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## **Pa. releases results showing low radiation in streams**

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About a week after news reports indicated that radioactive wastewater from natural gas drilling may be entering some public water supplies in Pennsylvania, state officials announced test results showing that radiation levels in seven streams near drilling sites were normal or below normal.

The Department of Environmental Protection tested seven streams in western and north-central Pennsylvania, taking samples downstream of wastewater-treatment plants and upstream of drinking-water intakes. The results released were for November and December.

"We deal in facts based on sound science. Here are the facts," DEP acting Secretary Michael Krancer said in a statement. "All samples were at or below background levels of radioactivity. And all samples showed levels below federal drinking-water standard."

While the industry praised the results as "reassuring," others in government, academia, and environmental advocacy said that it would not lay the issue to rest, and that more testing and transparency were needed.

The regional administrator of the U.S. Environmental Protection Agency, Shawn M. Garvin, issued a strongly worded letter asking Pennsylvania officials to do more sampling.

Garvin said the tests should add procedures that would account for variability of radiation in streams due to the source and volume of the wastewater being treated. In addition, he asked that drinking-water suppliers near wastewater-treatment plants "conduct sampling immediately" for radioactive contaminants.

He encouraged the DEP to reopen the discharge permits for facilities accepting wastewater because they do not have adequate provisions requiring effective treatment of wastewater from drilling.

Garvin also hinted at further involvement of the EPA in other areas, saying, "Separately, we will be coordinating with you on air-pollution and waste impacts."

Krancer said DEP officials were "reading and evaluating the letter, just like we do with all input that comes to us."

"We will work with EPA to be sure that it is aware of everything we are doing in Pennsylvania," he said.

Radioactivity is an issue in wastewater from drilling. Fracturing the shale to release the gas involves injecting large amounts of water, mixed with other chemicals, deep into the ground. Some of that water returns to the surface, but by then it has been contaminated further by naturally occurring substances, including some with radioactivity.

Some of this flow has been sent to public wastewater- treatment plants, although the industry says that about 90 percent of it is recycled and used many times over.

Kathryn Klaber, president and executive director of the Marcellus Shale Coalition, an industry group, said the DEP's test results were important in the "ongoing effort to make sure the public is confident in the measures to protect the environment that are in place right now."

Her group characterized the results as "a sweeping set of water-quality monitoring results."

The DEP data showed two results - gross alpha and gross beta - for 11 water samples in the seven rivers.

Three rivers - the Conemaugh in Indiana County, the Tioga in Tioga County, and the West Branch of the Susquehanna in Lycoming County - were tested once, and four were sampled twice. Those sampled twice were the Monongahela in Allegheny County; South Fork Ten Mile Creek in Greene County; the Allegheny at Kennerdell in Venango County; and the Beaver in Lawrence County.

The DEP did not post the actual data on its website.

DEP spokeswoman Katherine Gresh said that all results of the DEP's water testing are typically made public on an EPA database, the STORET (short for STORage and RETrieval) Data Warehouse.

Gresh said the testing will continue. It took until now to release the results, she said, because lab analysis "takes time, and given the nature of this monitoring, it was important to involve not just our water- management staff, but radiation-protection staff as well."

Environmental advocates and scientists said making the data readily accessible was essential.

"The only way the public is going to have any confidence that the DEP has oversight and that public health is not being compromised is for the monitoring to be done and the results of that monitoring to be immediately disclosed to the public," said Jan Jarrett, president of the advocacy group Citizens for Pennsylvania's Future.

David Velinsky, vice president of the Patrick Center for Environmental Research within the Academy of Natural Sciences, called the DEP's announcement "a good start, but monitoring needs to continue."

"Independent third-party studies need to be accomplished, so there's less potential bias within any kind of study, and let the chips fall where they will," he added. "It all depends on where and when you sample, all things being equal."

The DEP did not elaborate on why it tested when it did. The timing could be important.

"Wastewater from natural gas drillers comes in bursts," said Brady Russell, eastern Pennsylvania

director with Clean Water Action. "Odds are, most plants go weeks without any fracking water at all, and then they get several trucks."

Gresh, the DEP spokeswoman, disputed this, saying "treatment plants process the water at low volumes over long periods of time."

Significant amounts of wastewater from drilling have not yet reached the Delaware River basin, where Philadelphia gets its drinking water. Although some exploratory wells have been drilled, a moratorium on drilling is in place until an interstate agency that oversees water use adopts new regulations.

Former DEP Secretary John Hanger said the testing results exonerated the agency, which he led from 2008 to January 2011.

"The real scandal is not Pennsylvania's regulatory program, which is the strongest in the country," he said.

Hanger said the New York Times story Feb. 27 "gratuitously frightened Pennsylvanians," and he called for the newspaper to do an internal investigation. The paper reported that some radioactive water was sent to wastewater plants that cannot remove it, and then is discharged into waterways. Downstream, the water is withdrawn for drinking water by facilities that do not test for radioactivity, the Times reported.

After the story, two large water providers, the Pittsburgh Water and Sewer Authority and Pennsylvania American Water Co., announced plans to test public water supplies.

A spokesman said Monday that Pennsylvania American would do more radiological testing to "help provide a more comprehensive picture" by measuring different levels of radioactive materials in raw water sources.

A spokeswoman for the Pittsburgh authority said it would continue testing as well.

Hanger said the DEP results show that stronger regulations on wastewater that went into effect in August 2010 are working.

He said testing began in 2008 after officials became concerned about levels of salt and other contaminants in the Monongahela, one of Pittsburgh's three rivers.

Radioactivity was not specifically addressed in the new regulations. But Hanger said that consultations with experts left the agency "confident there wasn't a problem" with radioactivity from drilling wastewater.

Also Monday, the industry coalition announced the creation of a \$100,000 fund to support more testing.

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