

A burning issue

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By Molly Parker
Staff Writer

“Sixteen, please.” Giving an order laced with a Southern drawl, Bill McCall Jr. directed the elevator operator seated atop a five-gallon bucket to take him to the top of the boiler tower, a critical piece of the fourth power unit under construction at Santee Cooper’s coal-fired facility in rural Cross.

Donning hard hats and safety goggles, McCall, who is Santee Cooper’s chief operating officer, and two of his senior-level colleagues stepped out onto the open-planked structure. From this vantage point, some 238 feet up in the air, heaps of coal below look like dark rolling hills.

Train cars bring in 10,000 tons a day of coal that is crushed as fine as baby powder and blown into a boiler that creates a hot steam—reaching temperatures as high as 1,055 degrees Fahrenheit—which spins a turbine that converts energy from a mechanical to an electrical state. It is then transmitted down three conductors to a transformer, jumped to 230,000 volts and shipped to the power grid.

It’s the means by which electricity is provided to thousands of South Carolina businesses and homes, yet all the while, these towering structures spew noxious pollutants into the air—chief among them mercury, carbon dioxide, particulate matter and sulfur dioxide—though far less than they once did.

It is these chemical emissions—an inevitable byproduct of coal-generated power—that have become central in a debate about whether Santee Cooper should build another coal plant 70 miles northeast near Kingsburg on 2,700 acres of wetlands and pine forest neighboring the Great Pee Dee River.

The state-owned utility expects to face a 525-megawatt shortfall in just five years without it, which Santee Cooper says will hamper the state’s ability to attract business and industry.

Santee Cooper promises that its facility, when built, will be the cleanest coal plant in the nation, perhaps in the world. That notion has been challenged by environmental groups hoping to thwart plans by convincing the state Department of Health and Environmental Control that it should not issue a permit for the plant.

“The fact that they say it doesn’t make it so,” said Blan Holman, an attorney for the Southern Environmental Law Center, which has threatened legal action as an alternative.

Environmental evolution

Some 60% of the footprint of each coal unit is made up of environmental controls. High-pressure fans suck the exhaust gas through a selective catalytic reduction process that strips it of nitrogen oxide, where it is run through a precipitator that removes particulate matter to the scrubbers.

Standing atop the Cross plant on a recent day, McCall pointed to the four massive scrubbers, one for each plant, outfitted with octopus-like metal tentacles that remove sulfur dioxide by shooting a mixture of limestone and water known as slurry at the exhaust gas waste, produced from of the combustion process.

When the first scrubber was built of steel and rubber nearly 25 years ago, it removed only 70% of sulfur dioxide, compared to the newest one made of concrete and tile that cleans away 96% of the pollutants shown to increase respiratory illnesses when present in the air.

The first Cross unit went online in 1983, the third at the beginning of this year. The fourth unit, upon which McCall stood, is still under construction.

Over the past two decades, the environmental controls have tightened and improved for coal-fired facilities, requiring less space in return for more efficiency.

The four units combined that will be running by 2009 are permitted to emit the same amount of pollution as the two older units were allowed to cough out for a decade.

“This is what you call evolution,” he said.

All the units have now been updated to remove at least 93% of sulfur dioxide before the gas heads out the smoke stack and into the environment. The new coal units near the Pee Dee River would do even better, he said, removing 97% of sulfur dioxide, McCall said.

This evolution includes turning once-buried waste into usable products. For instance, oxygen is pumped into the scrubber to create calcium sulfate, also known as synthetic gypsum.

American Gypsum, a new \$125 million, 100-employee plant in Georgetown, is expected to begin operating by year’s end. The plant will take calcium sulfate generated at Santee Cooper’s Cross and Winyah generating stations and turn it into wall board.

“I feel like we’ve been a research and development lab for this industry,” he said.

Economic consequences

Across the state, the economy would suffer, McCall said, if Santee Cooper could not deliver safe and reliable power, as it is mandated to do by state law.

But the environmental activists have painted their opposition with an economic brush as well.

The problem, said Holman, is that the new plant would eat into the region's "increment," or the clean-air budget for the area as measured by pollutants.

That budget is meant to prevent an area from moving into the so-called "nonattainment" status under the Clean Air Act that would threaten federal transportation dollars and future permitting applications for businesses.

"We're dealing with a limited shared resource, which means we need to think carefully about how to dole it out," he said. "Which would the region rather have, a tax-exempt coal plant staffed by 100 people, or several tax-paying Vought facilities employing thousands?"

Of particular concern is the plant's proximity to Cape Romain, a refuge owned by the U.S. Fish and Wildlife Service, which in 1997 identified that spot along with seven other national refuges as having the "highest air pollution threat."

The air quality standards are stricter for the refuge, as with other congressionally designated areas, said Gudrun Thompson, also an attorney with the law center.

Environmental

Santee Cooper spokeswoman Laura Varn challenged the claim that the utility's presence in Florence County will thwart other businesses. The plant will emit less pollutants than the permit would allow, she said, pointing to results from the new mercury monitoring system the utility installed a year ago to accurately test the tonnage it spits out.

Preliminary results found that the two units tested emit roughly 30 to 40 pounds per year, which would equate to about 160 pounds for all four units, well under the 187.2 pounds the plant is permitted to emit in total.

Critics argue even trace amounts of mercury can do significant damage because it can seep into the water and contaminate the fish population. DHEC already recommends eating no more than one serving per month of fish caught in certain areas where high levels of mercury have been detected.

Holman's organization and the neighbors closest to the plant would like Santee Cooper to turn away from coal altogether.

"There's no such thing as clean coal," he said. "That's like a healthy cigarette."

They contend that Santee Cooper has yet to look at a comprehensive conservation package such as the one Charlotte-based Duke Energy has filed with the Public Service Commission of South Carolina.

Duke, which is also awaiting approval in North Carolina and Indiana, claims it can retire nearly 800 megawatts of energy that coal plants would otherwise produce by passing on

the costs for efficiency upgrades to customers in the same way new plant construction can be passed on through rate increases.

McCall said it's easy to point fingers when you are not the one legally charged with keeping the lights on.

"I hope you know we don't want to build one," he said once back on the ground. "We build a plant only because we need it. I think some people believe we are out here trying to build a plant and we don't want to build a plant. This is a lot of work."

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