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Fact Check: Is Duke telling "The Truth about Toxicity?"

BY MARK BINKER @ NCCAPITOL WRAL.COM - POSTED DEC. 19, 2014

RALEIGH, N.C. — As the CBS news magazine "60 Minutes" aired its segment earlier this month examining Duke Energy's coal ash spill on the Dan River, someone in the company's public relations office was busy tweeting.

One of those short missives read, "#CoalAsh: The truth about toxicity" and linked to a fact sheet posted online. "It's a tool that we've used at community meetings and events," said Paige Sheehan, a spokeswoman for the company.

The sheet, she said, also been used when addressing local government meetings. It has existed and been posted online for several months, she said, adding that it has had a few tweaks along the way.

Our interest here on @NCCapitol's fact-checking desk is always piqued when we see the words "the truth" about any particular subject, especially complex scientific and economic topics.

"Ash contains low levels of trace elements. Even if you do come into contact with ash, studies have shown you'd have to ingest large amounts to have the potential for experiencing adverse effects," says one of three main bullet points summarizing the page-long explainer.

Although that doesn't exactly make the case for coal as part of a balanced breakfast, despite comparing the amount of arsenic in coal ash to the amount of arsenic in apple juice, the fact sheet does run counter to the image of toxin-laced goop leaching into groundwater and rivers that has been part of the coal ash narrative over the past 10 months.

THE QUESTION: Are the "low levels of trace elements" in coal ash really nothing to worry about, or might this well-crafted piece of corporate communications be downplaying the toxicity issue?

BACKGROUND: Coal ash is the material left over when coal is burned for fuel. Some ash is caught by scrubbers that filter air before it leaves a power plant, while other material is collected from the bottom of boilers. Although the bulk of this material is inert, coal ash contains a number of materials considered harmful to human health, including arsenic, cadmium, chromium, selenium, lead and mercury.

For decades, Duke and other power companies stored ash in wet ponds, although more modern dry-storage methods move the ash to lined landfills or recycle it into concrete, shingles and the like. While a massive spill from a Tennessee Valley Authority coal ash lake raised national attention to the issue in 2008, battles over coal ash in North Carolina remained mainly under the political radar until Feb. 2, when a coal ash pond at a retired power plant in Rockingham County spilled an estimated 39,000 tons of coal ash into the Dan River.

That spill brought attention to ongoing lawsuits over coal ash ponds located at 14 current and former power stations throughout the state. Environmentalists have long argued that toxins from unlined coal ash ponds have fouled both groundwater and local waterways. While a 1970s case involving Belews Lake has long been the poster child for this kind of leaching, environmental groups have argued it is occurring on a number of waterways.

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NEWS NOTES: It's worth noting that environmental advocates recently withdrew a study claiming that fish from a lake near a coal ash pit were unsafe to eat after the company raised questions about the science involved.

Also of note, the Duke fact sheets says, "The Environmental Protection Agency has evaluated coal ash extensively and has repeatedly determined that it is not a hazardous waste."

That may change as soon as Friday, when the EPA is expected to issue regulations governing coal ash. The federal agency could rule that hazardous material rules apply to coal ash or impose restrictions more similar to household waste.

SOURCING: Duke's one-page fact sheet is accompanied by a one-page list of references. Some are references to government reports detailing the materials in coal ash, the toxicological profile of arsenic or a handy explainer from a West Virginia scientist putting the measures of parts per million and parts per billion into layman's language. Most of the resources in this group are cited as providing numerical and scientific values for the sheet.

However, there are four names that come up several times on the reference list and are used to back up the sheet's conclusions drawn from the numbers: Lisa Bradley, John Ward, EPRI and ACAA.

EPRI is the Electric Power Research Institute, an industry-funded think tank of which Duke is a member. The ACAA is the American Coal Ash Association, an industry trade group that promotes "the management and use of coal combustion products." There's nothing wrong, per se, with industry think tanks, but it's important to keep in mind that they come to the table with a particular point of view. Groups that are in the business of promoting energy producers and the beneficial uses of coal ash are not likely to highlight the potential health and environmental problems associated with the material.

Bradley is vice president and senior toxicologist for AECOM, a company that, among other things, provides planning and engineering services to the energy industry. She is also a member of the ACAA's executive committee.

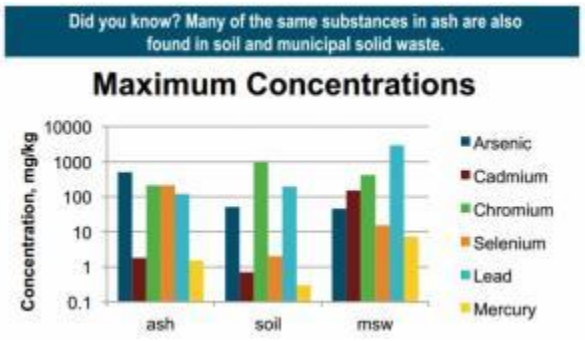
Ward is a marketing, communications and public affairs consultant who has worked for several energy-related businesses before starting his own consulting company. He also heads Citizens for Recycling First, a Denver-based group that advocates for recycling coal ash. Ward's name appears in the transcripts of several hearings the EPA held over the past two years examining whether coal ash should be designated as a hazardous waste.

While both Bradley and Ward obviously have a good deal of background related to energy and coal ash, their ties to industry are not immediately clear in the citations on the Duke fact sheet.

"Dr. Bradley is an MIT-educated Ph.D., regarded as one of the nation’s leading experts in coal ash toxicity. She offers deep expertise in discussing the issue," Duke's Sheehan said when asked about Bradley's work and affiliations.

Sheehan pointed to several articles Bradley had written, including one for The Air and Waste Management Association. She also pointed out that Bradley had been appointed to the National Coal Council by U.S. Secretary of Energy Dr. Ernest Moniz.

SCIENCE: To help evaluate the fact sheet, @NCCapitol turned to Gerald LeBlanc, professor and program director at North Carolina State University's Department of Environmental and Molecular Toxicology, and Avner Vengosh, a professor at Duke University's Nicholas School of the Environment who has actively studied coal ash. Vengosh's latest research specifically deals with determining whether contamination comes from a particular coal ash source or not.



We should note that Duke Energy views Vengosh as "aligned with anti-coal groups," pointing to work he has done with the Appalachian Voices website and similar advocacy groups. He is a frequent source for North Carolina due to his expertise in the subject and his studies of the TVA spill.

We started by asking LeBlanc whether he would hand Duke Energy's fact sheet to an undergraduate college student as a good primer on environmental risk.

"No," he said. "This was written to convey a one-sided story, that there's no problem with coal ash. I appreciate the fact they support their facts with sources of information. The bad news is that most of those sources are coal trade organizations."

Because of Duke Energy's reliance on industry trade groups rather than peer-reviewed research, he said, "you have to take everything they say here with a grain of salt."

Vengosh was similarly critical of the overall impression the company's fact sheet might leave with a less-informed reader. "The literature and the scientific evidence clearly shows that coal ash is a dangerous material," Vengosh said.

Both Vengosh and LeBlanc cautioned that, just because there were risks associated with coal ash, does not mean that ash ponds or other storage facilities were necessarily harmful to their immediate environments. Rather, they said, each case needs to be carefully examined. However, both said Duke Energy's fact sheet goes too far in downplaying the risks.

Sheehan said Duke Energy wasn't trying to have people overlook the risks associated with coal combustion residuals but rather offer an answer to a frequently asked question about how the toxicity of coal compares with other substances.

"The chart in the fact sheet helps the public understand which constituents are in ash and how it compares to soil and solid waste to help inform the discussion about the best approach to continue to manage it safely," she said.

One of LeBlanc's strongest critiques of Duke's fact sheet is it addresses things that aren't really a concern with coal ash. "There are a few issues that we're very concerned about, and then there are a wealth of things that we're not concerned about," LeBlanc said. "They're sort of expounding on this wealth of things that are not problematic. We don't eat coal ash. You could say a lot of things about how much coal ash you would need to eat to get sick ... but that's just not relevant to the issue."

Sheehan said the company regularly gets questions about direct exposure, particularly from people living in the area of the Dan River spill. It's one reason why, she said, the company makes the comparison between the toxins in coal ash and in the soil.

"The constituents that are naturally occurring in soil dissolve the same way as constituents in coal ash," she said. "There are background levels of these constituents in groundwater and surface water."

This is a point of contention in much of the litigation between environmental advocates and the company. Environmental groups contend that rivers and groundwater see spikes in contaminants near coal ash ponds. In general, the concern with coal ash is that water that washes through the ash picks up toxins and washes them away where they can affect drinking water or be consumed by fish and birds, which are then eaten by humans. Vengosh said that studies suggest that, due to the processes involved in burning coal, it is much easier for toxins to wash out of ash into water supplies than it is for the same material to be washed out of soils.

SMALL QUANTITIES: Duke's fact sheet makes the point that "trace elements in ash are measured in very small units. A part per million is equivalent to four drops of water in a 55-gallon drum."

Sheehan said this was not offered up to minimize the risk but to help educate the public on words, measurements and other information they may not have heard about before and to put it into context.

"I think it's safe to say that most of us don't spend much time thinking about measurements in parts per billion," she said. "We included analogies in the fact sheet to help people understand the language and put it into perspective."

LeBlanc said that he worries the descriptions of those very small amounts might give a non-scientist the impression they're not worth worrying about.

"It says two different things to scientists and to a lay audience," he said.

The reasons that government regulations set very low limits on materials like arsenic and selenium, he said, is because those materials are toxic.

THE CALL: To land a green light on our fact-checking scale, we demand "no materially incorrect assertions or misleading statements." While there aren't any fact errors in this sheet, our experts say the facts Duke Energy cites are used to build a case that might give the casual reader the wrong idea.

A yellow light on our scale generally indicates a lack of context or facts that have been cherry-picked. The focus on direct ingestion dangers and the less-than-transparent citation of industry trade groups would meet that test for us. Generally, we reserve red lights for those willfully perpetrating factual errors. But our fact checks will sometimes give a red light to those who are using true facts to, either on purpose or by accident, obscure the truth.

"I don't to take sides on these things. I try to be an objective source of information for either side," LeBlanc said. "But I do find it a little bit disappointing when I see documents like this and they're stated as, 'The Facts.' Really, it is trying to put some facts out there that are going to mislead. In my opinion, that's what they're doing here."

Duke Energy earns a red light for this fact sheet.

Reporter Mark Binker