Fw: Inside EPA - EPA, Florida Cleanup Fight May Leave 40,000 Exposed To Unsafe Radiation

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Inside EPA - 1/22/2010

EPA, Florida Cleanup Fight May Leave 40,000 Exposed To Unsafe Radiation

EPA officials are expected to urge the agency's yet-be-named Region IV administrator to move toward cleaning up former phosphate mining sites that could be exposing as many as 40,000 people to cancer-causing levels of radiation in their central Florida homes -- sites that have languished in the agency's Superfund database for decades while EPA and state

officials have quarreled over the appropriate cleanup standards, informed sources say.

How EPA deals with the potential threat at the homes built on the sites is expected to set a national precedent for how stringently former phosphate mining lands, as well as scores of other radiation sites, will be cleaned up.

But resolving the issue may be difficult as EPA is arguing for strict Superfund cleanup limits while state officials argue that the Superfund limits are "overly conservative."

There was "a clear reluctance on the part of state" officials to the idea that the area should be cleaned up to meet EPA standards, says a former EPA official. "It was being discussed at pretty high levels" within the Bush EPA and the Florida administration of then-Gov. Jeb Bush (R), which was concerned that a costly cleanup would undermine the phosphate industry, the former EPA official says.

In addition, the massive cost of cleaning up the Florida sites -- as high as $11 billion, or nine times EPA's annual Superfund budget -- could also serve as a lightning rod in the debate over the Superfund program's finances, where activists and congressional Democrats are pushing to reinstate the expired Superfund tax on industry and establish stricter financial assurance rules requiring companies to prove they can afford to clean up environmental contamination.

To date, more than 10 square miles of potentially contaminated former phosphate mining lands near Lakeland, FL, have been developed for residential use, sources say. According to EPA's Web site, the agency is evaluating 23 former phosphate mining sites as part of its "Florida Phosphate Initiative," although one EPA source says 23 is "probably an understatement" and that the real number is closer to 28.

The agency's Superfund database lists numerous former mining sites in the Lakeland area, and according to the EPA source, some of the phosphate sites include the former Tenoric Mine operated by the Borden Chemical Company and other former phosphate sites operated by the Agrico Chemical Company and the Mobil Chemical Company. The corporate successors to Borden, Agrico and Mobil declined to comment.

It is unclear, however, which of the sites may pose dangerous levels of exposures. EPA's public Web site and Superfund database do not acknowledge residential exposure is a potential threat at any of the sites.

But the former EPA official says there is "no doubt the level of radiation" some people in this "high growth area" of Florida are being exposed to is unsafe. "I felt this was a very serious situation," says the former EPA official who pushed unsuccessfully in recent years for the agency to act. "I was very frustrated internally."

One source familiar with the Florida sites describes them as the "Libby of radiation sites," referring to the infamous Montana mining town where thousands were exposed to cancer-causing asbestos.

EPA scientists determined in the 1970s there were unsafe levels of radiation present in the indoor air of homes built on some of the sites, according to a 1979 agency study recommending that no additional homes be built on the lands until the agency could study the problem further. The study says that as a result of high concentrations of radium-226, "many individuals residing in Central Florida are exposed to undesirable levels of radiation." Phosphate mining activities can significantly increase the concentrations in soil of radium-226, a naturally occurring radionuclide.

But other than conducting a few relatively narrow follow-up studies, EPA has taken no action to address the risks. Instead, the agency has quietly engaged in a protracted debate over the cleanup level with state and local officials, some of whom raised concerns over the expected high cost of the cleanup and the negative impact it could have on Florida's phosphate industry -- long considered to be one of the state's largest and most important, the former EPA official says.

According to an agency spokesman, "EPA and the state of Florida continue to work cooperatively on this important matter." Selecting an appropriate cleanup standard for the sites "continues to be a key part of the discussion," the spokesman says.

A spokeswoman for the Florida Department of Health said only that the agency is "working with [its] federal partners to educate the public about radon," a radioactive gas that can contaminate the indoor air of homes built on contaminated soil, and that the agency is working "to broaden [its] scientific body of knowledge."

Over the years, residential development on the former phosphate mining lands has continued, and sources say approximately 40,000 people could now be exposed to dangerous levels of radiation. According to a 1999 *Federal Register* notice, some people in the area are exposed to up to 500 millirems (mrem) per year of radiation, which environmentalists argue is a level significantly higher than the 15 mrem levels EPA has historically considered safe.

Based on current EPA Superfund standards, about 1 in 40 people would be expected to develop cancer at the 500 mrem dose level, according to a 2006 internal concept paper the federal *Agency for Toxic Substances & Disease Registry* (*ATSDR*) developed regarding the Florida situation, which *Inside EPA* recently obtained. This is a risk approximately 250 times greater than the 1-in-10,000 cancer risk level that EPA typically considers the worst acceptable scenario at a Superfund cleanup site.

Nonetheless, Florida officials have argued no cleanup is necessary unless people are being exposed to more than 500 mrem per year, according to the ATSDR paper and another internal document prepared by Florida officials that *Inside EPA* also recently obtained.

EPA officials, according to the ATSDR document, have argued the agency's traditional radium-226 cleanup standard should apply to the residential properties, but Florida officials have resisted this idea even though this standard -- while more stringent than what Florida is pushing for -- is significantly less stringent than the Superfund risk limit.

The traditional EPA standard, called an applicable or relevant and appropriate requirement (ARAR), dictates that radium-226 concentrations in soil should not exceed 5 picocuries per gram (pCi/g) above what naturally occurs in the area, the ATSDR document notes. Picocuries measure the amount of radioactivity in soil, while millirem measure the dose received. The ATSDR paper says both EPA and ATSDR have used the 5 pCi/g level to ensure safety in many places, including Pennsylvania, New Mexico, New York and Michigan. But even at this level, up to 1 in 2,500 people could still be expected to develop cancer, according to modern Superfund risk calculations, the ATSDR document notes. *Relevant documents are available on InsideEPA.com.*

Nonetheless, Florida officials consider the 5 pCi/g ARAR "overly conservative," the ATSDR document says. In their own proposal, Florida officials cite guidelines in a report by the congressionally chartered National Council on Radiation Protection (NCRP) in defense of their argument that a 500 mrem dose is the appropriate standard. NCRP "has carefully considered the risks associated with exposure to naturally occurring radiation and weighed these risks against the societal impacts and costs of remediating these risks," the Florida plan says.

Over the past few years, environmentalists and some EPA officials have fought proposals that suggest radiation limits as high as 100 and 500 mrem are sufficiently protective of public health. Many of these proposals were drafted by the agency's Office of Radiation & Indoor Air (ORIA) under the Bush administration.

For example, a broad coalition of activists in 2005 blasted an ORIA proposal to revise the *Federal Radiation Protection Guidance for Exposure to the General Public* to allow an overall exposure limit of 100 mrem per year. The proposal, which activists equated to allowing exposures equivalent to 1,200 chest x-rays, has never been finalized.

In January 2009, the Bush EPA approved a draft guide for responding to nuclear emergencies suggesting the public could be exposed to a dose equivalent to 500 mrem in drinking water -- resulting in the guide suggesting allowable concentrations thousands of times higher than permitted by EPA's own regulations. The draft guide, the publication of which the Obama administration halted days before its scheduled release, is currently under review.

If EPA were to accept 500 mrem as a protective standard at Superfund sites such as the ones in Florida, it would set a negative and far-reaching precedent for future radioactive cleanups and emergency responses, one activist says. "EPA has for years said 100 millirem is way outside the risk range," the activist says. "This would be EPA living in a different universe."

The dispute between EPA and the state over the appropriate cleanup requirements has even stymied efforts to assess the potential scope of exposure. For example, the 2006 documents were drafted by ATSDR and Florida officials as part of their preparation for an aerial survey EPA had planned in an effort to better characterize how much of the land in question is

contaminated and to what extent. The survey was postponed, however, as a result of the dispute over the cleanup level, the former EPA official says, and, according to a Florida source, the agency has yet to reschedule.

EPA officials have advocated for establishing a cleanup level for the area prior to conducting the aerial survey, in part so that, in the event the results of the survey proved worrisome to members of the public, the agency would already have a plan in place for how to address the risks that it could clearly communicate to concerned citizens, the former EPA official says. Establishing a cleanup standard prior to obtaining the survey results would also help ensure the standard was based on human health concerns rather than cost and political considerations, the former EPA officials says.

In addition to the dispute over the cleanup standard, potentially high cleanup costs have also been an issue at the site, the former EPA official says. A 2004 report by EPA's Inspector General (IG) estimated the cost to clean up the Florida phosphate sites could be as much as $11 billion -- nearly half of the up to $24 billion in future hardrock mining cleanup costs that EPA faces across the country and more than 12 times the agency's annual Superfund budget of about $1.2 billion for the five years that preceded the report.

But although EPA has been able to identify some viable parties potentially responsible for the cleanup, and although EPA officials argued the IG may have overestimated the cost of cleaning up the sites, the agency might have to pay for much of the cleanup itself, which the former EPA official says was a challenging prospect, particularly given the complex nature of a residential cleanup and the fact that funding for the Superfund program had been in steady decline under the Bush administration. -- *Douglas P. Guarino*

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