

Start Talking
Before They Start Drinking.

Standard Edition | Edit
Contact Us | Advertise
Subscribe

Direct
Classifieds
PLACE YOUR
CLASSIFIED
AD HERE!

Mon Aug 11 2008 | Welcome Kelly
Mostly Cloudy 66° F | Forecast

phillyBurbs.com Your Internet Starts Here. JOBS CARS HOMES Ads/Classifieds Advertise With Us

Home News Sports Money Entertainment Opinion Multimedia Guides Tools

Shopping

- Bucks County Courier Times
- Homepage
- Courier Times Now
- Local News
- Local Sports
- Multimedia
- Obituaries
- Opinion
- Blogs
- reality
- Calendar
- Area
- Congregations
- Customer Service
- Advertise

- phillyBurbs.com
- NJ News
- National News
- Sports
- Sixers
- Flyers
- Lotteries
- TV Listings
- Traffic
- Stocks
- Weather
- Ads/Classifieds
- Jobs
- Cars
- Homes
- Yellow Pages

Home / Courier Times

Courier Times

Homepage **NEW!**

Local News | Local Sports

How much radiation is too much?

By **JO CIAVAGLIA**
Bucks County Courier Times

The 750 tons of radioactive sludge that Waste Management agreed to accept at its local municipal landfills would expose the public to less radiation annually than watching TV, according to a U.S. Nuclear Regulatory Commission assessment.

Workers who remove and transport the contaminated material from a Montgomery County wastewater treatment plant face a potential maximum exposure that is less than the standard chest X-ray — the same exposure level if the sludge remains at the plant property, according to the agency.

But are those exposure levels safe? The scientific evidence is unclear about potential health risks associated with small doses of ionized radiation, health and environmental radiation experts say.

Some experts say the general public does not understand that radiation and radioactivity are found in nature, we're constantly exposed to them and our biochemistry can repair DNA damage that radiation causes.

"People start thinking of the Hulk or Spider-Man and mutant babies," said Andrew Karam, health physicist and radiation safety expert at the Rochester Institute of Technology in New York. "I think part of it is people know radiation comes from nuclear bombs."

Others, though, argue that national and international studies suggest there is no such thing as a safe radiation dose and additional exposure no matter how small increases health risks.

Concerns about radiation safety recently emerged after it was revealed Waste Management received state approval to accept sludge contaminated from cobalt-60 and cesium-137 at its landfills in Tullytown and Falls. The company has since suspended its plans to accept the waste.

The radioactive material is located on the Royersford wastewater plant property, where it ended up after it was released in wastewater from a local laundromat that is NRC licensed to treat the uniforms of nuclear plant workers.

The NRC did the exposure risk analysis last year at the request of the Pennsylvania Department of Environmental Protection, which outlined three possible scenarios involving the contaminated material.

RISK STANDARD

The federal agency estimated the maximum annual radiation emissions for the public and workers would be less than 10 millirem (a unit of absorbed radiation) if the contaminated sludge remains at the Royersford site, less than 11 millirem if it's removed and transported and less than 1 millirem if it's disposed of in an industrial landfill.

Federal law requires that low-level radioactive waste be disposed of in one of three NRC-designated landfills, located in Washington, Utah and South Carolina. These centers are designed, operated and controlled after closure so the public is not exposed to more than 25 millirem of radioactivity annually, according to the U.S. Department of Energy, which handles radiation disposal issues.

But the Royersford waste plant is not NRC licensed as accepting radioactive materials. That means the NRC and the DEP, which in March assumed oversight

Latest News from Courier Times Now

Click here for latest news

More News...

Local Headlines

Food cupboards almost bare

Hospitals planning joint radiation oncology center

Move Over Law means just that

More News...

Local Sports

Mystics conclude strong summer

Cintron gets new promoter

Indians drop two at World Series

More Sports...

Latest Opinions

All talk; no action

Soft power: The benefits of deploying civilians

Too much politics in our political process

More Opinions...

Latest Local Blogs

Bush's luggage detained in China

Punched in the face

You MUST check out this place

More Blogs...

BUCKS COUNTY Courier Times Online Edition SUBSCRIBE SIGN IN

ENVIRONMENTAL DEFENSE
Get Green

PHILLY EDGE

responsibility for the state's low-level radioactive waste material, have no jurisdiction. Royersford is solely responsible for the sludge and it's not required to dispose of it in an NRC-regulated low-level radiation landfill, DEP director of radiation protection David Allard said.

Moreover, since the sludge was technically generated at an unlicensed treatment plant, legally it is not considered low-level radioactive waste, which would automatically subject it to the stringent federal disposal requirements, Allard and Neil Sheehan, spokesman for the NRC, said.

The reason, Allard explained, is the laundromat wastewater met acceptable radiation concentration levels when it was released into the public sewer system, but the radioactive material accumulated and reconcentrated at the treatment plant.

Nonetheless, Sheehan and Allard insist the NRC evaluations of residual radioactivity in the Royersford sludge poses no public health risk. "Regulatory insignificant" is the way Sheehan described it.

"You'd probably get more [exposure] from your granite kitchen countertop," Allard added.

The annual maximum exposure limit for someone living next to a nuclear power plant is 100 millirem, Sheehan said; he added that recent testing outside a Vermont nuclear power plant revealed radiation emissions at 18 millirem.

BIGGEST event of the SEASON! up to **50% OFF** plus, FREE SHIPPING!*

natural ▶ personal care ▶ beauty ▶

drugstore.com [shop now ▶](#)

Allard added that the DEP doesn't plan to conduct ongoing monitoring of the sludge if it is disposed in a regular landfill such as Waste Management's, since the emission would not pose a potential health hazard.

LANDFILLS COMMON DISPOSAL SITE

While municipal landfills are forbidden from accepting low-level radioactivity waste, in reality radioactive materials end up in landfills all the time, said Karam, also a member of the Health Physics Society, which specializes in radiation safety.

Federal low-level radiation disposal laws were developed to describe manmade radioactivity at a nuclear power plant, but the laws failed to realize the possibility of a low concentration of radiation that doesn't present a health or safety hazard, Karam explained.

"It would be like requiring us to throw away our banana peels, unused orange juice or salt substitute as radioactive waste," he explained. "It makes little sense to regulate something that is less radioactive than a banana or kitty litter; doing so only forces people to pay a ton of money to dispose of something that poses no risk to anyone."

The average American's annual radiation exposure is about 360 millirem. Roughly 300 millirem come from natural sources of radiation, and 60 millirem come from manmade sources, according to experts.

But the only documented scientific evidence of radiation harm involves exposures of 5,000 millirem in a matter of seconds or minutes, not over the course of a year or a lifetime, experts said. With smaller doses, accurately projecting long-term health effects are less clear.

Take the 1986 Chernobyl nuclear reaction accident, the worst in history, Karam said. Initially scientists estimated that as many as 10,000 people would die of a result of radiation exposure, but 20 years later there have been only 56 deaths from thyroid cancer or radiation sickness.

Long-established radiation dose assessment models suggest a 10,000-millirem radiation exposure (one-time or cumulative) increases the lifetime cancer risk about a half-percent, Karam said.

"I can't worry about something that low," he added. "It is not until we get to fairly high levels of exposure that we really have to be concerned about the health effects. I feel very safe in saying that 1 millirem yearly is not going to hurt anybody at any time."

**phillyBurbs
Highlights**

**Check out the
Custom Rides
Guide if you
love road art**

Love to learn?
Or are you in
school? Check
out our
Education Guide

Visit the
Insurance &
Investing Guide
for financial
information and
guidance

Going out
tonight?
Get on the EDGE

phillyburbs nav

But Judith Johnsrud doesn't believe it. She is an expert in the geography of nuclear energy and a member of the Sierra Club's National Nuclear Waste Task Force.

She contends that evidence shows any exposure to radiation carries an increased health risk for leukemia, latent cancers and heart disease as well as genetic damage. The risk increases with more exposures.

In the 1990s, the National Academy of Science published a report that concluded there is no safe radiation dose, Johnsrud said. A 2005 International Radiation Commission report reached the same conclusion.

"The industry always seems willing and able to deny that this has anything to do with the presence of a nuclear facility because the [exposure levels] are too small to be valid," she added.

Did you know?

Gamma radiation, which is admitted by cobalt-60 and cesium-137, is highly penetrating electromagnetic radiation able to travel many feet in the air and many inches in human tissue.

The size or weight of a quantity of material does not indicate how much radioactivity is present. A large quantity of material can contain a very small amount of radioactivity, or a very small amount of material can have a lot of radioactivity.

Like alcohol intoxication levels, levels of exposure to radioactivity (due to radioactivity deposited in the body) depend on a person's weight. Heavier people absorb less radiation than thinner people, according to the Massachusetts Institute of Technology Web site.

Jo Ciavaglia can be reached at 215 949-4181 or jciavaglia@phillyBurbs.com.

August 3, 2008 5:54 AM

Comments To This Article:

Overall Rating For This Article: ●●●●●●●●

- **Dennis** - Can't fool Mother Nature by making money for long!
(08/03/2008)
With both spouses working to pay bills, who has time or money to be sick!

It is no accident that there are multi- epidemics world wide.
It is cheaper to dump toxics, but it will come back in time,
like dumping in the sea!

Cancer rates are now 1 in 2...in some decades, everybody!

- **ted** - Anyone else confused after reading this story?
(08/04/2008 , Ratings: ●●●●●)
Which mont county plant treats radioactive waste??

Are the residents of mont county aware of this??

The confusing report the fed law restricts low level nuke waste from being shipped too local landfills but ends up there anyway??

The sludge was treated at unlicensed plant????

Dumped into the sewers... WHAT?????

Nuke waste being compared too kitty litter and banana's.....WHAT???

- **Jo Ciavaglia** - This information is available on the Web
(08/05/2008)
Cocoa power, like bananas, has potassium 40 in it and while it's not harmful to humans, it does set radiation detectors off. Other materials containing tiny amounts of natural radioactive materials: granite, which has a hint of thorium and uranium; camping lanterns, with thorium;