April 26, 2002

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

SUBJECT: BROWNS FERRY (BFN), UNITS 2 AND 3; SEQUOYAH (SQN), UNITS 1 AND 2; AND WATTS BAR (WBN), UNIT 1 — REQUESTS FOR CODE RELIEF GISI-1, GISI-2, AND GISPT-1 (TAC NOS. MB2937, MB2938, MB2944, MB2945 AND MB2939)

Dear Mr. Scalice:

By letter dated September 14, 2001, the Tennessee Valley Authority (TVA) submitted three requests for relief from the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, for the subject TVA nuclear plants. The requests, designated as GISI-1, GISI-2, and GISPT-1, proposed alternatives to the current Inservice Inspection Programs based on ASME Code Cases N-574, N-597, and N-616, respectively.

The U.S. Nuclear Regulatory Commission staff has completed its review of the information provided in TVA's September 14, 2001, letter for Relief Request GISPT-1. The staff concludes that compliance with the Code would result in a hardship without a compensating increase in the level of quality and safety, and that the proposed alternative provides reasonable assurance of bolting integrity. Accordingly, the staff authorizes the proposed alternative in accordance with Title 10, *Code of Federal Regulations*, Section 50.55(a)(3)(ii), for the respective 10-year intervals for BFN Units 2 and 3, SQN Units 1 and 2, and WBN Unit 1, until such time Code Case N-616 is incorporated into Regulatory Guide (RG) 1.147. At that time, if the licensee intends to continue implementing this code case, it must follow all provisions of Code Case N-616 with limitations or conditions specified in RG 1.147, if any. The staff's evaluation and conclusions regarding GISPT-1 are contained in the enclosed Safety Evaluation.

The approval for Relief Request GISI-2 was issued on March 22, 2002. The action regarding Relief Request GISI-1 will be evaluated in a separate safety evaluation upon completion of the staff's review.

Please contact Mr. Ronald W. Hernan at (301) 415-2010 should you have any questions.

Sincerely,

***/RA/***

Thomas Koshy, Acting Chief, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-260, 50-296, 50-327,
50-328, and 50-390

Enclosures: Safety Evaluation

cc w/enclosure: See next page

The approval for Relief Request GISI-2 was issued on March 22, 2002. The action regarding Relief Request GISI-1 will be evaluated in a separate safety evaluation upon completion of the staff's review.

Please contact Mr. Ronald W. Hernan at (301) 415-2010 should you have any questions.

Sincerely,

***/RA/***

Thomas Koshy, Acting Chief, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-260, 50-296, 50-327,
50-328, and 50-390

Enclosures: Safety Evaluation

DISTRIBUTION:

| | | |
|---|---|---|
| PUBLIC | BClayton (Hardcopy) | RHernan (Hardcopy) |
| PDII-2 Reading (Hardcopy) | SRosenberg, EDO (e-mail) | TChan (RidsNrrDeEmcb) |
| HBerkow (RidsNrrDlpmLpdii) | GHill (4 Hardcopies) | TMcLellan (RidsNrrDeEmcb) |
| RCorreia (RidsNrrDlpmLpdii2) | OGC (RidsOgcRp) | MPadovan |
| PFredrickson(RidsRgn2MailCenter) | KJabbour | ACRS(RidsAcrsAcnwMailCenter) |

ADAMS Accession No. ML021020473

| OFFICE | PDII-2/PM | PDII-2/PM | PDII-2/PM | PDII-2/LA | OGC | PDII-2/SC(A) |
|---|---|---|---|---|---|---|
| NAME | MPadovan for RHernan | MPadovan | KJabbour | BClayton | RHoefling | TKoshy |
| DATE | 4 /12/02 | 4/12/02 | 4/12/02 | 4/12/02 | 4/22/02 | 4/24/02 |

OFFICIAL RECORD COPY

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM

REQUEST FOR RELIEF NO. GISPT-1

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT, UNITS 2 AND 3

SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2

WATTS BAR NUCLEAR PLANT, UNIT 1

DOCKET NOS. 50-260, 50-296, 50-327, 50-328 AND 50-390

## 1.0 INTRODUCTION

By letter dated September 14, 2001, the licensee, Tennessee Valley Authority (TVA), submitted a letter to the U.S. Nuclear Regulatory Commission (NRC) forwarding three relief requests for the subject TVA plants as alternatives to certain aspects of TVA's American Society of Mechanical Engineers (ASME) Code Programs, regarding the use of the following Code Cases:

| Relief No. | Code Case |
|---|---|
| GISI-1 | N-574, *NDE [nondestructive examination] Personnel Recertification Frequency, Section XI, Division 1;* |
| GISI-2 | N-597, *Requirements for Analytical Evaluation of Pipe Wall Thinning, Section XI, Division 1; and,* |
| GISPT-1 | N-616, *Alternative Requirements for VT-2 Visual Examination of Classes 1, 2, and 3 Insulated Pressure Retaining Bolting Connections, Section XI, Division 1.* |

## 2.0 BACKGROUND

Inservice Inspection (ISI) of ASME Code Class 1, 2, and 3 components is to be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel (B&PV) Code (the Code) and applicable addenda as required by Title 10 of the *Code of Federal Regulations,* Part 50, Section 50.55a(g) (10 CFR 50.55a(g)), except where specific relief has been granted by the Commission pursuant to 10 CFR 50.55a(6)(g)(i). Section 50.55a(a)(3) of 10 CFR states that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if the applicant demonstrates that (i) the proposed alternatives would provide an acceptable level of quality and safety or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2 and 3 components (including supports) shall meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, "Rules for

Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. Regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein.

The applicable edition of Section XI of the ASME Code for the respective 10-year ISI interval is as follows:

| Plant Name | ASME Code, Section XI Edition and Addenda | Applicable 10-year Interval |
|---|---|---|
| Browns Ferry, Unit 2: | 1995 Edition through the 1996 Addenda | Third |
| Browns Ferry, Unit 3: | 1989 Edition, no Addenda | Second |
| Sequoyah, Unit 1: | 1989 Edition, no Addenda | Second |
| Sequoyah, Unit 2: | 1989 Edition, no Addenda | Second |
| Watts Bar, Unit 1: | 1989 Edition, no Addenda | First |

3.0 Relief Request GISPT-1

3.1 EVALUATION

3.1.1 LICENSEE'S EVALUATION

The Components for Which Relief is Requested: (As stated)

This relief request applies to ASME Code Class 1, 2, or 3 (or equivalent) bolted connections in piping systems containing borated water and which use bolting materials that are resistant to boric acid corrosion at Browns Ferry Nuclear Plant (BFN), Units 2 and 3, Sequoyah Nuclear Plant (SQN), Units and 2, and Watts Bar Nuclear Plant (WBN), Unit 1.

Requirement From Which Relief is Requested: (As stated)

ASME Section XI paragraph, IWA-5242(a) states: "For systems borated for the purpose of controlling reactivity, insulation shall be removed from pressure retaining bolted connections for visual examination VT-2."

This relief request, GISPT-1, seeks relief from meeting the requirement of removing insulation from bolted pressure retaining flange connections in borated water systems for the connections where the flange bolting material is resistant to boric acid corrosion. In lieu of meeting the stated paragraph IWA-5242(a) requirement for insulation removal, this request seeks permission to use the provisions of ASME Code Case (CC) N-616 for bolted connections which utilize corrosion resistant bolting materials.

In the case of WBN, this request, when approved, supplements the existing system pressure test program relief request ISPT-08, previously approved and granted in a letter dated September 7, 2000.

<u>Licensee's Basis for Requesting Relief:</u> (As stated)

The Code requirement to remove insulation during system pressure tests at bolted connections in borated water systems was based upon the industry experience with the degradation of pressure retaining bolting. Industry experience had shown that the predominant degradation mechanism of the pressure boundary integrity at flange connections in borated water systems was the result of the corrosion of the non-resistant materials in the flange bolting. Subsequent licensee repairs and replacements have resulted in the replacement of much of this bolting with materials that are compatible with the system design and flange materials and that are also resistant to degradation from the boric acid corrosion. Bolting materials resistant to boric acid corrosion which have an alloy chromium content greater than 10 percent, such as SA-564, Grade 630 H1100, greatly reduce the possible failures of flanged connections in borated water systems. As a result, removal of the insulation, during system pressure tests, from around the flanges with boric acid corrosion resistant bolting has become unnecessary because the likelihood of failure is reduced and would approximately be the same as for other types of flange bolting in non-borated water systems. In addition, the use of CC N-616 allows TVA to conduct pressure tests on borated water system piping during plant operations and during plant startup and shutdown activities without requiring plant support personnel to remove or replace the flange insulation under hazardous conditions. The use of CC N-616, in the cases where boric acid corrosion resistant material is present, provides a comparable level of quality and safety during system pressure tests to that provided where flange bolting insulation is not required to be removed (e.g., in non-borated systems).

System pressure tests performed in accordance with the ASME Section XI Code paragraph IWA-5242(a) require the removal of insulation around bolted connections in piping systems that contain borated water. Removal of the insulation from bolted connections in non-borated water systems is not required by Section XI. CC N-616 allows the conduct of the VT-2 examination, without the removal of insulation from bolted connections, but limits the application of this alternative requirement to cases where the bolting material is resistant to boric acid degradation. Industry experience has shown that the removal of the insulation from bolted connections in borated water systems where the flange bolting is resistant to boric acid corrosion is not necessary. Removal of the insulation from these connections is unnecessary because the likelihood of failure is reduced by material controls and maintenance practices to the point of being approximately the same as for other types of flange bolting in non-borated water systems.

A degradation mechanism in bolting, of lesser predominance than the boric acid corrosion degradation, is the occurrence of stress corrosion cracking (SCC) in bolting materials that are resistant to boric acid corrosion but which usually have an alloy chromium content of greater than 10 percent. However, industry mitigation measures for this problem have resulted in preventive maintenance and cleanliness criteria that reduced the occurrence of this type of degradation in bolted connections. TVA has employed available industry information, such as that found in the Electric Power Research Institute technical report TR-111472, "Assembling Bolted Connections Using Spiral-Wound Gaskets," in its development of materials control and maintenance and installation practices for pressure boundary bolting. TVA employs the use of thread lubricants and insulation materials, and maintenance practices and installation procedures that maintain control of the flange connection configurations and bolting materials.

These programs are structured to ensure that impurities are not present in concentrations or levels that would promote the development of SCC in stainless steel bolted connections.

In addition, TVA design, construction, and installation specifications and maintenance practices, such as bolt elongation measurements and applied torque limits, restrict the amount of preload stresses from the torque applied to the bolt during the installation and tightening processes. These practices are designed to limit the bolt preload stress due to tightening to less than the recommended limits above which SCC is promoted. Currently, TVA General Engineering Specification G29, "Welding, Materials, and Nondestructive Examination," Part B, Process Specification (P.S.) 4.M.4.4, limits the amount of preload tensile stress on bolted connections to 45,000 psi, except in cases where vendor recommended torque values for bolt tightening are higher, and in specifically allowed cases where high-strength bolting materials are installed. At BFN and SQN, only, this limiting value of applied preload tensile stress may, in general, be extended to 52,500 psi for bolting, with materials tensile strength of equal to, or greater than, 125,000 psi, with use of proper lubricants, and when additional torque is needed to achieve leak tightness in a given component. This provision of P.S. 4.M.4.4 is not allowed for general application at WBN because of the commitment made by TVA and the approval provided in the Safety Evaluation (SE) provided by the NRC staff for the WBN site-specific relief request ISPT-08, as discussed above, except where recommended by component vendor specifications. At WBN, the application of bolt preload tensile stresses greater than 45,000 psi that are based upon vendor recommended values are utilized. Industry experience has shown that corrosion-resistant bolting with preload stresses below the value of 100,000 psi have a greatly reduced number of failures. The resulting reduction of the failures of bolted connections with corrosion-resistant materials supports the deletion of the requirement to remove the insulation in these areas of borated water systems during system pressure tests. In addition, TVA materials specification, procurement, and installation controls and application processes incorporate industry experience to avoid the use of bolting with material properties which may be susceptible to service condition induced failures. These processes include specific material requirements and procurement controls of critical characteristics for high-strength materials, such as 17-4 precipitation-hardenable (PH) and type 410 stainless steel bolting materials, for application in TVA systems.

One area of concern identified by regulatory agencies is that the long-term operation of systems with bolted connections without the removal of insulation might create environmental conditions under which the degradation of the pressure boundary integrity may be accelerated with system safety function failure occurring before early evidence can be identified. However, such occurrences have been limited by industry practices in the areas of material control, maintenance, and control of system operating environments. Most incidents of pressure boundary leakage have been discovered during normal plant operating conditions by system unit operators during their normal plant operation activities when the insulation is in place and not during periodic system pressure tests. In addition, in most cases where such leakage has been discovered, engineering evaluation has shown that this leakage can be tolerated with little or no impact to the functionality of the system in support of its intended safety function, nor in harm to the surrounding equipment. Industry experience has shown that pressure boundary leakage, if present, can be readily discovered during the periodic system pressure tests under normal plant operating conditions of temperature and pressure and where the insulation is installed. The normal plant routine of startup of the various borated water containing systems usually results in periods of sufficient length that any such pressure boundary leakage is readily revealed. TVA procedures for system pressure tests follow the hold-time requirements in the 1989 Edition of Section XI of the ASME Code. ASME Code requirements dictate that the ASME Class 1 (or equivalent) piping and components undergo a system leakage test following each refueling outage. In Pressurized Water Reactors (SQN and WBN) these components include a major portion of the borated water systems.

Conduct of system pressure tests on the borated water systems frequently must occur during plant operating conditions when the system components are also accessible by personnel performing the component walkdowns. For the system piping within the primary containment areas, and inaccessible during normal plant operations, system pressure tests usually occur during plant start-up or shutdown evolutions when the system piping components are at the required system operating temperatures and pressures. The removal and/or replacement of the insulation, with the frequently required support activities, such as placement and removal of scaffolding in areas to be inspected, results in unnecessary exposure of the craft personnel to the unsafe high temperatures and hazardous working conditions and high radiation areas when the removal of bolted connection insulation is not warranted. The recovery from the inspection process under these conditions also frequently occurs during critical path periods and could substantially increase the outage duration with no added level of quality and safety. The resulting delays unnecessarily impact the cost of plant operation.

Supporting this evaluation are the strong guidelines described in the maintenance practices and the activities that TVA follows upon the discovery of evidence of bolted flange connection degradation. During maintenance activities associated with bolted connections, maintenance craft personnel routinely visually inspect removed bolting for evidence of degradation. Any such degradation is evaluated for the need to repair or replace the bolting material and corrective actions documented in the work process data package. In keeping with the agreed-upon provisions of the WBN System Pressure Test Program relief request ISPT-03 and the BFN relief requests 2-SPT-11 and 3-SPT- 04, a VT-1 visual examination is performed on any bolting that is removed as the result of the discovery of leakage at a flange connection during the conduct of system pressure tests. In accordance with the SQN relief request ISPT-08, a VT-3 examination is performed on the bolting most effected by the discovered leakage. The performance of a VT-1 exam or a VT-3 exam, ensures that actual detrimental bolt degradation is readily discovered. In the case of the BFN and WBN relief requests, the VT-1 examination required by the associated SEs on the approved relief requests is more stringent than the required corrective actions shown in Section XI paragraph IWA-5250(a)(2), “Corrective Measures.”

The combined effects of TVA's aggressive maintenance practices, strong materials and configuration management procedures, and careful observations of system components during routine plant operation and periodic system pressure tests, make the removal of insulation on flange connections in borated water systems with corrosion-resistant bolting unnecessary. The resulting program provides a sufficient level of quality and safety comparable to the current program. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested from meeting the specific requirements of the ASME B&PV Code, Section XI, paragraph IWA-5242(a) and substituting the use of the provisions of ASME CC N-616.

Alternative Examination: (As stated)

During the conduct of system pressure tests in accordance with the requirements of IW(X)-5000, TVA proposes to perform the tests without the removal of insulation on the bolted flanges in the borated water systems in accordance with the requirements of ASME Code Case N-616. TVA proposes to remove the insulation at flanges and perform the system pressure test VT-2 visual examination's of pressure retaining bolted connections in borated water systems only in cases where the bolting is not a boric acid corrosion-resistant material. TVA also proposes to conduct the VT-2 of the flanges with the corrosion resistant material in the same manner as non-borated water system piping with pressure retaining bolted connections. In cases where the removal of insulation is required, system pressure testing in accordance with paragraph IWA-5242(a) will continue until such time as the flange bolting may be replaced with corrosion resistance materials.

If evidence of leakage is detected during the conduct of the system pressure test, either by discovery of active leakage or by evidence of boric acid crystals in the immediate region of the bolted flange connections, the insulation is to be removed and the bolted connection examined by personnel, qualified as VT-2 examiners. TVA's response and disposition of leakage encountered at these connections follow the provisions of the existing approved relief requests 2-SPT-11 and 3-SPT-4 at BFN; ISPT-08 at SQN; and ISPT-03 at WBN. The evidence of leakage encountered is to be evaluated for the effects of corrosion and the impact to the component's structural integrity with consideration of the following factors:

A. Size of leak
B. Duration of leak
C. The cause of the leak
D. Bolting and flange material
E. Visual evidence of corrosion with the connection assembled
F. Corrosive properties of the fluid in relation to the bolting and flange material
G. Experience with similar bolting material in similar environments
H. Location of the leak, including degradation of other components in the vicinity of the leakage
I. History of leakage at this location

When the evaluation of the above variables determines that the leaking condition has not degraded the fasteners and the bolted connection possesses sufficient strength to maintain the structural integrity of the joint, then no further action is necessary. However, reasonable attempts to stop the leakage shall be made. If the evaluation of the above variables indicate the need for further evaluation, or, if no evaluation is performed, then the bolt(s) most affected by the leakage are removed and examined. The bolt(s) receive a VT-1 for BFN and WBN; VT-3 for SQN, in accordance with IWA-2211 or IWA-2213, "Visual Examinations VT-2/VT-3," as appropriate, and are evaluated in accordance with IWB-3140 or IWC-3130, "Inservice Inspection Visual Examinations," as necessary. This visual examination (VT-1 or VT-3) may be deferred to the next scheduled outage if the evaluation supports continued service. When the removed bolting shows evidence of rejectable degradation, the remaining bolts shall be removed and receive a visual examination in accordance with the approved relief requests and evaluation in accordance with IWB-3140 or IWC-3130.

TVA also plans to develop a list of the bolted flanges where the provisions of CC N-616 are applied. This list is planned to be compiled as the periodic system pressure tests are developed, scheduled, and performed. The flange connection bolting and flange materials are identified and reviewed as part of this process. This list is maintained in the system test data packages. However, this list, at the discretion of the individual site system pressure test program specialist, may be maintained in a retrievable system data file. TVA plans to make this information available at each site for review and examination as it is developed over the inspection interval and documented in the individual site ISPT programs.

3.1.2 STAFF EVALUATION

The Code requires the removal of all insulation from pressure retaining bolted connections in systems borated for the purpose of controlling reactivity when performing VT-2 visual examinations during system pressure tests. The Code requires this examination to be performed each refueling outage for Class 1 systems, and each inspection period for Class 2 and 3 systems. Watts Bar has system piping within the primary containment areas that is inaccessible during normal plant operations. System pressure testing on this piping usually occurs during plant start-up or shutdown when the piping components are at the required system operating temperatures and pressures.

Complying with the Code requirements creates a hardship on the utility. Removing and replacing piping insulation frequently requires additional activities such as erecting and removing scaffolding in areas to be inspected. These tasks result in unnecessary exposure of craft personnel to unsafe high temperatures, hazardous working conditions, and high radiation areas. The tasks also frequently occur during critical path periods and could increase the outage duration.

The staff has developed a position over the years on the use of AISI Type 17-4 PH stainless steel (SA-564 Grade 630), AISI Type 410 stainless steel (SA-193 Grade 6), and A-286 stainless steel (SA-453 Grade 660) fasteners. The 17-4 PH stainless steel and the 410 stainless steel are suitable for use in contact with primary water if they are aged at a temperature of 1100°F or higher. If they are aged at a lower temperature, they become susceptible to primary water stress corrosion cracking. The hardness of these alloys should be below Rockwell hardness ($R_{c)}$ 30 if they are properly heat treated. A-286 stainless steel is susceptible to stress corrosion cracking in primary water, particularly if preloaded above 100 thousand pounds per square inch (ksi). Bengtsson and Korhonen of ASEA-ATOM,



Vasteras, Sweden, examined the behavior of A-286 in a boiling water reactor (BWR) environment, as reported in the Proceedings of the International Symposium on Environmental Degradation of Materials in Nuclear Power Systems-Water Reactors, August 22 - 25, 1983, Myrtle Beach, South Carolina, sponsored by the National Association of Corrosion Engineers, the Metallurgical Society of AIME, and the American Nuclear Society. They found that A-286, in comparison to other tested materials, was the most susceptible material to intergranular stress corrosion cracking in BWR water. They also found that A-286 is less likely to crack as the applied stress is reduced. Piascik and Moore from Babcock & Wilcox reported a number of vessel internals bolt failures of A-286 bolts in Nuclear Technology, Vol. 75, December 1986 in pressurized-water reactor water.  They correlated the failures with bolt fillet peak stress and found that bolts preloaded below 100 ksi showed no failures.

The NRC staff position is that any 17-4 PH stainless steel or 410 stainless steel stud or bolt aged at a temperature below 1100°F or with hardness above $R_c$ 30 must have the thermal insulation removed for VT-2 examination during the system pressure test.  For A-286 stainless steel studs or bolts, the preload must be verified to be below 100 ksi or the thermal insulation must be removed and the joint visually inspected.  For nuts conforming to SA-194, experience indicates it would not be necessary to remove the thermal insulation for visual inspection.

Subsequent to repairs and replacements the licensee replaced of much of the bolting with materials that are compatible with the system design and flange materials that are resistant to degradation from the boric acid corrosion.  The licensee plans to develop a list of the bolted flanges where the provisions of CC N-616 are applied.  The list is planned to be compiled as the periodic system pressure tests are developed, scheduled, and performed.  The licensee noted that the flange connection bolting and flange materials are identified and reviewed as part of this process and will be maintained in the system test data packages.  Furthermore, the licensee plans to make this information available at each site for review and examination as it is developed over the inspection interval and documented in the individual site inservice pressure test programs.

3.1.3  CONCLUSION:

Based on the NRC staff's review of the information provided in the request for relief, the staff concludes that compliance with the code requirements would result in a hardship without a compensating increase in the level of quality and safety, and that the licensee's proposed alternative provides reasonable assurance of bolting integrity.  Therefore, the licensee's proposed alternative to use CC N-616 is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) for the respective 10-year intervals for BFN Units 2 and 3, SQN Units 1 and 2, and WBN Unit 1 or until such time CC N-616 is incorporated into Regulatory Guide (RG) 1.147.  At that time, if the licensee intends to continue implementing the code case, the licensee shall follow all the provisions in CC N-616, with limitations, if any, as stated in RG 1.147.

Principal Contributor:  Thomas McLellan, NRR

Date:   April 26, 2002

Mr. J. A. Scalice
Tennessee Valley Authority

**BROWNS FERRY NUCLEAR PLANT**
**SEQUOYAH NUCLEAR PLANT**
**WATTS BAR NUCLEAR PLANT**

cc:
Mr. Karl W. Singer, Senior Vice President
Nuclear Operations
Tennessee Valley Authority
6A Lookout Place
Chattanooga, TN  37402-2801

Mr. Jon R. Rupert, Vice President (Acting)
Engineering & Technical Services
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN  37402-2801

Mr. Pedro Salas, Manager
Licensing and Industry Affairs
Sequoyah Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Soddy Daisy, TN  37379

Mr. Lawrence E. Nanney, Director
Division of Radiological Health
Dept. of Environment & Conservation
Third Floor, L and C Annex
401 Church Street
Nashville, TN  37243-1532

Mr. Russell A. Gibbs
Senior Resident Inspector
Sequoyah Nuclear Plant
U.S. Nuclear Regulatory Commission
2600 Igou Ferry Road
Soddy Daisy, TN 37379

Mr. Robert J. Adney, General Manager
Nuclear Assurance
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN  37402-2801

Mr. Mark J. Burzynski, Manager
Nuclear Licensing
Tennessee Valley Authority
4X Blue Ridge
1101 Market Street
Chattanooga, TN  37402-2801

General Counsel
Tennessee Valley Authority
ET 11A
400 West Summit Hill Drive
Knoxville, TN  37902

Chairman
Limestone County Commission
310 West Washington Street
Athens, AL  35611

State Health Officer
Alabama Dept. of Public Health
RSA Tower - Administration
Suite 1552
P.O. Box 303017
Montgomery, AL 36130-3017

Mr. Robert G. Jones, Plant Manager
Browns Ferry Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Decatur, AL  35609

Mr. Timothy E. Abney, Manager
Licensing and Industry Affairs
Browns Ferry Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Decatur, AL  35609

Senior Resident Inspector
Browns Ferry Nuclear Plant
U.S. Nuclear Regulatory Commission
10833 Shaw Road
Athens, AL  35611

Mr. Ashok S. Bhatnagar, Site Vice President
Browns Ferry Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Decatur, AL  35609

Mr. D. L. Koehl, Plant Manager
Sequoyah Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Soddy Daisy, TN  37379

Mr. J. A. Scalice
Tennessee Valley Authority

**BROWNS FERRY NUCLEAR PLANT**
**SEQUOYAH NUCLEAR PLANT**
**WATTS BAR NUCLEAR PLANT**

cc:
County Executive
Hamilton County Courthouse
Chattanooga, TN  37402-2801

Mr. Richard T. Purcell
Site Vice President
Sequoyah Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Soddy Daisy, TN  37379

Mr. William R. Lagergren
Site Vice President
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Spring City, TN  37381

Mr. Paul L. Pace, Manager
Licensing and Industry Affairs
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Spring City, TN  37381

Mr. Larry S. Bryant Manager
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Spring City, TN  37381

Senior Resident Inspector
Watts Bar Nuclear Plant
U.S. Nuclear Regulatory Commission
1260 Nuclear Plant Road
Spring City, TN  37381

Rhea County Executive
375 Church Street
Suite 215
Dayton, TN  37321

County Executive
Meigs County Courthouse
Decatur, TN  37322

Ms. Ann P. Harris
341 Swing Loop Road
Rockwood, Tennessee  37854