



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, D. C. 20555

ACRSR-1621

PDR

November 8, 1995

The Honorable Shirley Ann Jackson  
Chairman  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Dear Chairman Jackson:

SUBJECT: APPLICATION FOR OPERATING LICENSE FOR WATTS BAR NUCLEAR  
PLANT UNIT 1

During the 426th meeting of the Advisory Committee on Reactor Safeguards, November 2-4, 1995, we reviewed the application of the Tennessee Valley Authority (TVA) for a license to operate the Watts Bar Nuclear Plant Unit 1. The Watts Bar Subcommittee also discussed this matter at a meeting on November 1, 1995. During the meetings, we had the benefit of discussions with representatives of the NRC staff and the TVA staff, and several members of the public. We also had the benefit of the documents referenced. Several ACRS members visited the site on October 3, 1995. The Committee previously reported on the TVA application on August 16, 1982.

Watts Bar Nuclear Plant Unit 1 is located in eastern Tennessee. The unit employs a Westinghouse nuclear steam supply system with a rated core power level of 3411 MWt and has an ice-condenser containment. The design is similar to that of the Sequoyah Nuclear Plant Units 1 and 2, which received their operating licenses in September 1980 and September 1981, respectively.

In its August 16, 1982 report, the Committee concluded that the Watts Bar units could be operated without undue risk to the health and safety of the public subject to the satisfactory completion of construction, staffing, and preoperational testing, as well as to the resolution of the following concerns: a serious quality assurance breakdown, flow-induced vibration in the steam generators, the integrity of the cement lining of the essential raw cooling water system piping, and the acceptability of the hydrogen control system.

There has been a long history of construction quality problems leading to a number of work stoppages at Watts Bar. With the restart of construction in December 1991, TVA's corrective actions have resulted in improvements in its quality assurance program. The staff has concluded that current performance indicates that TVA

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has overcome significant weaknesses identified in the past and that TVA's recent performance is satisfactory. Plant construction is now essentially complete and TVA has conducted a successful hot functional test.

We discussed the status of the concerns noted above during our 415th meeting of November 3-4, 1994, and our 426th meeting of November 2-4, 1995. We believe that TVA and the staff have adequately addressed these concerns. During our discussions, the Watts Bar management expressed its commitment to operational excellence and to establishing an effective safety culture. It is our view that TVA's commitment is genuine, but that achieving and maintaining an effective safety culture will require continued senior management involvement.

The NRC staff stated, in Supplement 18 to the Watts Bar Safety Evaluation Report, that all licensing issues have been resolved with the exception of those related to fire barrier penetration seals and emergency lighting inside the reactor building. As a result of our review, we have not identified any new safety concerns.

We believe that, subject to resolution of the open issues to the satisfaction of the staff, there is reasonable assurance that Watts Bar Nuclear Plant Unit 1 can be operated at core power levels up to 3411 Mwt without undue risk to the health and safety of the public.

Sincerely,



T. S. Kress  
Chairman

References:

1. U. S. Nuclear Regulatory Commission, NUREG-0847, "Safety Evaluation Report Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2," through Supplement 18, issued October 1995
2. U. S. Nuclear Regulatory Commission, NUREG-1528, "Reconstitution of the Manual Chapter 2512 Construction Inspection Program for Watts Bar Unit 1," issued September 1995
3. Letter dated August 16, 1982, from Paul Shewmon, ACRS Chairman, to Nunzio J. Palladino, NRC Chairman, Subject: ACRS Report on Watts Bar Nuclear Plant, Units 1 and 2
4. Letter dated October 26, 1995, from Paul Gunter, Nuclear Information and Resource Service, to Noel Dudley, ACRS, Subject: Public Concerns With Fire Protection Issues At Watts Bar Nuclear Power Station

5. Additional documents submitted to the Committee by members of the public at ACRS meetings November 1-2, 1995