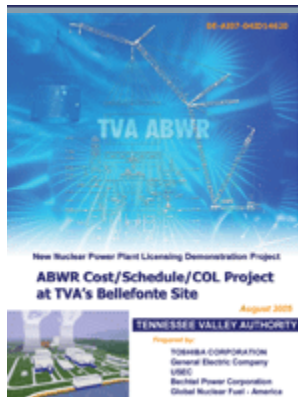


# U.S. Department of Energy Office of Nuclear Energy, Science and Technology

## NUCLEAR POWER TECHNOLOGY, SAFETY AND SECURITY



### Nuclear Power 2010

#### Tennessee Valley Authority Releases its Cost and Schedule Estimate for a Twin Unit General Electric Advanced Boiling Water Reactor at its Bellefonte Site in Alabama

The U.S. Department of Energy (DOE) has received a final report from the Tennessee Valley Authority (TVA) on the cost and schedule estimate to build a twin unit General Electric Advanced Boiling Water Reactor (ABWR) at its Bellefonte site in Alabama. TVA, along with team members Toshiba, Bechtel, General Electric, Global Nuclear Fuels-America and the United States Enrichment Corporation, completed the 13 month study to determine and present in detail, the engineering, procurement and construction schedule, (EPC) and economics for building the twin unit ABWR.

The overall conclusion of this cost and schedule study is that two ABWR nuclear units can be constructed at the Bellefonte site on a 40 month schedule for each reactor. This time frame is the duration from installation of the first reactor structural concrete to fuel load. The engineering, procurement and construction cost for the two units is \$1611/KW for the 1371MWe certified ABWR plant design that incorporates some technology advancements developed during the Japanese and Lungmen ABWR construction. A higher power ABWR incorporating other power increase design features identified in this report would increase the output to 1465MWe reducing the EPC cost to \$1535/KW. These EPC costs would be the basis for a firm fixed price offering to TVA.

The results of this study provide the nuclear power industry with a very detailed estimate for construction time and cost, based on 2004 dollars, of building a new ABWR nuclear plant. This estimate should establish an upper bound for the cost of a new nuclear power plant since the newer passive reactor designs are expected to be simplified and more economical to build. The completion of this report will also assist TVA in determining its path forward in installing new nuclear capability at the Bellefonte site in Alabama.

This study was funded under an interagency agreement by the Nuclear Power 2010 program (NP 2010) in August 2004. The NP 2010 program is a Presidential initiative for government/industry cost-shared efforts to expand the use of nuclear energy in the United States and implemented by the Department's Office of Nuclear Energy, Science and Technology.

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