Station upgrade begins with turbine deliveries

THE JOURNAL STAFF

SALEM — The first of two new turbines for Duke Energy's Jocassee Pumped-Storage Hydroelectric Station has arrived in Salem with a second unit due around Labor Day.

Units 1 and 2 at the station will be updated this fall, increasing capacity by 50 megawatts.

The turbines, manufactured in York, Pa., represent state-of-the-art design for greater efficiency.

Each turbine — about 23 feet in diameter and weighing nearly 150 tons — is being transported via interstate highways on 20-axle, dual-lane trailers about 250 feet long.

The units travel with police escort to help manage traffic along the route. The first turbine will remain parked temporarily until the second arrives. Then both will make the slow and winding seven-mile journey to the facility on a hydraulic platform trailer while escort personnel walk alongside.

Duke Energy will notify residents and emergency personnel they may need to use an alternate route during daylight hours of the two days the turbines travel to the station.

"Essentially, we're improving the output of the facility and making it more efficient with state-of-the-art design technology," said Greg Lewis, technical manager, Hydro Fleet. "This extends the life of the station and helps our system respond to peak customer demands with a fast, flexible, clean and efficient energy resource."

These will be the first upgrades to Jocassee units 1 and 2 since they began commercial operation in 1973. Replacing the turbines will enhance hydro generation from the current maximum capability of 170 megawatts to 196 megawatts each. Units 3 and 4 were upgraded in 2006 and 2007.

Lake Jocassee will be operated at least four feet below full pond during the upgrades to units 1 and 2, which are planned for September 2010 through May 2011.

When generating electricity, the Jocassee pumped-storage facility works as a conventional hydroelectric station. However, the facility also can reverse its turbines and pump back previously used water from Lake Keowee into Lake Jocassee. This allows Duke Energy to reuse the water to generate electricity for customers during periods of highest demand.



FOR THE JOURNAL

The first of two new turbines intended for the Jocassee Hydro Station arrived safely in the Salem area on Sunday. The second is expected to arrive shortly after Labor Day, and both will then be transported to the power station.