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Vice President, Sequoyah Nuclear Plant

April 24, 1992

U.S. Nuclear Regulatory Commission
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Washington, D.C. 20555

Gentlemen:

In the Matter of)	Docket Nos. 50-327
Tennessee Valley Authority)	50-328

SEQUOYAH NUCLEAR PLANT (SQN) - OPERABILITY OF ICE CONDENSER INLET DOORS

- References:
1. Letter from J. L. Wilson to NRC dated March 27, 1992, "Sequoyah Nuclear Plant (SQN) - Ice Condenser Lower Plenum Floor Movement and Degradation"
 2. NRC Inspection Report Nos. 50-327/92-06 and 50-328/92-06 dated April 9, 1992
 3. TVA Licensee Event Report (LER) 50-327/92007 dated April 15, 1992
 4. Letter from Bruce A. Wilson to Mark O. Medford dated April 8, 1992, "Meeting Summary - Sequoyah Ice Condenser and Feedwater Pipe Cracking"
 5. NRC Inspection Report Nos. 50-327/92-10 and 50-328/92-10 dated April 23, 1992

In Reference 2, the NRC staff identified for consideration of escalated enforcement an apparent violation regarding operability of ice condenser inlet doors at SQN Units 1 and 2, and "provide[d] [TVA] an opportunity for an enforcement conference" to discuss involved issues (Section V of 10 CFR Part 2, Appendix C [1992]). During subsequent discussions between S. D. Ebnetter and J. R. Bynum, it was agreed that TVA (1) would submit to the staff a letter providing any additional information not addressed in previous communications and TVA's enforcement perspectives, and (2) would be prepared to respond to any remaining staff questions regarding this

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noted in Reference 3, a long-term modification to address sealing of the wear slab interfaces, joints, and significant cracks is being evaluated for implementation.

As noted in Reference 3, the root cause of this event is the failure to install sealant material in some of the wear slab joints during initial construction over a decade ago. This provided an avenue for water intrusion to the floor assembly and resulted in upward wear slab movement upon freezing. While it is theorized that the condition may have been progressing slowly over time at SQN, this problem has not been previously identified at SQN or any other ice condenser plant. TVA has alerted other ice condenser plants to this unexpected phenomenon and has coordinated closely with Westinghouse on this issue.

TVA has evaluated the consequences of the event to determine whether the condition of the inlet doors on Units 1 and 2 adversely impacted the ice condenser such that it would not have been able to perform its intended function. The evaluation and resultant conclusions regarding Unit 1 were previously provided to the staff and are reported in Reference 3. A separate evaluation, as summarized below, was conducted for Unit 2 using generally the same approach as for the Unit 1 evaluation. (This evaluation has also been provided to the staff and, as noted in Reference 3, will be included in a later supplemental LER.) In sum, evaluations conducted by TVA reflect that the condition would not have prevented the ice condensers from performing their intended functions and the structural integrity and operability of interfacing components were maintained. Accordingly, it is concluded that the event was of limited safety significance.

For the Unit 2 evaluation, it was determined that of the 27 inlet doors impacted by the upward movement of the wear slab, only six were bound to the extent that they may not have opened during all accident conditions. However, to be conservative, these six doors were modeled as being closed for all evaluations. Using conservative assumptions and analytical methodology, including TVA's containment and subcompartment analysis program, MONSTER, TVA determined that in the event of accident conditions with the as-found ice condenser inlet door configurations, there would have been no increase in the peak containment temperature or long-term pressures previously reported in the Updated Final Safety Analysis Report (UFSAR) accident analyses. There would have been an increase in the subcompartment (short-term) pressures over those calculated by Westinghouse and provided in the UFSAR. To determine the impact of these increases in subcompartment pressures, the containment shell and the critical structures, as defined in Table 3.8.3-10 of the UFSAR, that would be impacted by subcompartment pressure increases were reviewed. The resulting short-term pressures would still have remained within the design pressures used by TVA to evaluate the containment shell and internal structures and significantly below pressures associated with failure of containment and the internal structures.

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additional information during the scheduled May 1, 1992, enforcement conference. It is the purpose of this letter to provide that additional information and enforcement perspectives.

At the outset, TVA agrees with the staff finding that a number of ice condenser inlet doors at SQN (11 of 48 doors on Unit 1 and 27 of 48 doors on Unit 2) would not have met the operability provisions of Surveillance Requirement 4.6.5.3.1.b.1 and/or 3, because of the upward movement of the ice condenser wear slabs and the resultant interference with the associated flashing beneath the doors.

A question regarding binding of some ice condenser inlet doors was first raised by a TVA Maintenance foreman on March 15, 1992, while he was preparing for Unit 2 ice condenser outage activities. (Unit 2 was shut down for a refueling outage.) The condition was promptly investigated leading to a finding on March 17, 1992, that 27 of the 48 Unit 2 ice condenser inlet doors were inoperable. As the staff noted in Reference 5, this conclusion resulted in prompt action to determine if the problem existed in Unit 1, which was operating at full power. On March 18, 1992, following identification of the problem in Unit 1, TVA entered Limited Condition for Operation 3.6.5.3. Following evaluation of the condition, TVA conservatively began an orderly shutdown of the unit, well in advance of action required by SQN technical specifications. This type of prompt and conservative action has characterized TVA's response to this event.

These actions and the facts associated with this event have been thoroughly documented in correspondence with the staff (References 1 and 3) and were the subject of an April 3, 1992, meeting with Region II and Nuclear Reactor Regulation management (Reference 4). (TVA presentation slides were provided to the staff.) In addition, TVA investigation reports and evaluations concerning this event have been made available to and reviewed by the staff.

In References 1 and 3, and during the April 3, 1992, meeting with the NRC staff, TVA provided detailed discussions of its actions designed to assess and correct the problem, monitor for unexpected additional wear slab movement, and prevent recurrence of that upward movement. These corrective actions were prompt, extensive, aggressively implemented, and have in the main been completed. These actions included not only correction of the immediate condition and detailed evaluations regarding impact of the condition, but also (1) installation of continuous on-line monitoring capability for unexpected upward movement of the wear slabs, (2) enhancement of work activities to prevent water intrusion into the floor assembly, and (3) implementation of more restrictive operational guidance in the event of future ice condenser door impairment, pending a formal technical specification change on this issue. In addition, as

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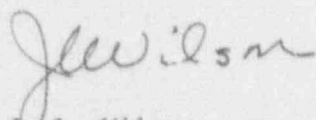
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Based on the circumstances surrounding this event and its limited safety significance, TVA maintains that escalated enforcement is not warranted. This position is consistent with past NRC staff enforcement precedent regarding blockage of lower ice condenser inlet doors. In addition, because the root cause of this unexpected phenomenon was based on activities occurring many years ago and its discovery was a direct result of proactive TVA employee actions, TVA respectfully requests that the NRC staff consider the application of enforcement discretion as provided by the Enforcement Policy. In this regard, TVA believes that the elements associated with discretion, as set forth in section VII.B(2) of 10 CFR Part 2, Appendix C, are satisfied, i.e., (1) the event was identified by TVA; (2) it was not associated with previous corrective actions from events within the past two years; (3) associated corrective action was conservative, prompt, and extensive; and (4) it was not willful.

If the NRC staff has any questions regarding the information contained in this letter, TVA requests that these questions be directed to M. A. Cooper at (615) 843-8422, in advance of the scheduled May 1, 1992, meeting. TVA will be prepared to respond to the staff's questions at that time.

Sincerely,



J. L. Wilson

cc (Enclosures):

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