

IEMA Proposed Rulemaking concerning Radium in Wastewater Sludge

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Original Guidance for IEPA

- Memorandum of Agreement
 - Illinois Department of Nuclear Safety and Illinois Environmental Protection Agency
 - September 1984

Land Application Permit

- Reissued Joliet's permit in October, 2006
- First Permit to include 0.1 pico-curies per gram from 1984 MOA

IEPA Cooperation

- Joliet requested a 90 day extension for filing a permit appeal on December 7, 2006
- IEPA concurred in this request

Revised Permit

- Discussion with IEMA-IDNS and IEPA
- IEPA issued revised permit with 0.4 pico-curie per gram limit on February 16, 2007

Permit Modification

- Joliet requested a modification to 1.0 picocuries per gram.
- IEPA denied the request on September 12, 2008
- Joliet filed an appeal of the decision with the Illinois Pollution Control Board on October 17, 2008 docketed as 09-25

Illinois Pollution Control Board Decision

- Appeal Denied
 - 1984 MOA
 - Not implemented according to Administrative Procedures Act
 - IEPA ignored MOA with 0.4 permit
 - Upheld Joliet's position modeling with topsoil removed beneath homes.
 - Denial based on lack of modeling considering private well use and vegetable garden use.

IEMA Proposed Rule

- Register with IEMA
- Limit land application to 0.4 pico-curies per gram increase.

September 30, 2009 Public Hearing

- Opportunity for the regulated community to participate

Hearing Notice and Fact Sheet

- Short notice of hearing
- First time supporting documents made available
- Ignored other information in their files

Dose

- Discussed doses acceptable for other situations
 - 100 milli-rem per year to a member of the general public
 - 25 milli-rem per year- For releasing a site from licensed use
 - 15 milli-rem per year-For CERCLA sites
 - 10 mill-rem per year 10% of total dose

Illinois Water Environment
Association

We didn't really mean 10 milli-rem

- Used RESRAD (accepted model for estimating dose)
- Assumed radium bearing topsoil beneath home
- Garbage In-Garbage Out

Presentation by IEMA

- History of invalidated MOA
- Proposal is to exempt from Licensure
- Consistent with draft MOA proposed to IEPA

APPARENTLY NOT A HEALTH ISSUE

January 26, 2010

Illinois Water Environment
Association
Government Affairs Conference

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ALARA

As Low As Reasonably
Achievable

- Includes Cost Considerations

Presentations by Members of the Public

- City of Joliet
- City of Geneva
- Fox Metro Sanitary District
- Village of Channahon
- Others

Joliet's Presentation

- Installation of water treatment facilities did not create the radium
 - In wastewater treatment plant sludge since 1920's
- Joliet not aware of 1984 MOA until 2004
- Joliet requested review of MOA
- Joliet has developed science supporting increased radium concentrations in soil.

Joliet Study

- Completed June 2007
- Primary Topics
 - Beneficial reuse of nutrients
 - Protection of the public health
 - Cost to wastewater system users
- Project Team
 - Dennis Duffield, P.E., Rogina and Associates, Ltd
 - Daniel Fiedler, Agronomist, Land Treatment Alternatives, Inc.
 - Eli Port, P.E, Certified Health Physicist , RSSI, Inc.
 - Roy M. Harsch, Drinker, Biddle and Reath

Scope of Study

- Historic application rates and site life
- Alternatives
 - Current program
 - Alternate application to sites
 - Blending in tank
 - Landfill disposal
- Dose to future residents
 - With topsoil removed from beneath house.

Findings

- Current Program has lowest cost
- Landfill disposal has highest cost
 - Requires construction of sludge drying facilities at three sites
 - 20 year present value is 5 times the current program value
- With topsoil removed, 10 applications per site over 20 years will not create a 10 milli-rems dose

Other work by Joliet

- Additional modeling
 - Onsite wells and vegetable gardens
- Review by Health Physics Experts
 - Cost of this rule \$2,000,000 per person-rem
 - Recognized acceptable cost \$2,000 per person-rem (1000 times less)

2nd Permit Appeal

- Joliet filed a request for 1.0 pico-curies per gram with IEPA on December 1, 2009
- Included modeling considering onsite wells and vegetable gardens.

Joint Committee on Administrative Rules

- IEMA has to make a decision