

# **SWEPCO's Coal Plant Fires Up, Generates Power**

DAVID SMITH, Arkansas Democrat-Gazette

FULTON, Ark. (AP) — The latest technology for coal-fired power plants is being used at the \$2.1 billion, 600-megawatt John W. Turk Jr. plant about 15 miles northeast of Texarkana.

Some think it is among the last coal-fired plants that will be built in the United States. Others think that assumption is premature.

Southwestern Electric Power Co. began in 2006 the regulatory process to build the power-generation facility in Hempstead County, anticipating that the plant would be operating by the summer of 2011.

But it faced opposition and legal battles. After the outcries died down and court filings were resolved, the "ultra-supercritical" plant quietly started producing power Dec. 20, about 18 months after its initial target date.

And SWEPCO President Venita McCellon-Allen says the plant appears to be "running beautifully."

The Arkansas Public Service Commission approved the plant in 2007 over the protests of nearby landowners and environmental groups.

The plant was built using technology unlike that at any other coal-fired plant in the U.S., McCellon-Allen said. SWEPCO patterned the plant after coal-fired plants with similar technology in Japan.

By harnessing very high pressure and steam temperatures of up to 1,125 degrees Fahrenheit, the Turk plant is designed to generate more power with less coal than older plants do and to reduce carbon-dioxide emissions by 4 million tons over 30 years.

After the Public Service Commission's approval of the plant, SWEPCO encountered a string of obstacles.

The Arkansas Court of Appeals overturned the commission's ruling in 2009, and the state Supreme Court upheld the Court of Appeals ruling in 2010. In July 2011, the 8th U.S. Circuit Court of Appeals at St. Louis upheld an injunction halting, among other things, construction of a water-intake system and transmission lines at the plant site.

"It certainly seemed at the time" that the opposition had the resources to continue fighting indefinitely, McCellon-Allen said.

"It did not seem that they would go quietly," she said.

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The Hempstead County Hunting Club fought the plant's construction in part because of fears that it would pollute Grassy Lake, a pristine 2,000-acre lake near the plant that is home to alligators, migratory birds, species on the endangered list, and some of the state's last cypress swamps and stands of virgin timber.

SWEPCO offered to provide funding to support the hunting club's efforts to conserve the Little River bottoms and the Grassy Lake area, among many other concessions. Monetary details of the settlement weren't disclosed.

The club, the biggest opponent of the plant, agreed to a settlement with SWEPCO in July 2011. The Sierra Club and the Audubon Society settled with SWEPCO in December of 2011. SWEPCO agreed to pay the environmental groups \$12 million, including \$2 million for legal costs.

After eight weeks, the Turk plant is running at higher levels than SWEPCO had anticipated, McCellon-Allen said.

The plant is meeting the expected capacity of 600 megawatts and is in full compliance with its air permit, Mc-Cellon-Allen said. The plant's efficiency is about 3 percent above what its permit allows, McCellon-Allen said. If that continues, the plant will use about 3 percent less coal than expected and have 3 percent lower emissions than expected, McCellon-Allen said.

SWEPCO still needs to do more testing at the plant, she said.

"That will help us to understand the performance metrics of the plant," McCellon-Allen said. "But our initial thoughts are that it's running beautifully."

About half of the Turk plant was built to burn coal to produce electricity, and about half was built to reduce emissions, said Andy Brannan, energy production superintendent at the plant.

The Arkansas Department of Environmental Quality has not done any checks at the Turk plant since it opened in December, said Katherine Benenati, a department spokesman.

SWEPCO has 90 days after reaching full production or 180 days after starting production to demonstrate its permit compliance with the department, Benenati said.

Yancey Reynolds, a member of the Hempstead County Hunting Club, declined to discuss the plant earlier this month.

Randy Wilbourn, a member of three other hunting clubs in the area, said this month that the final decision by the Public Service Commission in 2007 addressed those clubs' worries.

Those concerns — including transmission lines crossing the clubs' property,

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relocation of a rail line and water usage in the area — were answered in the commission hearing, Wilbourn said.

"As far as the emissions, I'm comfortable that the regulatory authorities will be monitoring that as time goes on," Wilbourn said.

The plant employs 109. About 50 are SWEPCO managers who relocated from other company facilities, Brannan said in an interview at the plant last month.

The other 60 or so were hired from the local area, said Brannan, who has worked for SWEPCO for 27 years. Those workers earn average annual salaries of about \$60,000, Brannan said.

Tommy Burke, 46, of Hope was hired by SWEPCO two years ago to work in the control room. Burke had been service manager at a Kubota tractor dealership in the area. He jumped at the chance to work for SWEPCO, getting a 50 percent raise, said Burke, who continues his complicated training to work in the control room.

"The money and benefits were a dramatic increase," said Burke, who is married and has three children.

The plant has had a positive economic impact on the area, said Dennis Ramsey, the mayor of Hope.

There was a peak of about 2,200 workers, many hired from the surrounding area, who built the plant, Ramsey said. Each of the construction workers made an average of about \$25 an hour, SWEPCO said, which includes about 10 hours of overtime. SWEPCO made a \$1 million endowment to the University of Arkansas Community College at Hope to provide classes to train employees for the plant, Ramsey said.

Initial plans for the Turk plant were that it would help supply power to fast-growing Northwest Arkansas. SWEPCO operates the 34-year-old, 528-megawatt Flint Creek coal-fired plant in Gentry, about 10 miles from Siloam Springs.

But SWEPCO had to shift its strategy.

In 2010, it chose to operate the Turk facility as a "merchant plant," meaning that it could supply power to customers in Texas and Louisiana, but not Arkansas. That allowed SWEPCO to continue construction on the plant without necessitating approval from the Public Service Commission.

Now, after reaching the settlements with its opponents, using electricity from the Turk plant to supply Northwest Arkansas is a possibility again, Brannan said.

If it chose to do that, SWEPCO would make a filing with the commission, Brannan said.

Coal-fired plants, which can produce electricity inexpensively, cause concerns about

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pollutants.

Coal produces more emissions than oil, which produces more than natural gas, which produces more than nuclear plants, which emit almost no pollutants into the air, said James Williams, owner of WTRG Economics. Williams lives in London in Pope County, within a quarter-mile from Entergy Arkansas' nuclear facility.

For comparison, bituminous coal generates 2.03 pounds of carbon dioxide per kilowatt hour, oil produces 1.55 pounds of carbon dioxide per kilowatt hour and natural gas generates 1.12 pounds of carbon dioxide per kilowatt hour, according to the U.S. Energy Information Administration.

Operating a natural-gas plant is less expensive than a coal-fired plant because of the currently cheap price for natural gas, Williams said. But if natural-gas prices rise above \$4 per million British thermal units, coal becomes less expensive than natural gas, Williams said. Natural gas currently is selling for about \$3.30 per million Btus, Williams said.

It is necessary for an energy firm to have a diversity of fuels generating electricity, said David Cruthirds, a Houston regulatory lawyer and publisher of energy newsletter "The Cruthirds Report."

"Utilities are right to need a diverse supply (of power)," Cruthirds said. "You can't have all your eggs in one basket."

The Turk plant is likely to be one of the last coal-fired plants built in this country, McCellon-Allen said.

There are a couple of coal-fired plants under construction, Cruthirds said. One is the Kemper County plant that Mississippi Power, a subsidiary of Southern Co., is building, he said. The other is being constructed by Cleco Corp. near Lafayette, La., he said.

"Some of these coal plants that are getting built still face some risks (from federal regulations)," Cruthirds said. "It is hard, if not impossible under (Environmental Protection Agency) rules (to build coal-fired plants). There is still tremendous uncertainty."

Duke Energy anticipates retiring 38 coal- and gas-fueled plants, it recently told the North Carolina Utilities Commission. While Duke expects to have a 45 percent decline in coal use in 20 years, it said it will soon open one coal-fired plant.

Glen Hooks, senior campaign representative with the Sierra Club's Beyond Coal Campaign, agreed that the Turk plant could be the last coal-powered plant built in the nation.

"I said that several times in our fight against (the Turk plant)," Hooks said. "Nobody wants to build coal plants anymore. It is getting very expensive but also very difficult to build them in a way that can meet tougher (EPA) standards. It's just not

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making sense economically anymore."

Williams acknowledged that the Turk plant could be one of the last built in the next four years. But in five years, after a change in White House administrations, more could be built, he said.

Even if there is never another coal-fired plant built in the U.S., it's almost certain that China will keep churning them out, Williams said.

And because China's coal-fired plants are not as clean as those in the United States, there will be more world pollution, he said.

"Right now, about half of the particulate pollution (soot) in the U.S. is coming in on winds across the Pacific from China," Williams said.

If American power production from coal-fired plants ended today, it would take China only about six years to replicate that annual production, Williams said. China's coal consumption is equivalent to 37 million barrels of oil per day, and it increased that by the equivalent of 10 million barrels per day over the past six years, he said. All U.S. plants consume 10 million barrels of oil per day in coal equivalent, Williams said.

"If the U.S. shut down every one of its coal plants, at the same rate of growth, six years from now China will replace every one of our coal plants," Williams said. "So the U.S. building a coal plant or not building a coal plant has an almost immeasurable impact on world pollution."

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