

**TENNESSEE VALLEY AUTHORITY**

**Completion And Operation of Watts Bar Nuclear Plant Unit 2, Rhea County,  
Tennessee**

**AGENCY:** Tennessee Valley Authority (TVA)

**ACTION:** Issuance of Record of Decision

**SUMMARY:** This notice is provided in accordance with the Council on Environmental Quality's regulations (40 CFR parts 1500 to 1508) and TVA's procedures implementing the National Environmental Policy Act. On August 1, 2007, the TVA Board of Directors decided to adopt the preferred alternative identified in TVA's Final Supplemental Environmental Impact Statement (FSEIS), Completion and Operation of Watts Bar Nuclear Plant Unit 2, Rhea County, Tennessee.

A Notice of Availability of the FSEIS was published in the Federal Register on June 23, 2007. Under the selected alternative, TVA has decided to meet the need for additional baseload capacity on the TVA system and maximize the use of existing assets by completing and operating Watts Bar Nuclear Plant (WBN) Unit 2. The unit would be completed as originally designed incorporating additional modifications made to its sister unit, WBN Unit 1, which has been operating since 1996. No expansion of the existing site footprint would be required to complete construction of Unit 2. TVA has prepared the FSEIS to update the extensive environmental record pertinent to the proposed

action. In addition to the FSEIS, TVA conducted a detailed scoping, estimating, and planning (DSEP) study. TVA used information from the DSEP and the FSEIS to make the decision to complete construction and to operate Unit 2.

**FOR FURTHER INFORMATION CONTACT:** Bruce L. Yeager, NEPA Policy Program Manager, Environmental Stewardship and Policy, Tennessee Valley Authority, 400 West Summit Hill Drive, WT 11B, Knoxville, Tennessee 37902-1499; telephone (865) 632-8051 or email [blyeager@tva.gov](mailto:blyeager@tva.gov).

**SUPPLEMENTARY INFORMATION:**

The FSEIS for completion and operation of WBN Unit 2 supplements the original 1972 TVA EIS titled “Final Environmental Statement, Watts Bar Nuclear Plant Units 1 and 2” and the “Final Statement Related to the Operation of Watts Bar Nuclear Plant Units 1 and 2, Supplement No. 1,” (NRC 1995b), which TVA adopted on July 10, 1995. Where pertinent, the FSEIS incorporates by reference, utilizes, tiers from, and updates information from the substantial previous environmental record prepared for actions related to the construction and operation of WBN, including updating the need for power analysis.

**Alternatives Considered**

In the 1972 Final Environmental Statement (FES) for Watts Bar Units 1 and 2, TVA considered a number of alternatives to constructing and operating WBN, including the No Action alternative. TVA is proposing to complete WBN Unit 2 as originally designed except for modifications consistent with those made to Unit 1. Consistent with applicable regulations, the FSEIS also tiers off of Energy Vision 2020 - An Integrated Resource Management Plan (IRP) and Final Environmental Impact Statement (“IRP”

EIS) (TVA 1995); the Final Environmental Impact Statement for the Production of Tritium in a Commercial Light Water reactor (DOE 1999); and the Reservoir Operations Study Final Programmatic Environmental Impact Statement (TVA 2004), and incorporates by reference the balance of the environmental record pertinent to WBN. The IRP EIS analyzed a substantial number of energy resource alternatives, including energy efficiency improvements and demand side management.

### **Environmental Consequences**

The environmental consequences of constructing and operating WBN were addressed comprehensively in the 1972 FES for WBN Units 1 and 2. Subsequent environmental reviews by TVA and the NRC have updated that analysis. By 1996 when the construction of Unit 1 was complete, most of the construction effects had already occurred. Unit 2 would use structures that already exist and most of the work required to complete Unit 2 would occur inside of those buildings. Disturbances proposed for the construction of new support facilities would be within the current plant footprint. TVA would use standard construction best management practices to control minor construction impacts to air and water from dust, sedimentation, and noise. Where needed, the FSEIS further updated information and analyses in the following areas: surface water; groundwater; aquatic ecology; threatened and endangered species; wetlands; natural areas; cultural resources; socioeconomic, environmental justice and land use impacts; floodplains and flood risk; seismic effects; climatology and meteorology; nuclear plant safety and security; radiological effects; radioactive waste; spent fuel storage; transportation of radioactive materials, and decommissioning.

The analyses conducted for the FSEIS indicate that no significant impacts would be expected as a result of completing and operating WBN Unit 2. The oversight of

permitting agencies, such as the Tennessee Department of Environment and Conservation, will help further safeguard the environment from unacceptable environmental impacts. No effects to federally-listed species would occur. The analysis acknowledges that there will be both beneficial and adverse impacts to local community services from completing Unit 2, largely associated with the effects on social services during the construction process.

These findings are primarily a result of the fact that: 1) WBN Unit 1 is already an existing facility operating under an NRC license; 2) WBN Unit 2 is substantially complete; 3) the environmental footprint of the proposed action is confined to that of the existing plant (primarily within existing structures of the plant); and 4) the proposed addition of WBN Unit 2 results in relatively minor changes to ongoing operations of WBN that have the potential for environmental effects.

### **Decision**

On August 1, 2007, the TVA Board of Directors decided to adopt the preferred alternative to complete and operate WBN Unit 2. This decision took into account environmental considerations together with economic and technical aspects of the project. Proceeding with completion and operation of WBN Unit 2 is the best decision for TVA and the Tennessee Valley in terms of power supply, power price, generation mix, return on investment, use of existing assets, and avoidance of environmental impacts. This decision has the three-fold benefits of assuring future power supplies without the environmental effects resulting from operation of fossil fuel generating plants (including increased emissions), avoiding the even larger capital outlays associated with totally new construction, and avoiding the environmental impacts resulting from siting and construction of new power generating facilities elsewhere. The FSEIS concluded

that WBN Unit 2 can be completed and operated without significant, adverse impacts on the environment.

### **Environmentally Preferred Alternative**

On May 31, 2007, the TVA Board endorsed enhanced reliance on renewable energy resources, demand side management (energy conservation), and energy efficiency to help meet the growing demand for electricity from the TVA system. These energy resource options were evaluated in TVA's IRP EIS. TVA is implementing a number of these resource options and expects to rely more heavily on such options in the future. Energy conservation and improved energy efficiency typically would have lesser environmental impacts than completing and operating a nuclear plant. They would not, however, offset the near-term need for more baseload generation that would be met by completing and operating WBN Unit 2.

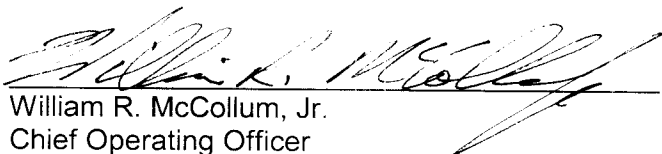
Accordingly, TVA has concluded that the preferred alternative is also the environmentally preferable alternative. This alternative has the benefits of assuring future power supplies without relying upon fossil fuel generation and its associated environmental impacts, and avoiding the greater environmental impacts resulting from siting and construction of new power generating facilities elsewhere.

### **Environmental Commitments**

In the FSEIS, TVA has identified two measures that would be implemented during construction of WBN Unit 2 to address potential socio-economic impacts. TVA will designate certain counties as impacted by the construction process so that they would become eligible for a supplemental allocation from TVA's tax equivalent payments under Tennessee law. These funds could be used by counties and local governmental to

address impacts on local services and infrastructure. A part of the DSEP, TVA conducted a labor study of the potential construction workforce. TVA will also provide information from this study to officials in the impacted counties. This information should help with local planning to better accommodate the anticipated temporary population growth.

Dated: August 3, 2007

  
William R. McCollum, Jr.  
Chief Operating Officer