

Duke studies Savannah River's supply limits

Staff Reports

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GREENVILLE — A Duke Energy study under way through next year will spell out just how much water the Savannah River has to spare for the millions of people who depend on it.

Two of the energy giant's hydropower plants in Oconee County are operating under a 50-year federal license that expires in 2016. Duke's water supply study will look at demands on the river from the upper of those two power plants — at Lake Jocassee — all the way to the Atlantic Ocean, said Ed Bruce, an engineer with Duke Energy who has worked on several relicensing projects for the utility.

Bruce spoke Wednesday at Duke's Wenwood Operations Center in Greenville to about 30 people representing municipal, water and environmental organizations.

The water supply study is among 14 planned as Duke pursues a license renewal from the Federal Energy Regulatory Commission for its Jocassee and Keowee hydropower plants. Other studies will look at the plants' effect on water quantity, recreation and wildlife.

Stakeholders voiced concerns on issues ranging from water transfers to Greenville to the public's increasingly unrealistic demands on water resources in the region.

Duke Energy can't decide how much water one user can have over another, Bruce said. State permitting agencies and the U.S. Army Corps of Engineers weigh in on that.

Still, Duke will come up with some numbers based on various rainfall and water-use scenarios that will show at what point the river will be tapped out, Bruce said. The goal, he said, is to submit a sustainable, long-term proposal to federal regulators.

The Savannah River's drainage basin is small, he said, and users downstream rely on water continuing to flow out of the Keowee Dam. He called Lake Jocassee the Duke system's "workhorse engine" because it can drop up to 30 feet when the rest of the basin demands it.

"Our yield analysis will determine the maximum amount of water supply for other uses," Bruce said. "Once we satisfy operations, what's left over?"

The plan is to have a draft of the study for the stakeholder team by Aug. 1, 2012.

Wes Cooler of Upstate Forever said that until a decade ago, people in this region saw water as an infinite resource.

"Until you have a number for users, the message to the public is there is no limit," Cooler said. "Put another pipe in."

Three Duke Energy hydroelectric dams and three U.S. Army Corps of Engineers hydroelectric dams operate in the Savannah River Basin.

"This is a complex system because we are hydrologically linked to corps projects," Bruce said.

Duke intends to compile a list of and study every public or private entity that withdraws 50,000 gallons or more of water a day from the Savannah River and its tributaries, Bruce said. The study will also build in variables such as lower or higher than expected population growth.

Erin Culbert, a spokeswoman with Duke, said that in addition to the federal relicensing work under way, Duke is revising a 1968 agreement with the Corps of Engineers that establishes how to share water during periods of drought.

"We've known that agreement is out of date for a number of years," Culbert said.

The drought of record — the driest the area has ever been since the lakes were created — ended in December 2008.

Sandy Campbell, a corps park ranger, attended Wednesday's meeting and said Duke's data will be helpful as her agency continues to assess its water uses as well.

Monte TerHaar, an environmental engineer for the Federal Energy Regulatory Commission, said policy makers and the public are demanding more sustainable energy projects such as hydropower. At the same time, he said, Southeastern licensees have increasingly had to deal with dwindling water supplies.

Drinking water and industrial water uses will grow fairly predictably, Bruce said. But one of the more difficult future demands on water to gauge over the next 50 years, he said, is power plant needs. Georgia Power plans to add two more reactors to its Vogtle Plant near Waynesboro, Ga.

"There could be all kinds of thermal cooling demands on the water," Bruce said.

Duke Energy will feed 80 years' worth of rainfall and temperature data into a simulation model that also will include variables such as evaporation rates, water withdrawals and returns, sedimentation, and rates of population and industrial growth. This model will show how much water is available under various scenarios and will determine whether Duke might need to change the way it does business.

Bruce said Duke, a private company that posted \$1.3 billion in profits last year, will also run simulations to see how it can maximize the amount of money it makes off of hydropower operations.

