

TVA Restarts Browns Ferry Unit 1

The Tennessee Valley Authority restarted Unit 1 at the Browns Ferry Nuclear Plant in North Alabama on May 22, 2007, completing one of the most extensive recovery efforts in the nuclear industry for an operating plant.

TVA received permission from the Nuclear Regulatory Commission May 15 to restart the reactor. TVA told the NRC on May 9 that it has the ability to operate and maintain all three units at Browns Ferry safely, that work to restart and operate Unit 1 is complete and that pre-start up testing was successful.

The restart completes the recovery effort within the five-year plan approved by the TVA Board in 2002, and at the projected cost of about \$1.8 billion.

“Returning Browns Ferry Unit 1 to our nuclear fleet gives TVA another dependable, safe and emissions-free source of generation to help meet the growing demand for power in the Tennessee Valley,” said TVA President and CEO Tom Kilgore. “The successful recovery of TVA’s third unit at Browns Ferry is a result of the commitment, determination and attention to detail of the people who did the work. I offer my sincere thanks and congratulations to all TVA employees and contractors who helped bring this important project to a successful conclusion.”

Operators began the deliberate, controlled process of restarting the reactor on Monday, May 21, and a self-sustaining nuclear reaction was achieved at 12:28 am CDT on Tuesday, May 22. Operators gradually increased power in the reactor over the next several days and tested secondary plant systems to ensure they operate as designed.

TVA continues to conduct tests on the reactor and the other plant systems, including connections to the power grid, followed by deliberate “automatic” trips, or shutdowns, to ensure that safety systems operate correctly. Following these and other tests, the unit will be reconnected to the TVA power system for the final time.

The tests are part of a program designed to bring the plant safely to power production. TVA conducted similar power-ascension tests during the successful restart and subsequent safe operation of Browns Ferry units 2 and 3.

“All three units at Browns Ferry are essentially alike now,” said TVA Acting Chief Nuclear Officer Preston Swafford. “We have new or refurbished equipment that is operated in the same manner on all three units, and our ongoing operations, maintenance, training and oversight programs can focus on sustaining high-quality performance to ensure the safe and reliable operation of Browns Ferry.”

TVA completed more than 4 million work hours preparing the engineering and design and more than 15 million work hours modifying, replacing, and refurbishing systems and

components to ensure Browns Ferry Unit 1 can produce electricity safely and reliably to meet the growing need for power in the Tennessee Valley.

TVA installed modern digital instrumentation and controls, modern power supplies, replaced 200 miles of electrical cable and eight miles of pipe, replaced or refurbished the unit's large pumps and motors and conducted more than 1,200 tests that showed Unit 1 meets the design and regulatory requirements for safe operation.

Browns Ferry is located on Wheeler Reservoir in Athens, Ala. All three units are capable of producing more than 1,155 megawatts of electricity each, enough for each unit to supply power to approximately 650,000 homes. TVA also operates two units at Sequoyah Nuclear Plant in Soddy Daisy, Tenn. and one unit at Watts Bar Nuclear Plant in Spring City, Tenn.

TVA shut down all three Browns Ferry reactors in 1985 to address management and operational concerns. Browns Ferry units 2 and 3 were returned to service in 1991 and 1995, respectively. The recovery of Unit 1 used lessons learned from the restarts of units 2 and 3, and Unit 1 has the same upgrades and improvements made on the other two units.

In May 2002, the TVA Board approved returning Unit 1 to service, calling it the best business decision to meet the Tennessee Valley's long-term power needs. The Board based its decision on improved nuclear performance, increased power demand in the Valley, a positive evaluation of the environmental impact, and a detailed scoping, estimating and planning effort for the Unit 1 restart.

TVA is the nation's largest public power provider and is completely self financed. TVA provides power to large industries and 158 power distributors that serve approximately 8.7 million consumers in seven southeastern states. TVA also manages the Tennessee River and its tributaries to provide multiple benefits, including flood damage reduction, navigation, water quality and recreation.

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