December 20, 2005

10 CFR 54

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop: OWFN P1-35
Washington, D.C. 20555-0001

Gentlemen:

In the Matter of	)	Docket Nos. 50-259
Tennessee Valley Authority	)	50-260
		50-296

BROWNS FERRY NUCLEAR PLANT (BFN) - UNITS 1, 2, AND 3 - LICENSE RENEWAL APPLICATION (LRA) – SUPPLEMENTAL INFORMATION FOR THE TIME LIMITED AGING ANALYSIS (TLAA) FOR STRESS RELAXATION OF THE CORE PLATE HOLD-DOWN BOLTS AND THE UNIT 1 PERIODIC INSPECTION PROGRAM (TAC NOS. MC1704, MC1705, AND MC1706)

By letter dated December 31, 2003, TVA submitted, for NRC review, an application pursuant to 10 CFR 54, to renew the operating licenses for the Browns Ferry Nuclear Plant, Units 1, 2, and 3. As part of its review of TVA's LRA, the NRC staff, through an informal request on December 7, 2005, requested supplemental information on the TLAA for stress relaxation of the core plate hold-down bolts and the Unit 1 Periodic Inspection Program. Also, TVA provided comments on the SER to provide clarification of the One-Time Inspection Program verses the Periodic Inspection Program in a letter dated November 16, 2005. This letter contains corrections to those SER comments.

The following enclosures to this letter contain the supplemental information:

• Enclosure 1:	Changes to 4.7.7 and Appendix A.3.5.6 of the License Renewal Application to reflect the Core Plate Hold-Down Bolts commitment contained in TVA's November 16, 2005 letter
• Enclosure 2:	Changes to the Periodic Inspection Program description contained in TVA's November 16, 2005 letter
• Enclosure 3:	Corrections to SER comments contained in TVA's November 16, 2005 letter

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 20th day of December, 2005.

Sincerely,

Original signed by
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ENCLOSURE 1

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNITS 1, 2, AND 3
LICENSE RENEWAL APPLICATION (LRA)

SUPPLEMENTAL INFORMATION FOR THE TIME LIMITED AGING ANALYSIS (TLAA) FOR STRESS RELAXATION OF THE CORE PLATE HOLD-DOWN BOLTS

(SEE ATTACHED)

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT (BFN)
UNITS 1, 2, AND 3
LICENSE RENEWAL APPLICATION (LRA)

SUPPLEMENTAL INFORMATION FOR THE TIME LIMITED AGING ANALYSIS (TLAA) FOR STRESS RELAXATION OF THE CORE PLATE HOLD-DOWN BOLTS

By letter dated December 31, 2003, TVA submitted, for NRC review, an application pursuant to 10 CFR 54, to renew the operating licenses for the Browns Ferry Nuclear Plant, Units 1, 2, and 3. As part of its review of TVA's LRA, the NRC staff, through an informal request on December 7, 2005, requested supplemental information on the TLAA for stress relaxation of the core plate hold-down bolts.

This enclosure provides a revision to Section 4.7.7 and Appendix A.3.5.6 of the License Renewal Application to reflect the Core Plate Hold-Down Bolts commitment contained in TVA's November 16, 2005 letter. This enclosure replaces Section 4.7.7 and Appendix A.3.5.6 of the License Renewal Application.

4.7.7 Stress Relaxation of the Core Plate Hold-Down Bolts

Summary Description

As described in the SER (ML003775989, 12/07/2000) to BWRVIP-25, "BWR Core Plate Inspection and Flaw Evaluation Guidelines," plants must consider relaxation of the rim-hold-down bolts as a TLAA issue. Since BFN has not installed core plate wedges, the loss of preload must be considered in the TLAA evaluation.

Analysis

The core plate hold-down bolts connect the core plate to the core shroud. These bolts are subject to stress relaxation due to thermal and irradiation effects. For the 40-year lifetime, the BWRVIP concluded that all rim hold-down bolts will maintain some preload throughout the life of the plant.

Disposition: 10 CFR 54.21(c)(1)(iii) – The effects of aging on the intended function(s) will be adequately managed for the period of extended operation.

TVA will perform a BFN plant-specific analysis consistent with BWRVIP-25 to demonstrate that the core plate hold-down bolts can withstand normal, upset, emergency, and faulted loads, as applicable, considering the effects of stress relaxation until the end of the period of extended operation. The installed core plate configuration and bolt preload will be used for the plant specific analysis. The analysis will use the plant-specific design basis loads and load combinations. The analysis will incorporate detailed flux/fluence analyses and improved stress relaxation correlations.

As per Browns Ferry's current licensing basis, BFN FSAR Section 3.3.5.1, Reactor Vessel Internals Mechanical Design, the ASME Boiler and Pressure Code, Section III will be used as a guide in determining limiting stress intensities for reactor vessel internals. For those components for which stresses exceed the ASME code allowables, either the elastic stability of the structure or the resulting deformation or displacement will be examined to determine if the safety design basis is satisfied.

The analysis or corrective action taken to resolve this issue will be submitted to NRC for review 2 years prior to the period of extended operation.

A.3.5.6 Stress Relaxation of the Core Plate Hold-Down Bolts

The core plate hold-down bolts connect the core plate to the core shroud. These bolts are subject to stress relaxation due to thermal and irradiation effects. For the 40-year lifetime, the BWRVIP concluded that all rim hold-down bolts will maintain some preload throughout the life of the plant. TVA will perform a BFN plant-specific analysis consistent with BWRVIP-25 to demonstrate that the core plate hold-down bolts can withstand normal, upset, emergency, and faulted loads, as applicable, considering the effects of stress relaxation until the end of the period of extended operation. The installed core plate configuration and bolt preload will be used for the plant specific analysis. The analysis will use the plant-specific design basis loads and load combinations. The analysis will incorporate detailed flux/fluence analyses and improved stress relaxation correlations.

As per Browns Ferry's current licensing basis, BFN FSAR Section 3.3.5.1, Reactor Vessel Internals Mechanical Design, the ASME Boiler and Pressure Code, Section III will be used as a guide in determining limiting stress intensities for reactor vessel internals. For those components for which stresses exceed the ASME code allowables, either the elastic stability of the structure or the resulting deformation or displacement will be examined to determine if the safety design basis is satisfied.

The analysis or corrective action taken to resolve this issue will be submitted to NRC for review 2 years prior to the period of extended operation.

ENCLOSURE 2

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNITS 1, 2, AND 3
LICENSE RENEWAL APPLICATION (LRA)

SUPPLEMENTAL INFORMATION FOR THE UNIT 1
PERIODIC INSPECTION PROGRAM

(SEE ATTACHED)

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT (BFN)
UNITS 1, 2, AND 3
LICENSE RENEWAL APPLICATION (LRA)

SUPPLEMENTAL INFORMATION FOR THE UNIT 1 PERIODIC INSPECTION PROGRAM

By letter dated December 31, 2003, TVA submitted, for NRC review, an application pursuant to 10 CFR 54, to renew the operating licenses for the Browns Ferry Nuclear Plant, Units 1, 2, and 3. As part of its review of TVA's LRA, the NRC staff, through an informal request on December 7, 2005, requested supplemental information on the Unit 1 Periodic Inspection Program.

This enclosure provides a revision to the Unit 1 Periodic Inspection Program description. This enclosure replaces the Unit 1 Periodic Inspection Program description contained in Enclosure 2, Attachment 2 of TVA's November 16, 2005 letter. In addition, the affected LRA AMR Section 3 Tables will be revised to include the piping/fittings included in the scope of the Unit 1 Periodic Inspection Program at the next annual update.

B.2.1.42 Unit 1 Periodic Inspection Program

The Unit 1 Periodic Inspection Program is a new program that performs periodic inspections to verify that no latent aging effects are occurring and to correct degraded conditions prior to loss of function.

Aging Management Program Elements

The requirements of the Unit 1 Periodic Inspection Program are described below along with an evaluation of the program demonstrating compliance with the program elements of Appendix A of NUREG-1800.

Element 1 - Scope of Program

1. The specific program necessary for license renewal should be identified. The scope of the program should include the specific structures and components of which the program manages the aging.

BFN Description and Evaluation for Element 1

The Unit 1 Periodic Inspection Program provides periodic monitoring of the Unit 1 non-replaced piping/fittings that were not in service supporting operation of Units 2 and 3, as described in the TVA Letter to the U.S. Nuclear Regulatory Commission, Document Control Desk, "Browns Ferry Nuclear Plant (BFN) - Units 1, 2, and 3 - License Renewal Application (LRA) – Response to NRC Request for Additional Information Concerning the Unit 1 Lay-up Program (TAC Nos. MC1704, MC1705, and MC1706)" dated May 18, 2005.

The specific components included in the May 18, 2005 letter includes piping and welds in RHRSW (A&C loops in the tunnels), Fire Protection, EECW, RCW, CRD, CS, Feedwater, HPCI, Main Steam, RCIC, RHR, and RBCCW.

Element 2 - Preventive Actions

1. The activities for prevention and mitigation programs should be described. These actions should mitigate or prevent aging degradation.

2. For condition or performance monitoring programs, they do not rely on preventive actions and thus, this information need not be provided. More than one type of aging management program may be implemented to ensure that aging effects are managed.

BFN Description and Evaluation for Element 2

The Unit 1 Periodic Inspection Program is a condition monitoring program and does not include preventive elements.

Element 3 - Parameters Monitored or Inspected

1. The parameters to be monitored or inspected should be identified and linked to the degradation of the particular structure and component intended function(s).

2. For a condition monitoring program, the parameter monitored or inspected should detect the presence and extent of aging effects. Some examples are measurements of wall thickness and detection and sizing of cracks.

3. For a performance monitoring program, a link should be established between the degradation of the particular structure or component intended function(s) and the parameter(s) being monitored. An example of linking the degradation of a passive component intended function with the performance being monitored is linking the fouling of heat exchanger tubes with the heat transfer intended function. This could be monitored by periodic heat balances. Since this example deals only with one intended function of the tubes, heat transfer, additional programs may be necessary to manage other intended function(s) of the tubes, such as pressure boundary.

   A performance monitoring program may not ensure the structure and component intended function(s) without linking the degradation of passive intended functions with the performance being monitored. For example, a periodic diesel generator test alone would not provide assurance that the diesel will start and run properly under all applicable design conditions. While the test verifies that the diesel will perform if all the support systems function, it provides little information related to the material condition of the support components and their ability to withstand DBE loads. Thus, a DBE, such as a seismic event, could cause the diesel supports, such as the diesel embedment plate anchors or the fuel oil tank, to fail if the effects of aging on these components are not managed during the period of extended operation.

4. For prevention and mitigation programs, the parameters monitored should be the specific parameters being controlled to achieve prevention or mitigation of aging effects. An example is the coolant oxygen level that is being controlled in a water chemistry program to mitigate pipe cracking.

BFN Description and Evaluation for Element 3

The Unit 1 Periodic Inspection Program is a condition monitoring program; thus, only the first two items for Element 3 are applicable.

The Unit 1 Periodic Inspection Program is not a stand alone aging management program; it provides an additional level of assurance to verify that no latent aging effects are occurring in the BFN Unit 1 components that were not replaced as part of the Unit 1 restart program. The normal aging management programs for the Unit 1 non-replaced components are the same as the programs used for Units 2 and 3. The normal aging management programs provide control and prevention of component degradation, as well as monitoring to confirm the program's effectiveness. The monitoring and trending performed by the Unit 1 Periodic Inspection Program is in addition to the monitoring performed by the normal aging management programs.

The non-replaced components monitored by the Unit 1 Periodic Inspection Program have three internal environments: raw water, treated water, and closed cooling (treated) water. Raw water is the most corrosive environment of these environments. The Open-Cycle Cooling Water System Program manages components in the raw water environment and includes monitoring for program effectiveness as a part of the program. For example, the program includes internal inspections of the raw water side of the heat exchangers and cleaning /eddy current testing of the heat exchanger tubes. These are scheduled, on-going examinations that will be performed throughout the period of extended operation. In addition, procedure 0-TI-389, Raw Water Fouling and Corrosion Control, states "Visual inspections shall be performed by a system engineer, or the maintenance shift manager if a system engineer is not available. … Visual inspection on GL 89-13 components must be performed by a system engineer. … Visual inspections shall be completed before performing any cleaning, testing, maintenance, or modifications."

Treated water and closed cooling (treated) water environments are less corrosive than raw water; however, they both have prevention and effectiveness monitoring identified as a part of their aging management programs. Treated water systems, such as Feedwater and Main Steam utilize the One-Time Inspection Program to confirm the effectiveness of the Chemistry Control Program. The One-Time Inspection Program includes a variety of inspections to ensure effectiveness, including visual inspections when components are opened. For closed cooling water systems, the Closed-Cooling Water System Program includes testing and inspection in accordance with EPRI TR-107396 to evaluate system and component performance.

For the Unit 1 Periodic Inspection Program, the selected sample will be examined by the same (UT thickness for piping and UT shear wave and surface exam for welds), or equivalent, methodology as performed to determine acceptability of not replacing piping sections prior to restart. The susceptible locations identified in the RAI 3.0-9 response were those areas determined to have the highest potential for service induced wear or latent aging effects, which includes all types of corrosion. The inspection techniques utilized evaluate internal conditions and are sensitive to the presence of unacceptable conditions including wear, erosion, and corrosion (including crevice corrosion) if present.

The sample selected for periodic inspection will be based on a 95/95 confidence level (Reference 1) on a common material and environment bases. For example, where a common material, lay-up environment, and operating environment exist, the total population of inspections that were performed to determine acceptability of not replacing piping sections will be determined and a sample of re-inspection points, based on the criteria of 95/95, will be selected. The sample will be distributed among the various system locations that were grouped based on a common material and environment. If a criterion other than 95/95 is utilized, the deviation will be justified and NRC approval will be requested prior to implementing a differing criteria.

The sample size for the common material and environment groupings will be based on this formula for binomial distribution sampling, with the result rounded up to next whole number.

$$n = \left(\frac{z_\alpha^2 N}{\left(\frac{\rho(N-1)}{(1-\rho)} \right) + z_\alpha^2} \right)$$ Equation 10.18 (rearranged) - Reference 1

For 95/95 confidence, z_α = 1.96 (Table 10.1 – Reference 1) and ρ = 0.05 (probability of failure, i.e., 1-0.95). Substituting these values, this equation simplifies to:

$$n = \left(\frac{(72.99)N}{N + (71.99)} \right)$$

Where N is the total number of points in the original inspection population for a given grouping and *n* is required sample size.

Reference

1. S. S. Wilks, "Elementary Statistical Analysis," Princeton University Press, 1948.

Element 4 - Detection of Aging Effects

1. Detection of aging effects should occur before there is a loss of the structure and component intended function(s). The parameters to be monitored or inspected should be appropriate to ensure that the structure and component intended function(s) will be adequately maintained for license renewal under all CLB design conditions. This includes aspects such as method or technique (e.g., visual, volumetric, surface inspection), frequency, sample size, data collection and timing of new/one-time inspections to ensure timely detection of aging effects. Provide information that links the parameters to be monitored or inspected to the aging effects being managed.

2. Nuclear power plants are licensed based on redundancy, diversity, and defense-in-depth principles. A degraded or failed component reduces the reliability of the system, challenges safety systems, and contributes to plant risk. Thus, the effects of aging on a structure or component should be managed to ensure its availability to perform

its intended function(s) as designed when called upon. In this way, all system level intended function(s), including redundancy, diversity, and defense-in-depth consistent with the plant's CLB, would be maintained for license renewal. A program based solely on detecting structure and component failure should not be considered as an effective aging management program for license renewal.

3. This program element describes "when," "where," and "how" program data are collected (i.e., all aspects of activities to collect data as part of the program).

4. The method or technique and frequency may be linked to plant-specific or industry-wide operating experience. Provide justification, including codes and standards referenced, that the technique and frequency are adequate to detect the aging effects before a loss of SC intended function. A program based solely on detecting SC failures is not considered an effective aging management program.

5. When sampling is used to inspect a group of SCs, provide the basis for the inspection population and sample size. The inspection population should be based on such aspects of the SCs as a similarity of materials of construction, fabrication, procurement, design, installation, operating environment, or aging effects. The sample size should be based on such aspects of the SCs as the specific aging effect, location, existing technical information, system and structure design, materials of construction, service environment, or previous failure history. The samples should be biased toward locations most susceptible to the specific aging effect of concern in the period of extended operation. Provisions should also be included on expanding the sample size when degradation is detected in the initial sample.

BFN Description and Evaluation for Element 4

The Unit 1 Periodic Inspection Program is a plant unique inspection and trending program that is not covered by industry codes or standards. The selected inspection methodologies are based on the inspections performed to determine whether components require replacement prior to restart of BFN Unit 1. These methods are described in the TVA Letter to the U.S. Nuclear Regulatory Commission, Document Control Desk, "Browns Ferry Nuclear Plant (BFN) - Units 1, 2, and 3 - License Renewal Application (LRA) – Response to NRC Request for Additional Information Concerning the Unit 1 Lay-up Program (TAC Nos. MC1704, MC1705, and

MC1706)" dated May 18, 2005. To allow trending based on the baseline developed prior to BFN Unit 1 restart, the inspection methodologies will be consistent with those utilized for the baseline restart inspections.

As discussed in Element 3, the Unit 1 Periodic Inspection Program is not a stand alone aging management program; it provides an additional level of assurance to verify that no latent aging effects are occurring in the BFN Unit 1 components that were not replaced as part of the Unit 1 restart program. The normal aging management programs for the Unit 1 non-replaced components are the same as the programs used for Units 2 and 3. The examination and trending performed by the Unit 1 Periodic Inspection Program supplements the normal aging management programs.

Based on the May 18, 2005, letter, the examination techniques utilized for the baseline inspections were ultrasonic thickness measurements for the piping and ultrasonic shear wave for welds.

The BFN Description and Evaluation for Element 3 portion of this attachment discusses sample selection. The selected re-inspection locations include those areas determined to have the highest potential for service induced wear or latent aging effects, which includes all types of corrosion. The inspection techniques utilized evaluate internal conditions that are sensitive to the presence of unacceptable conditions including wear, erosion, and corrosion (including crevice corrosion) if present.

For the periodic inspection locations, the restart inspections can be utilized as a baseline for comparison. If required, a re-baseline will be performed on selected sample locations prior to restart to ensure accurate baseline values are available. The Unit 1 periodic inspections will be performed after Unit 1 is returned to operation and prior to the end of the current operating period. The second periodic inspection of all sample locations will be completed within the first ten years of the period of extended operation. The inspection frequency is re-evaluated each time the inspection is performed and can be changed based on the trend of the results. The inspections will continue until the trend of the results provides a basis to discontinue the inspections.

Element 5 - Monitoring and Trending

1. Monitoring and trending activities should be described, and they should provide predictability of the extent of degradation and thus effect timely corrective or mitigative actions. Plant specific and/or industry-wide operating experience may be considered in evaluating the appropriateness of the technique and frequency.

2. This program element describes "how" the data collected are evaluated and may also include trending for a forward look. This includes an evaluation of the results against the acceptance criteria and a prediction regarding the rate of degradation in order to confirm that timing of the next scheduled inspection will occur before a loss of SC intended function. Although aging indicators may be quantitative or qualitative, aging indicators should be quantified, to the extent possible, to allow trending. The parameter or indicator trended should be described. The methodology for analyzing the inspection or test results against the acceptance criteria should be described. Trending is a comparison of the current monitoring results with previous monitoring results in order to make predictions for the future.

BFN Description and Evaluation for Element 5

The Unit 1 periodic inspections will be performed after Unit 1 is returned to operation and prior to the end of the current operating period. The second periodic inspection of all sample locations will be completed within the first ten years of the period of extended operation. The inspection frequency is re-evaluated each time the inspection is performed and can be changed based on the trend of the results. The inspections will continue until the trend of the results provides a basis to discontinue the inspections.

Element 6 - Acceptance Criteria

1. The acceptance criteria of the program and its basis should be described. The acceptance criteria, against which the need for corrective actions will be evaluated, should ensure that the structure and component intended function(s) are maintained under all CLB design conditions during the period of extended operation. The program should include a methodology for analyzing the results against applicable acceptance criteria. For example, carbon steel pipe wall thinning may occur under certain conditions due to erosion-corrosion. An aging management program for erosion-corrosion may consist of periodically

measuring the pipe wall thickness and comparing that to a specific minimum wall acceptance criterion. Corrective action is taken, such as piping replacement, before reaching this acceptance criterion. This piping may be designed for thermal, pressure, NUREG-1800 A.1-6 April 2001 deadweight, seismic, and other loads, and this acceptance criterion must be appropriate to ensure that the thinned piping would be able to carry these CLB design loads. This acceptance criterion should provide for timely corrective action before loss of intended function under these CLB design loads.

2. Acceptance criteria could be specific numerical values, or could consist of a discussion of the process for calculating specific numerical values of conditional acceptance criteria to ensure that the structure and component intended function(s) will be maintained under all CLB design conditions. Information from available references may be cited.

3. It is not necessary to justify any acceptance criteria taken directly from the design basis information that is included in the FSAR because that is a part of the CLB. Also, it is not necessary to discuss CLB design loads if the acceptance criteria do not permit degradation because a structure and component without degradation should continue to function as originally designed. Acceptance criteria, which do permit degradation, are based on maintaining the intended function under all CLB design loads.

4. Qualitative inspections should be performed to same predetermined criteria as quantitative inspections by personnel in accordance with ASME Code and through approved site specific programs.

BFN Description and Evaluation for Element 6

The acceptance criterion for these periodic inspections is that the pipe wall will remain above minimum acceptable wall thickness until the next periodic inspection, and that no unacceptable weld cracks exist. The calculation for acceptable minimum wall considers stresses such as hoop, pressure, dead weight, thermal and seismic, as applicable based on the Code of Record and applicable approved code cases.

Element 7 - Corrective Actions

1. Actions to be taken when the acceptance criteria are not met should be described. Corrective actions, including root cause determination and prevention of recurrence, should be timely.

2. If corrective actions permit analysis without repair or replacement, the analysis should ensure that the structure and component intended function(s) will be maintained consistent with the CLB.

BFN Description and Evaluation for Element 7

The Corrective Action Program is administered by TVAN procedure SPP-3.1 in accordance with 10 CFR Part 50, Appendix B, and meets the conditions to be used for corrective actions, confirmation process, and administrative controls for aging management during the period of extended operation.

Element 8 - Confirmation Process

1. The confirmation process should be described. It should ensure that preventive actions are adequate and that appropriate corrective actions have been completed and are effective.

2. The effectiveness of prevention and mitigation programs should be verified periodically. For example, in managing internal corrosion of piping, a mitigation program (water chemistry) may be used to minimize susceptibility to corrosion. However, it may also be necessary to have a condition monitoring program (ultrasonic inspection) to verify that corrosion is indeed insignificant.

3. When corrective actions are necessary, there should be follow-up activities to confirm that the corrective actions were completed, the root cause determination was performed, and recurrence is prevented.

BFN Description and Evaluation for Element 8

The Unit 1 Periodic Inspection Program is a condition monitoring program; thus, item 2 for Element 8 is not applicable.

See BFN Description and Evaluation for Element 7 for the remainder of Element 8.

Element 9 - Administrative Controls

1. The administrative controls of the program should be described. They should provide a formal review and approval process.

2. Any aging management programs to be relied on for license renewal should have regulatory and administrative controls. That is the basis for 10 CFR 54.21(d) to require that the FSAR supplement includes a summary description of the programs and activities for managing the effects of aging for license renewal. Thus, any informal programs relied on to manage aging for license renewal must be administratively controlled and included in the FSAR supplement.

BFN Description and Evaluation for Element 9

See BFN Description and Evaluation for Element 7. The proposed UFSAR description of the Unit 1 Periodic Inspection Program is provided in Enclosure 2, Attachment 1 of TVA Letter to U.S. Nuclear Regulatory Commission, "BROWNS FERRY NUCLEAR PLANT (BFN) - UNITS 1, 2, AND 3 - LICENSE RENEWAL APPLICATION (LRA) – SUPPLEMENTAL RESPONSES TO NRC REQUESTS (TAC NOS. MC1704, MC1705, AND MC1706)," dated November 16, 2005.

Element 10 - Operating Experience

1. Operating experience with existing programs should be discussed. The operating experience of aging management programs, including past corrective actions resulting in program enhancements or additional programs, should be considered. A past failure would not necessarily invalidate an aging management program because the feedback from operating experience should have resulted in appropriate program enhancements or new programs. This information can show where an existing program has succeeded and where it has failed (if at all) in intercepting aging degradation in a timely manner. This information should provide objective evidence to support the conclusion that the effects of aging will be managed adequately so that the structure and component intended function(s) will be maintained during the period of extended operation.

2. An applicant may have to commit to providing operating experience in the future for new programs to confirm their effectiveness.

BFN Description and Evaluation for Element 10

The Unit 1 Periodic Inspection Program is a new program that will monitor the operating condition of Unit 1 components that were not replaced during the Unit 1 restart. Therefore, there is no applicable operating experience for this inspection program.

The trending data developed in accordance with Element 5 demonstrates the effectiveness of the Unit 1 Periodic Inspection Program during the period of extended operation.

Conclusion

The Unit 1 Periodic Inspection Program is a new program identified to monitor system piping that did not require replacement following the extended Unit 1 outage. The Unit 1 Periodic Inspection Program will verify that no latent aging effects are occurring. The Unit 1 periodic inspections will be performed after Unit 1 is returned to operation and prior to the end of the current operating period. The second periodic inspection of all sample locations will be completed within the first ten years of the period of extended operation. The inspection frequency is re-evaluated each time the inspection is performed and can be changed based on the trend of the results. The inspections will continue until the trend of the results provides a basis to discontinue the inspections.

ENCLOSURE 3

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNITS 1, 2, AND 3
LICENSE RENEWAL APPLICATION (LRA)

CORRECTION TO SER COMMENTS

(SEE ATTACHED)

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT (BFN)
UNITS 1, 2, AND 3
LICENSE RENEWAL APPLICATION (LRA)

CORRECTION TO SER COMMENTS

By letter dated December 31, 2003, TVA submitted, for NRC review, an application pursuant to 10 CFR 54, to renew the operating licenses for the Browns Ferry Nuclear Plant, Units 1, 2, and 3. TVA provided comments on the SER to provide clarification of the One-Time Inspection Program verses the Periodic Inspection Program in a letter dated November 16, 2005. Enclosure 7 of that letter provided several marked-up pages of the SER with suggested clarification. The changes indicated on pages E-26 and E-27 are not correct. Please omit these pages when considering input for changes to the SER.