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U.S. Nuclear Regulatory Commission
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In the Matter of) Docket No. 50-391
Tennessee Valley Authority)

WATTS BAR NUCLEAR PLANT (WBN) - UNIT 2 - KEY ASSUMPTIONS FOR THE POSSIBLE COMPLETION OF CONSTRUCTION ACTIVITIES

References: TVA letter dated September 6, 1991, Dan Nauman to NRC, "Watts Bar Nuclear Plant (WBN) - Nuclear Performance Plan, Volume 4, Revision 1".

The purpose of this letter is to provide the Nuclear Regulatory Commission (NRC) Staff with a summary of key regulatory assumptions underlying the possible reactivation and completion of construction activities at WBN Unit 2. TVA is providing the NRC Staff with this information as a follow-up to our March 12, 2007 meeting and requests that the NRC provide feedback in response to these key regulatory assumptions, if possible within 30 days. Such feedback is critical not only to our assessment of the project's feasibility, but also to help ensure regulatory certainty and the efficient expenditure of both TVA and NRC Staff resources in the future.

By way of background, it is important to recognize that WBN Unit 2 was substantially complete when construction was halted in 1985. If the TVA Board of Directors authorizes the reactivation of construction, TVA intends to complete this project and request an Operating License

pursuant to 10 CFR Part 50. The project will continue to use the existing Part 50 construction permit and the largely completed and well documented operating license review framework. This is the **first key regulatory assumption.**

This first key regulatory assumption is grounded on the fact that WBN Unit 2 is of the same vintage and would be virtually identical to WBN Unit 1. From a regulatory perspective, this means that the WBN Unit 2 licensing and design bases would be essentially the same as what presently exists for WBN Unit 1.

Also of great importance from a regulatory perspective is the fact that the majority of WBN Unit 2 licensing issues have been resolved as reflected in the Safety Evaluation Report (SER) and its Supplements related to the operation of WBN Units 1 and 2 (NUREG-0847). In this regard, our first key regulatory assumption takes into consideration the dual unit WBN operating license application that included a Final Safety Analysis Report (FSAR) (Amendment 23) for both WBN Units 1 and 2. The resulting SER and Supplements, NUREG-0847, reviewed the WBN Units 1 and 2 design as recently as 1995 against federal regulations including 10 CFR Part 50, construction permit criteria, and the NRC Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants (SRP) NUREG-0800 (Revision 2, July 1981). The NRC classified any remaining issues raised during the SRP review but not closed out when the SER was issued as outstanding issues, confirmatory issues, and proposed license conditions.

As noted above, the NRC issued twenty Supplements to the WBN Units 1 and 2 SER through February 1996. In Supplement 5 (1990), the NRC added the Corrective Action Programs (CAPs) and Special Programs (SPs) identified in the Watts Bar Nuclear Performance Plan (NPP) to the list of issues identified in NUREG-0847. The CAPs and SPs were subsequently closed in later SER Supplements, mostly for WBN Unit 1, and were included as part of the WBN Unit 1 operating license. Although the remaining construction was

not completed and no operating license was issued for WBN Unit 2, TVA updated the Unit 1 and Unit 2 FSAR (Amendment 91) on October 24, 1995, in preparation for issuance of the WBN Unit 1 fuel load and low-power operating license.

In order to examine and confirm the results of this extensive regulatory review process, TVA reviewed the SER and Supplements to develop a list of the remaining outstanding issues open for WBN Unit 2. A summary of this review is available on site. As a result of the review, TVA has, to the best of its knowledge to date, identified three outstanding issues for WBN Unit 2:

- Pre-Service Inspection Program
- Pressure/Temperature Limits for Unit 2
- Essential Raw Cooling Water for two-unit operation

This leads to our **second key regulatory assumption.** Namely, TVA would rely on the docket record that supports Unit 2 as well as Unit 1, and the extensive Unit 1 licensing basis that was successfully implemented, to close out any remaining construction issues for WBN Unit 2. TVA's successful operation of WBN Unit 1 provides reasonable assurance that WBN Unit 2 also can be completed successfully and then started and operated in a safe and reliable manner. This is a significant point in that WBN Unit 2 has been designed and constructed using the same design criteria and specifications as WBN Unit 1 and, as explained above, the bulk of WBN Unit 2 construction is complete. Changes that extend beyond what the NRC already has approved for Unit 1, and which would result in significant modifications to Unit 2 structures, systems and components, run counter to this second regulatory assumption and would have a significant impact on TVA's decision whether to reactivate construction on Unit 2.

Further to this second assumption, and as explained above, the Watts Bar Nuclear Performance Plan (Reference 1) defined WBN Unit 1 actions necessary to correct pre-existing construction deficiencies. NRC approval of these actions is documented in the Safety Evaluation Report on Tennessee Valley Authority: Watts Bar Nuclear Performance Plan (NUREG-1232, Volume 4). TVA would resolve the WBN Unit 2 CAPs and SPs consistent with NUREG-1232, Volume 4 and NUREG-0847. If, during this process, TVA believes it is necessary to change the criteria otherwise specified in NUREG-1232, TVA would submit any such changes to the NRC for review and concurrence. For reference, Enclosure 1 to this letter provides a listing of the CAPs and SPs.

TVA would be open to discuss any new requirements and criteria changes with respect to prior reviews of licensing or design basis issues. However, we would expect any divergence from past NRC approvals to be limited and justified by the NRC as being necessary for, and resulting in significant improvements to public health and safety.

In summary, we believe that the two key regulatory assumptions are fundamental to our consideration of whether to complete the construction of WBN Unit 2 from a regulatory perspective. First, that TVA would complete the project and request an Operating License pursuant to 10 CFR Part 50 and the largely completed and well documented operating license review framework. And second, that TVA would rely on the docket record that supports Unit 2 and the extensive Unit 1 licensing basis that has already been successfully implemented. In this regard, TVA would correct construction deficiencies utilizing resolutions that were evaluated in prior safety evaluations. We look forward to your views and feedback.

Finally, TVA will keep the NRC Staff well informed of its Unit 2 activities. If a decision is made to reactivate construction, we propose to implement a public participation and communication approach similar to that used in the recovery of Browns Ferry Unit 1 and in the completion of WBN Unit 1. That is, conducting periodic public meetings to discuss the status of project completion, schedules going forward of remaining issues, and any other management or regulatory issues that may surface during the course of completing WBN Unit 2. In this regard, we would propose that these public meetings be held approximately every three to six months in the early stages of the project and more frequently in the latter stages.

If you have any questions, please contact me at (423) 751-8559.

Sincerely,

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ENCLOSURE 1

WATTS BAR NUCLEAR PLANT (WBN) - UNIT 2 - LIST OF CORRECTIVE ACTION PROGRAMS AND SPECIAL PROGRAMS

Corrective Action Programs

- Cable Issues
- Cable Tray and Supports
- Design Basis Verification Program
- Electrical Conduits and Supports
- Electrical Issues:
  - Flexible Conduit Installation
  - Physical Cable Separation and Electrical Isolation
  - Contact and Coil Rating of Electrical Devices
  - Torque Switch and Overload Relay Bypass Capability for Active Safety-Related Valves
  - Adhesive-Backed Cable Support Mount
- Equipment Seismic Qualification
- Fire Protection
- Hanger and Analysis Update Program
- Heat Code Traceability
- HVAC Duct and Duct Supports
- Instrument Lines
- Pre-start Test Program
- QA Records
- Q-List
- Piece Parts
- Seismic Analysis
- Vendor Performance
- Welding

Special Programs

- Concrete Quality
- Containment Cooling
- Control Room Design Review
- Equipment Qualification
- Master Fuse List
- Mechanical Equipment Qualification
- Microbiologically Induced Corrosion
- Medium Energy Line Break Flooding
- Radiation Monitoring System
- Soil Liquefaction
- Use-as-is Conditions Adverse to Quality