



Tennessee Valley Authority, Post Office Box 2000, Soddy-Daisy, Tennessee 37379

September 8, 1994

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Gentlemen:

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

SEQUOYAH NUCLEAR PLANT (SQN) -- IN-SERVICE INSPECTION (ISI) PROGRAM REQUEST  
FOR RELIEF, ISI-2, REVISION AND WITHDRAWAL

- References:
1. TVA letter to NRC dated July 28, 1993, "Sequoyah Nuclear Plant (SQN) -- In-Service Inspection (ISI) Program Relief Request ISI-2"
  2. NRC letter to TVA dated February 7, 1991, "First 10-Year Interval Inservice Inspection Program (TAC 59457) -- Sequoyah Nuclear Plant, Unit 1"
  3. NRC letter to TVA dated April 19, 1990, "First 10-Year Interval Inservice Inspection Program (TAC 59458) -- Sequoyah Nuclear Plant, Unit 2"

The purpose of this letter is to submit a revised request for relief 1-ISI-2 for SQN Unit 1 and withdraw request for relief ISI-2 for Unit 2. The subject relief requests deal with the visual examination requirements of the American Society of Mechanical Engineers (ASME) code for valve body internal pressure boundary surfaces.

Relief Request ISI-2 was initially evaluated by NRC in two safety evaluation reports (SERs), References 2 and 3 for SQN Units 1 and 2, respectively. The technical evaluation reports provided with the SERs (page 30 of References 2 and 3) stated relief should be granted, provided:

- a. One comparable valve in either unit is examined. If a certain type of valve is not examined at either unit, relief should be requested on a case-by-case basis near the end of the interval,

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- b. Periodic in-service testing of the valves is conducted in accordance with IWV, and
- c. Visual examination of the valves for leakage is conducted in conjunction with system leakage and hydrostatic tests under Category B-P.

NRC determined that relief was not needed in the early stages of SQN's 10-year ISI interval since relief would be considered for specific valves on a case-by-case basis toward the end of the interval. Consequently, NRC approval of request for relief ISI-2 was postponed.

As SQN approached the end of the 10-year ISI interval, SER Conditions a, b, and c were satisfied and no further relief requests were required on a case-by-case basis for either unit. NRC approval of ISI-2 was requested in TVA's Reference No. 1 letter to formally document the completion of the relief request for both units. Following TVA's request for approval, further discussions were held with NRC. During these discussions, TVA was informed that: (1) Condition (a) of the SER regarding the examination of one comparable valve in either unit would not be permitted, and (2) The need for code relief on a case-by-case basis could be eliminated by adapting the examination requirements of examination Category B-M-2, from the 1988 Addenda of the ASME Section XI code.

Based on the above information, TVA elected to revise ISI-2 to incorporate the 1988 Addenda and resubmit it as 1-ISI-2 for NRC approval. The revised relief request will be applicable to Unit 1 for the Group 5 valves (FCV-74-1 and -74-2). Since code requirements have been satisfied for all valve groups on SQN Unit 2 (10-year ISI interval), Relief Request ISI-2 for Unit 2 is no longer applicable and is being withdrawn.

Enclosed is revised Relief Request 1-ISI-2. The relief request is submitted in accordance with 10 CFR 50.55a(g)(6)(i). TVA requests that NRC provide approval of 1-ISI-2 before the end of the first 10-year ISI interval for Unit 1. The current schedule for the end of this interval is December 1995.

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Please direct questions concerning this issue to D. V. Goodin at  
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Sincerely,



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Manager  
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Enclosure

cc (Enclosure):

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ENCLOSURE

SEQUOYAH NUCLEAR PLANT, UNIT 1  
REQUEST FOR RELIEF FIRST 10-YEAR INTERVAL  
IN-SERVICE INSPECTION (ISI) 1-ISI-2

Systems: Valve body, exceeding nominal pipe size (NPS) of 4 inches

Class: American Society of Mechanical Engineers (ASME) Code Class 1 (equivalent)

Category: B-M-2

Item  
Number: B12.40

Code  
Paragraph: Table IWB-2500-1

Code  
Requirement: Visual examination, VT-1 of internal surfaces limited to one valve within each group of valves that are of the same constructional design.

Impractical  
Requirement: Disassembling a valve merely for visual examination.

Basis  
for Relief: The code requirement to disassemble an operable valve for the sole purpose of an ISI visual examination provides a very small potential for increasing plant safety margins, while increasing expenditures, radiation exposure, critical path time, manpower resources, and the potential for human error during reassembly. Visual examination is performed when the valve is disassembled for routine maintenance and documented under existing plant procedures. Most Class 1 valves are disassembled frequently for maintenance. In addition, later editions of the ASME code beginning with the 1988 Addenda require visual examination of internal surfaces only when valves are disassembled for maintenance, repair, or volumetric examination.

Alternative  
Examination: A visual examination (VT-3) shall be performed as required by ASME, Section XI, 1988 Addenda (and later editions and addenda), Table IWB-2500-1 Exam Category B-M-2, Item No. B12.50.

Justification: The requirement for visual examination of valve internal surfaces necessitates complete disassembly of the valve. The disassembly of valves for the sole purpose of visual examination of the valve body internal surface is a major effort, requires many manhours from maintenance and inspection personnel and may cause excessive radiation exposure. The visual examination is performed to determine if unanticipated degradation of the valve body is occurring because of phenomena such as erosion, corrosion, or cracking. However, previous experience has not shown any significant degradation of valve bodies. TVA conducted visual examination over the first 10-year interval on 19 valves from Unit 2 and 18 valves from Unit 1 with no indications of degradation.

Later editions and addenda of the ASME code (1988 Addenda and later) have eliminated the requirement for disassembly of valves for the sole purpose of performing visual examinations of the internal surfaces. These later editions and addenda require that the internal surface visual examination be performed when valves are disassembled for maintenance, repair, or volumetric examination. Therefore, the concept of visual examination of the internal surfaces of the valve body, if the valve is disassembled for maintenance, repair, or volumetric examination is acceptable. Since no major problems have been reported in the industry, or from SQN's inspection history with regard to valve bodies, SQN's proposal will provide adequate assurance of the continued in-service structural integrity.

Conclusion: It is concluded that disassembly of a valve for the sole purpose of visual examination is impractical to perform, and TVA's proposed alternative provides an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(g)(6)(i), it is recommended that relief be granted.