June 30, 2006

Mr. Karl W. Singer
Chief Nuclear Officer and
Executive Vice President
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 1 — REQUEST FOR ADDITIONAL INFORMATION RE: EMERGENCY CORE COOLING SYSTEM (ECCS) EVALUATION MODEL CHANGES (TAC No. MC8248)

Dear Mr. Singer:

By Letter dated August 16, 2005, the Tennessee Valley Authority notified the Nuclear Regulatory Commission (NRC) of a change in the Watts Bar Nuclear Plant, Unit 1, ECCS evaluation models for peak cladding temperature (PCT) in accordance with Title 10 of the *Code of Federal Regulations,* Section 50.46 related to a temporary change of more than 50 degrees Fahrenheit in calculated PCT.

The NRC staff has identified the enclosed Request for Additional Information which will be necessary in order to complete our review. Based on discussions with your staff, we understand that you expect to respond to this request by approximately August 18, 2006.

Sincerely,

/RA/

Douglas V. Pickett, Senior Project Manager
Plant Licencing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-390

Enclosure: As stated

cc w/enclosure: See next page

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Mr. Karl W. Singer
Tennessee Valley Authority

WATTS BAR NUCLEAR PLANT

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REQUEST FOR ADDITIONAL INFORMATION

WATTS BAR NUCLEAR PLANT UNIT 1

EMERGENCY CORE COOLING SYSTEM (ECCS) EVALUATION MODEL CHANGES

DOCKET NO. 50-390

By letter dated August 16, 2005, the Tennessee Valley Authority (licensee), notified the Nuclear Regulatory Commission (NRC) staff of a change in the Watts Bar Nuclear Plant, Unit 1, ECCS evaluation models for peak cladding temperature (PCT) in accordance with Title 10 of the *Code of Federal Regulations*, Section 50.46 related to a temporary change of more than 50 degrees Fahrenheit (EF) in calculated PCT. The letter indicated that leakage in the piping relief valves could result in a loss of up to 30 gallons per minute (gpm) in Safety Injection (SI) flow to the pressurizer relief tank when the SI system was in operation. The licensee proposed PCT penalties for the small-break and large-break loss-of-coolant-accident (LOCA) analysis of 120 EF and 0 EF, respectively, to account for the effect of a reduction of 30 gpm in SI flow.

Please discuss how the PCT penalties were determined to account for the reduction of 30 gpm in SI flow. The discussion should include a description of the methodologies or computer codes used for the PCT penalty determination and the values of key plant parameters that are different from those used in the analysis of record for the LOCA analysis. Also, confirm that the methodologies or computer codes used for the PCT penalty determination were previously approved by the NRC, or justify the adequacy of the methodologies or computer codes used if they were not previously approved by the NRC.