

Coal, power and poison

By Tony Bartelme , Doug Pardue
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A bulldozer moves piles of coal at Santee Cooper's Cross coal-fired generating plant. About a 30 day supply is kept on hand at the power plant.



Santee Cooper's Cross coal-fired generating plant keeps about a 30 day supply of coal on hand.

The Mercury Connection

BOSTICK— The Great and Little Pee Dee rivers coil like water snakes through lowland swamps here, where fishermen still pull 50-pound catfish from the rivers' pools.

Perry White shows off a photo of himself holding one of those monster catfish he reeled in late last year. He's eaten fish from these rivers for almost all of his 47 years.

Not any more.

He recently discovered through a test of his hair that his body contains 6.5 parts per million of mercury, a poison linked to brain damage, heart disease and other health problems.

White hasn't noticed any symptoms, but he can't help but wonder if mercury is harming him, while hoping that this toxin will leave his body if he stays away from the fish he loves.

Eating fish contaminated with mercury is the main source of mercury poisoning in people, and coal-fired power plants rank as one of the main sources of mercury pollution.

Twelve South Carolina power plants send more than 1,469 pounds of the toxic metal into the state's air each year. Mercury fallout from coal burning and natural sources has poisoned fish in 1,747 miles of the state's rivers, including the Great Pee Dee.

Here at Bostick, a rural crossroads on a Florence County bluff above this river, Santee Cooper wants to build another coal-fired power plant, a \$1 billion generating station to keep the lights burning along the booming Grand Strand.

Bostick sits in a triangle formed by the three most mercury-contaminated river sections in the state, ground zero in the battle over the future of coal-burning power plants in South Carolina.

This battle pits two opponents armed with their own studies and data.

On one side is Santee Cooper, the state-owned power company that sees coal as the quickest and most reliable way to produce low-cost electricity. The company says its new plant would release only small amounts of mercury. Santee Cooper contends that if it doesn't get state and federal approval soon to start building the new plant, it might not have enough electricity to keep the lights on by 2012.

On the other side are environmentalists, including the Coastal Conservation League and the Southern Environmental Law Center. They see coal-fired power plants as Victorian Age technology that adds mercury to waterways already full of contaminated fish. They want the company to launch greater energy conservation efforts; use more alternative fuels; and build power plants with less polluting fossil fuels, such as natural gas. They accuse the company of putting cheap energy ahead of public health.

What goes up must come down

Coal is the United States' most important source of nonforeign energy. It is relatively cheap and plentiful. More than half of the country's electric power comes from burning coal.

But of all the fossil fuels, experts say, coal causes the most air pollution. It fouls the air with soot and gases, and many scientists contend that the burning of fossil fuel is a key contributor to global warming.

Burning coal also unlocks mercury in the coal, turning it into a vapor and shooting it up tall smokestacks and into the air.

Where this mercury lands has huge implications. Does the wind carry it thousands of miles away, even halfway around the world, thus causing virtually no local problem? Or does much of it come down within a hundred or so miles of the plant?

Researchers are just beginning to find answers to these questions. Several years ago, for instance, on a university campus near Steubenville, Ohio, scientists set up equipment to catch tiny amounts of mercury that fall from the air. They chose Steubenville because it's within 125 miles of more than a dozen coal-fired power plants.

Over time, scientists found that roughly 70 percent of the mercury falling in that area came from coal combustion near Steubenville.

The study was groundbreaking because it was one of the few that actually measured how much mercury was falling in a specific area and because it suggested that coal-fired power plants in the region were a significant source.

Other studies have used computer-simulated models, not actual tests. These studies have come up with different results.

One used this year by the National Oceanic and Atmospheric Administration estimated that roughly half of the mercury deposited on Lake Michigan came from coal-fired power plants and other industrial sources near the lake. Similar studies by the Environmental Protection Agency estimate that about half of a power plant's mercury pollution comes down locally or regionally. Yet another by Environmental Defense, a New York conservation group, analyzed EPA modeling and found that South Carolina had one of the worst mercury hot spot problems in the nation and that more than half of mercury contamination comes from local sources.

The Electric Power Research Institute, supported and funded mainly by utility companies, also used federal modeling data and found that mercury from coal-fired power plants stays in the atmosphere for some time and does not come down near the plant that produced it. Instead, the group found that mercury vapors disperse and drift across the globe.

'I don't know where it goes'

Jay Hudson, Santee Cooper's head of environmental management, likewise thinks that mercury pollution is caused by sources across the world, especially in China and other industrializing countries. He doubts that the company's coal-fired plants are responsible for much of the mercury pollution in the state's rivers. As far as Santee Cooper's mercury pollution, he said: 'I don't know where it goes.'

Regardless of where the mercury pollution ends up, Santee Cooper says the amount released each year by the Pee Dee plant would be relatively small. The state's environmental department has given the plant preliminary approval to release 138 pounds of mercury into the air each year, but the company says its state-of-the-art scrubbers

might clean up all but 30 pounds. Hudson says the amount might be substantially less than that.

Still, the science of how harmful mercury pollution can be remains muddled. That's illustrated in Santee Cooper's own draft environmental assessment on the impact of plant's mercury emissions.

On one page, the report states that the amount of new mercury pollution introduced into the Great Pee Dee River would be well below the state's standard for protection of human health. But on the next page, the assessment says: 'Fish-eating wildlife may be exposed to potentially toxic levels of mercury. ...'

Asked how humans would be safe but fish-eating wildlife wouldn't, Hudson replied, 'I'd have to get my consultants to explain it. You may have found an error in our report.'

Laura Varn, the company's head of communications and media relations, later said in a written response that the sentence about the danger to fish-eating wildlife 'was misleading and shouldn't have been worded the way it was.'

A question of keeping the lights on?

What's clear is that mercury taints fish in hundreds of miles of the state's rivers and streams. It's so bad in many areas that state health officials warn people to limit the amount of fish they eat, or eat none at all.

Lonnie Carter, Santee Cooper's president and chief operating officer, said his company and the nation's power industry as a whole are not major contributors to the problem. He cited an EPA report that says the nation's electric power industry releases just 1 percent of the mercury pollution in world.

'A lot of people like to single us out as the problem. The facts don't support that,' Carter said.

He said the company's proposed plant will 'meet or exceed' federal and state pollution standards. 'I've done what I ought to do. ... It's easy to second-guess us when you don't have to provide the power.'

He equated the amount of mercury that would escape the plant's high-tech scrubbers to the equivalent of seven red ping pong balls in a football stadium filled with white ones.

Environmental groups say it's a red herring to blame China and other industrial countries for the state's mercury contamination problems.

Blan Holman, a lawyer for the Southern Environmental Law Center, said that 'at the end of the day, the Pee Dee plant will be a dirty facility.'

He said a new power plant could run afoul of the Clean Water Act if it adds more mercury to an area already suffering from mercury pollution. His group and the Coastal Conservation League are pushing Santee Cooper to focus more on conservation and renewable resources to meet the Grand Strand's growing energy needs. Dana Beach, executive director of the league, said 'energy efficiency is the cheapest and easiest way to increase America's energy supply. No state needs to do that more than South Carolina.'

Carter said Santee Cooper looked at other forms of electric power generation. He said a natural gas plant wouldn't work because interstate pipelines are in the Upstate, too far from the coast, where the power is needed. And, he said, the price and supply of natural gas fluctuates too much to make it reliable. Wind and solar energy didn't make the cut because they can't provide a sufficient and steady flow, he said.

The company would like a new nuclear power plant, which releases no mercury pollution, and has teamed up with SCANA to build one. But even under the most optimistic scenarios, it won't be running until 2016, too late to satisfy demand for new electricity, Carter said. He said the company ran out of power-generating capacity during one stretch this summer and had to buy electricity from other companies. Running out of power 'is a very real issue,' he said.

A tiny problem

One reason the mercury debate is so complex is because of mercury's toxicity. It takes only tiny amounts to cause serious medical problems: Just one part of mercury in a million in some human tissues is enough to cause health problems, studies have shown.

A study by Minnesota, Michigan and Wisconsin found that one drop of mercury falling in rain a year can contaminate fish in a 20-acre lake as these fish absorb the mercury and concentrate it in their tissues. One drop is about the amount in a fever thermometer.

That is what has happened along hundreds of miles of South Carolina's lakes and rivers. Now, tests conducted at the behest of The Post and Courier reveal that mercury isn't just in the fish in South Carolina's coastal rivers and lakes. It's also in people who eat those fish.

A fish-eater no more

Perry White talks about his job as a lieutenant in Horry County's fire department. He must make split-second decisions that can mean life or death for the men on his engine. So the mere thought that the mercury poison in his system could impair his ability to concentrate, or worse, troubles him.

He can't help but think about the times he gets what he calls 'an idle mind for a minute.' Is that a symptom? Or just normal? He doesn't know, but he isn't taking any chances.

He quit eating fish from the places he's fished all of his life. He knows that if he stops eating the fish, the mercury will slowly leave his body.

He was aware of the 'fish advisories' that state health officials have issued for years, warning people to limit the amount of fish they eat from mercury-polluted rivers. But he never really thought about it. After all, warning labels seem to be on everything.

His eyes blaze and his words grow heated. He's angry that the government allows the mercury pollution and does little about people's health but issue fish advisories. 'I think it's not right.'

For complete test results, visit www.charleston.net/mercury

Reach Doug Pardue at 937-5558 or dpardue@postandcourier.com.

Reach Tony Bartelme at 937-5554 or tbartelme@postandcourier.com.

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