents, though the ISCORS report is a multi-agency effort, not solely that of EPA. Our goal is to insure that the language contained within these documents is compatible, recognizing that water treatment residuals and sewage sludge are different waste streams and the extent of analysis done by the Agency has differed in depth and complexity.

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<sup>1</sup>ISCORS is the Interagency Steering Committee on Radiation Standards comprised of several Federal agencies whose purpose is to facilitate consensus on acceptable levels of radiation risk to the public and workers, and promote consistent risk approaches in setting and implementing standards for protection from ionizing radiation.

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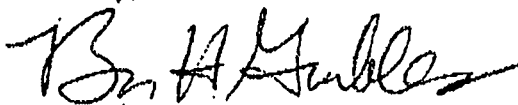
EPA has an extensive history of multi-year environmental and scientific research studies assessing land application of sewage sludge, which resulted in regulatory standards describing conditions under which such application is acceptable (40 CFR part 503). The multi-agency ISCORS report focused on sewage sludge's radionuclide content, and on dose assessments to workers and the public from a variety of exposure scenarios. This report which also examined land application of sewage sludge is the latest study in which EPA has participated. However, EPA has not explicitly evaluated the land application of drinking water treatment residuals, regardless of whether the waste contains radionuclides. Although we are aware of some research on this topic, we do not have any basis to judge the benefits of such land application. Further, we do not believe that it would be appropriate to rely on the conclusions of the ISCORS report (which pertains to sludge) when considering the land application of drinking water treatment residuals containing radionuclides.

The drinking water guide was shared over the summer with a diverse set of stakeholders and we are in the process of considering their comments and making revisions as appropriate. The drinking water document does not recommend prohibiting the practice of land application of drinking water residuals, but does caution that the regulator should weigh the potential risks for both short and long term scenarios.

Illinois also expressed interest in EPA providing written support of Illinois disposal practices. As you know, EPA has no specific federal regulations regarding radionuclides in land-applied drinking water residuals and has not performed the requisite analyses. Therefore, we cannot endorse any state's practices in this area. The Agency recognizes that Illinois has put considerable time and effort into researching the benefits and risks of land-applying drinking water sludges with radionuclides, and we would be interested in learning more about such practices in the future.

We will continue to work with Illinois and other stakeholders as we tackle these complicated issues. If you have further questions, please let me know or your staff may contact Steve Heare, Director, Drinking Water Protection Division at (202) 564-7992.

Sincerely,

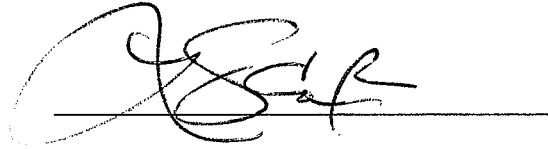


Benjamin H. Grumbles  
Assistant Administrator



**CERTIFICATE OF SERVICE**

The undersigned, an attorney, certifies that he/she has served upon the individuals named on the attached Notice of Filing true and correct copies of ***COMMENTS SUBMITTED BY BRIAN ANDERSON*** by First Class Mail, postage prepaid, on April 6, 2005.

A handwritten signature in black ink, appearing to be "J. S. [unclear]", is written over a horizontal line. The signature is stylized and cursive.

**SERVICE LIST**

**R04-21**

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