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Seneca taps into new water treatment

By Chad Dorsett WSNW/Special to Anderson Independent-Mail

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SENECA — The Seneca water treatment plant sits at the edge of Normandy Shores subdivision on Lake Keowee and is a source of pride for city leaders.

The city council met at the plant this week and heard about an extensive retrofit giving it the capability of pumping as much as 20 million gallons of water a day.

"We were a standard sedimentation process where we had bottom flocculation and we've modified our plant to a process known as Dissolved Air Flotation (DAF)," said Seneca Utilities Director Bob Faires. "What that does is instead of settling all the particulate to the bottom of the basins it introduces millions of tiny bubbles to take particulate that is in the water and bring it to the surface."

Faires said plant workers can then scrape off the particulate from the top and send it to the sludge basin.

"It's allowed us to increase our flow rate by three times the amount in our basins," Faires said.

The city's treatment plant is unique because it's one of only a handful of its kind in North America to retrofit the DAF approach into a former traditional water treatment system.

"The retrofit was made possible because of the clean Lake Keowee water that we receive," said Seneca Mayor Dan Alexander. "It will allow us to process water a lot quicker. The city is one of the first water systems in North America that has taken an old water plant and converted it to this new technology system."

Ten years ago when the city approached capacity at the plant, it began to study new ways to filter water. After six years of filter tests, the city examined a new approach at converting the water treatment plant and producing more water for city and county residents and businesses.

"Our new process has allowed us to look a little further into the future, as our county and city expand and the water needs grow," Faires said. "We've got a process in place

that can be duplicated a couple of more times to allow our plant to go up to 36 million gallons a day."

Numerous people were credited with the successful upgrades to the water treatment plant. Members of the Seneca City Council thanked the six person crew at the plant for their hard work; Water Plant Supervisor Steve Fletcher, Class A operators Tommy Clayton, Danny Phillips, Chris Carter, and Dale Hanna, and maintenance operator Danny Capps.

The council also praised the hard work of Marziano and McGougan consulting engineers of Asheboro, N.C., which provided the detailed design of the retrofit. Jim Bivins, chief engineer and Terry Irvin, head process engineer, also worked on studying and designing the upgrades. South Atlantic Construction of Greenwood and company president Kin Chandler served as contractors on the project.

"A lot of people contributed to this project," Alexander said. "Bob Faires and the crew at the water treatment plant did an outstanding job and we really appreciate all their hard work."

Faires also expressed his gratitude to the engineers with the S.C. Department of Health and Environment al Control.

"I appreciate the support and cooperation we received from Bill Randolph and Cory Watts from DHEC," said Faires. "Because we were the first in South Carolina to undertake a retrofit of an existing and operating plant, DHEC had to conduct multiple tests to ensure the process was meeting clean water standards."

Construction on the water treatment plant spanned six years and was conducted in two phases. At the same time while the retrofit was taking place, Seneca continued to garner awards for safe drinking water from DHEC.



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