



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

Mark O. Medford
Vice President, Nuclear Assurance, Licensing and Fuels

JUL 10 1991

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

Gentlemen:

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

BROWNS FERRY NUCLEAR PLANT (BFN) - REGULATORY FRAMEWORK FOR THE RESTART
OF UNITS 1 AND 3

- References:
1. TVA letter dated January 9, 1991, Plans for the Return to Service of BFN Units 1 and 3
 2. NRC letter dated March 14, 1991, Restart of Browns Ferry, Units 1 and 3

This letter provides TVA's proposed overall regulatory framework for the restart of Units 1 and 3. TVA provided, as part of Reference 1, an evaluation of the Browns Ferry Nuclear Performance Plan (BFNPP) special programs and an outline of their applicability to the restart of Units 1 and 3. NRC provided an initial response to this letter by Reference 2 and requested additional information regarding the management programs addressed in Section II of the BFNPP and whether TVA plans to conduct an Operational Readiness Review prior to the restart of Unit 3. On May 22, 1991, TVA and NRC met to discuss these letters in the context of the overall regulatory framework for the restart of Units 1 and 3.

The regulatory framework for the restart of Unit 2 was atypical. TVA's submittal of the BFNPP and NRC's review and issuance of Safety Evaluation Reports for each individual program were unique. While this level of NRC involvement did result in added confidence for the approval of Unit 2 restart, it required significant TVA and NRC resources. In most cases, TVA began the implementation of these programs prior to NRC approval. Significant redesign and additional modifications were required whenever the criteria were changed during the approval process. Additional details of the regulatory framework for Unit 2's restart and a discussion of the lessons learned are provided in Enclosure 1.

U.S. Nuclear Regulatory Commission

JUL 10 1991

TVA's proposed regulatory framework for the restart of Units 1 and 3 is consistent with normal industry practice. The proposed program will establish a high degree of confidence that the facility and personnel are ready to restart and operate Units 1 and 3 in a safe and reliable manner, and promote the efficient utilization of TVA and NRC resources. TVA's plans for the restart of Units 1 and 3 are based on the regulatory requirements, corrective action programs, commitments, technical specification improvements, and internally identified deficiencies and concerns that were resolved prior to the restart of Unit 2. Additional details for each of these categories and a response to the NRC's March 14, 1991 request for additional information on management issues and Operational Readiness are presented in Enclosure 1. The major points of TVA's proposed regulatory framework are:

- o TVA will not restart BFN Units 1 or 3 without prior NRC approval.
- o For BFNPP special programs that TVA will implement on Units 1 and 3 in accordance with the Unit 2 criteria and implementation precedent, no additional NRC programmatic evaluations are required.
- o TVA has and will continue to provide informational submittals to NRC for BFNPP special programs that deviate from the Unit 2 implementation precedent. TVA requests timely notification of any concerns resulting from NRC review of these submittals.
- o For special programs that deviate from the Unit 2 criteria precedent, TVA has or will propose revised criteria for NRC staff review and approval. TVA requests expeditious NRC review of these criteria and issuance of supplemental Safety Evaluation Reports in order to support the design of modifications that are required to be completed on Unit 2 prior to the restart from the next refueling outage and prior to the restart of Units 1 and 3.

TVA has begun detailed walkdowns on Unit 3 and has made several submittals that defined and justified deviations from the Unit 2 precedent for these BFNPP special programs. TVA requests expeditious NRC review and concurrence with this proposed overall regulatory framework in order to proceed with the resolution of the detailed criteria, programmatic, and compliance issues.

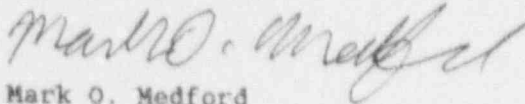
U.S. Nuclear Regulatory Commission

JAN 13 1991

A complete list of commitments contained in this letter is provided in Enclosure 2. If you have any questions, please telephone Joseph E. McCarthy, Unit 3 Restart Licensing Manager, at (205) 729-3604.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



Mark O. Medford

Enclosures

cc (Enclosures):

Ms. S. C. Black, Deputy Director
Project Directorate II-4
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

NRC Resident Inspector
Browns Ferry Nuclear Plant
Route 12, Box 637
Athens, Alabama 35609-2000

Mr. Thierry M. Ross, Project Manager
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

Mr. B. A. Wilson, Project Chief
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

ENCLOSURE 1
BROWNS FERRY NUCLEAR PLANT (BFN)
REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3

UNIT 2 RESTART PROCESS

Browns Ferry Units 1 and 3 were voluntarily shut down by TVA in March 1985 because of questions about the primary containment isolation leak rate testing for Unit 1 and reactor water level instrumentation for Unit 3. Unit 2 was in a refueling outage at that time. Additional questions and concerns were subsequently raised about the overall adequacy of TVA's nuclear program.

By letter, dated September 17, 1985, the NRC requested, pursuant to 10 CFR 50.54(f), that TVA specify the corrective actions which would be completed prior to the restart of any of the TVA operating facilities and a schedule for longer term actions. This letter also confirmed TVA's verbal commitment not to restart any of TVA's operating plants without prior NRC concurrence. TVA responded for the Browns Ferry Plant with the submittal and subsequent revisions to the Corporate Nuclear Performance Plan (CNPP) and the Browns Ferry Nuclear Performance Plan (BFNPP). The CNPP addressed the NRC's concerns with TVA's corporate management. The BFNPP addressed Browns Ferry site specific issues, with an emphasis of the actions required to restart Unit 2. In these documents, the root causes of Browns Ferry's problems were identified as:

- A lack of clear assignment of responsibility and authority to managers and their organizations that clearly established accountability for performance.
- Insufficient management involvement and control in the work place, leading to a failure to adequately establish the highest quality of performance.
- The failure to consistently maintain a documented design basis for the plant and to control the plant's configuration in accordance with that basis.

ENCLOSURE 1

Page 2 of 16

BROWNS FERRY NUCLEAR PLANT (BFN) REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3 (CONTINUED)

The BFNPP was originally issued in August of 1986 and was last revised in October of 1988. Separate TVA submittals revised the proposed corrective action programs and submitted detailed design criteria for several issues, especially in the seismic area. Numerous inspections were conducted to verify the effectiveness and thoroughness of the implementation of these corrective action programs and TVA docketed several responses to open items contained in the inspection reports. Consequently, the final corrective action programs may be significantly different from the description contained in the last revision of the BFNPP and the complete description of each program consists of the complete set of documents docketed for Unit 2. NRC evaluation of the BFNPP special programs was documented by the issuance of issue specific Safety Evaluation Reports (SERs) or in NUREG-1232, Volume 3, Safety Evaluation Report on the Browns Ferry Nuclear Performance Plan, and its supplements.

By letter, dated April 16 1991, TVA provided the status of the completion of Unit 2 restart corrective actions identified in the BFNPP. Notification of the completion of the remaining restart corrective actions was provided by TVA letter, dated May 14, 1991. TVA has previously committed to provide NRC with a schedule for the implementation of post-restart Unit 2 commitments by September 20, 1991. It is TVA's position that this set of documents collectively satisfied the requirements of the NRC's September 17, 1985 10 CFR 50.54(f) letter for Browns Ferry. Programs and commitments contained in the BFNPP, including those applicable to Units 1 and 3, will be tracked to completion as part of TVA's normal commitment tracking system.

LESSONS LEARNED FROM UNIT 2 RESTART

The regulatory framework for the restart of Unit 2 was atypical. TVA's submittal of the BFNPP and NRC's review and issuance of Safety Evaluation Report for each individual program was unique. Normally, the licensee and NRC identify the problems that lead to the shutdown of a plant. The licensee develops and implements appropriate corrective action programs. Then the NRC performs a post-implementation inspection to verify that the identified problems have been corrected.

ENCLOSURE 1

Page 3 of 16

BROWNS FERRY NUCLEAR PLANT (BFN) REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3 (CONTINUED)

Obtaining NRC approval of the adequacy of the Unit 2 corrective action programs and criteria had the following impacts:

- 1) While this level of NRC involvement did result in added confidence for the approval of Unit 2 restart, it required significant TVA and NRC resources to negotiate the approval of individual programs and criteria. TVA is minimizing the resources required to obtain NRC approval of programs on Units 1 and 3 by using the Unit 2 criteria and implementation precedent unless significant improvements in program efficiency can be obtained.
- 2) In most cases, TVA began the implementation of these programs "at risk", which meant prior to NRC approval. Significant redesign and additional modifications were required whenever the criteria was changed during the approval process. TVA is minimizing the risk of implementing programs on Units 1 and 3 prior to obtaining NRC approval by prioritizing program implementation and by using the Unit 2 criteria and implementation precedent unless significant improvements in program efficiency can be obtained.
- 3) TVA used an interim (one cycle) operability criteria as part of the corrective action program for some commodities, especially in the seismic area. TVA also partially completed some corrective action programs prior to restart (e.g., design baseline, procedures upgrades, and fire protection). The use of interim criteria and partial completion of programs resulted in a loss of personnel continuity at the working level. TVA does not intend to use interim criteria or partial programmatic completions prior to the restart of Units 1 and 3, except for issues related to the final implementation of Unresolved Safety Issue A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors.

ENCLOSURE 1

Page 4 of 16

BROWNS FERRY NUCLEAR PLANT (BFN) REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3 (CONTINUED)

During the extended Unit 2 outage, TVA informed the NRC Staff of several changes which were being made to design commitments or criteria contained in the BFN Final Safety Analysis Report (FSAR) (e.g., seismic qualification of reactor building flood level switches). This resulted in NRC review of changes which would normally be dispositioned by a licensee under the provisions of 10 CFR 50.59. TVA proposed that Units 1 and 3 design changes be evaluated in accordance with normal industry practice. In accordance with 10 CFR 50.59, TVA will submit an annual summary of the changes made under the provisions of this section. Changes which constitute an unreviewed safety question will be provided for NRC review and approval as required by 10 CFR 50.59.

PROPOSED UNITS 1 AND 3 RESTART PROCESS

TVA's plans for the restart of Units 1 and 3 are based on the regulatory requirements, corrective action programs, commitments, technical specification improvements, and internally identified deficiencies and concerns which were resolved prior to the restart of Unit 2. A discussion and the proposed regulatory framework for addressing each of these categories is presented below. In accordance with the Unit 2 precedent, TVA expects NRC to perform any required post-implementation inspections to document the closure of these items prior to the restart of Units 1 and 3 and TVA will not restart Browns Ferry Units 1 or 3 without prior NRC approval.

Requirements

Enclosure 5 to TVA's January 9, 1991 letter provided a list of the NUREG-0737 Action Items, Bulletins, Generic Letters, Unresolved Safety Issues (USIs), Generic Safety Issues (GSIs), Multi-Plant Action Items (MPAs), and other regulatory requirements which will be resolved prior to the restart of Units 1 and 3. For convenience, this list has also been included as Table 1 to this enclosure. New Generic Letters, Bulletins, and regulatory requirements will be resolved on Units 1 and 3 prior to restart or in accordance with their generic scheduler requirements. However, consideration will be given to expedited completion of long lead time issues identified early in the Units 1 and 3 restart process.

ENCLOSURE 1
BROWNS FERRY NUCLEAR PLANT (BFN)
REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3
(CONTINUED)

For regulatory issues in Table 1 which:

- 1) Were addressed specifically for Unit 2 and received Unit 2 specific NRC Safety Evaluation Reports (SERs), and
- 2) Will be implemented on Units 1 and 3 in accordance with the Unit 2 criteria and implementation precedent.

For issues in this category, TVA proposes a subsequent submittal to NRC. This submittal will review the regulatory issues in Table 1 and identify those issues that are in this category. This submittal will summarize each issue, identify the major TVA/NRC correspondence associated with the resolution of the issue, review the TVA actions taken to resolve the issue on Unit 2, commit to perform similar actions for Units 1 and 3, and request a letter from the NRC Staff which states that the Unit 2 specific SERs are also applicable to Units 1 and 3.

TVA will review the issues in Table 1 and identify those issues whose closure for Unit 2 was predicated on the assumption that Units 1 and 3 were shutdown and defueled (e.g., station blackout). TVA will re-evaluate these issues to assume the operation of each unit prior to its return to service. TVA will submit the results of these re-evaluations on an issue specific basis and request supplemental SERs. These commitments are contingent upon NRC acceptance of TVA's proposed regulatory framework.

TVA will provide notification to NRC when the regulatory issues in Table 1 are implemented on Units 1 and 3.

Corrective Action Programs

TVA's January 9, 1991 letter also addressed the BFNPP special programs and their applicability to the restart of Units 1 and 3. Subsequent submittals have revised this tabulation, therefore a revised summary of the applicability of the NPP special programs is included as Table 2. These NPP special programs are being addressed for Units 1 and 3 in four categories:

- 1) Programs considered complete for all three units.
- 2) Programs which will be implemented on Units 1 and 3 in accordance with the Unit 2 criteria and implementation precedent.

ENCLOSURE 1
BROWNS FERRY NUCLEAR PLANT (BFN)
REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3
(CONTINUED)

- 3) Programs which will be implemented on Units 1 and 3 in accordance with the Unit 2 criteria precedent. However, TVA will take advantage of lessons learned from the implementation of these programs on Unit 2 to implement the program more efficiently.
- 4) Programs which TVA will implement on Units 1 and 3 using criteria which deviates from the Unit 2 precedent.

A discussion of these categories and the proposed regulatory framework for each is provided as follows.

Completed Programs -

There are four BFNPP special programs which TVA considers complete for Browns Ferry Units 1, 2, and 3. Each is briefly discussed below. TVA proposes that no further regulatory programmatic reviews be performed on these programs.

TVA's program for resolving heat code traceability concerns addressed all three units. NRC's May 31, 1990 SER on the TVA employee concerns subcategory reports applied to all three units and concluded that TVA had adequately addressed the issues raised by the eighteen concerns in this Material Subcategory Report.

TVA's submittals and the NRC's April 11, 1988 SER for the secondary containment penetrations program addressed all three units. The work for this program was completed for all three units prior to the restart of Unit 2.

TVA's submittals and the NRC's August 31, 1988 SER for Bulletin 87-01, Thinning of Pipe Walls in Nuclear Power Plants, addressed all three units. The initial inspections were completed and the monitoring program was established for all three units prior to the restart of Unit 2.

The TVA submittals for the welding program addressed all three units. NRC's May 31, 1990 SER on the TVA employee concerns subcategory reports applied to all three units and concluded that TVA had adequately addressed welding related employee concerns. However, the NRC's overall conclusion that TVA has adequately reviewed and addressed welding related concerns at BFN is documented in NUREG-1232, Volume 3, Supplement 1, dated October 24, 1989 and is only applicable to the Unit 2 docket.

ENCLOSURE 1

Page 7 of 16

BROWNS FERRY NUCLEAR PLANT (BFN) REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3 (CONTINUED)

Programs Implemented in Accordance with the Unit 2 Precedent -

There are twenty BFNPP special programs which TVA will implement on Units 1 and 3 in accordance with the Unit 2 criteria and implementation precedent. In general, the TVA submittals for these programs were addressed specifically for Unit 2 and TVA received Unit 2 specific SERs in NUREG-1232, Volume 3 and its supplements. Since corrective action programs do not normally receive SERs and since TVA is not proposing changes to the programs which were approved on Unit 2, TVA proposes no additional NRC programmatic evaluations be performed for these programs on Units 1 and 3. TVA will provide notification to NRC when these corrective action programs are implemented on Units 1 and 3. TVA expects NRC to perform any required post-implementation inspections to document the closure of the issue prior to the restart of Units 1 and 3.

Programs which Deviate from the Unit 2 Implementation Precedent -

There are eight BFNPP special programs which TVA will implement on Units 1 and 3 in accordance with the Unit 2 criteria precedent. However, TVA will take advantage of lessons learned from the implementation of these programs on Unit 2 and will implement the program more efficiently. In order to notify NRC of TVA's intentions to deviate from the previously reviewed Unit 2 implementation precedent, TVA has and will continue to provide informational submittals to NRC. TVA proposes that the NRC Staff review the deviations from the Unit 2 implementation precedent. TVA should be notified of any NRC concerns either through a request for a meeting or for additional information. TVA will provide notification to NRC when these corrective action programs are implemented on Units 1 and 3.

ENCLOSURE 1

Page 8 of 16

BROWNS FERRY NUCLEAR PLANT (BFN) REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3 (CONTINUED)

Programs which Deviate from the Unit 2 Criteria Precedent -

There are two BFNPP special programs which TVA will implement on Units 1 and 3 using criteria which deviates from the Unit 2 precedent. TVA has or will propose revised criteria for NRC Staff review which will become the design criteria applicable to all three Browns Ferry units. TVA will request expeditious NRC review of this criteria and issuance of supplemental SERs in order to support the design of modifications which are required to be completed on Unit 2 prior to the restart from the next refueling outage and prior to the restart of Unit 3. TVA will provide notification to NRC when these corrective action programs are implemented on Units 1 and 3.

Commitments

TVA has reviewed the applicability of Unit 2 restart commitments to the restart of Units 1 and 3. The applicable commitments are incorporated into the Unit 3 restart scope. In accordance with the previous precedent for the majority of Unit 2 restart commitments and in accordance with normal industry practice, TVA does not intend to formally notify NRC upon completion of every Units 1 and 3 restart commitment. TVA is obligated to notify NRC in the event of significant changes to the commitment or its schedule for implementation (i.e., restart versus post-restart). TVA's commitment control procedures and pre-restart checks will ensure that Units 1 and 3 restart commitments are completed prior to the restart of the applicable unit. TVA does not propose specific NRC action regarding the verification of completion of each specific TVA restart commitment.

ENCLOSURE 1

Page 9 of 16

BROWNS FERRY NUCLEAR PLANT (BFN) REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3 (CONTINUED)

Technical Specification Improvements

In the January 9, 1991 letter, TVA stated its plans were to convert the custom Browns Ferry Technical Specifications to the Improved BWR Standard Technical Specifications (ISTS) prior to the restart of Units 1 and 3. Due to delays in the approval schedule for the ISTS, TVA will not be able to implement them prior to the restart of Unit 3. Instead, TVA will review the pre-restart changes made to the Unit 2 technical specifications but not incorporated into the Unit 3 technical specification. TVA will propose technical specification amendments to incorporate these changes into the Unit 3, and Unit 1 where possible, technical specifications. TVA intends to consolidate appropriate amendment requests and reference the prior Unit 2 TVA/NRC correspondence in order to minimize the impact on the NRC resources required to review and approve these amendments.

Internally Identified Deficiencies and Concerns

Internally identified deficiencies (Significant Condition Reports, Nonconformance Reports, and Condition Adverse to Quality Reports) are currently being reviewed for their applicability to the restart of Units 1 and 3. Newly identified issues will be addressed and scheduled on a case by case basis.

AREAS OF NRC STAFF INTEREST

By letter dated January 9, 1991, TVA provided an evaluation of the BFNPP special programs and an outline of their applicability to the restart of Units 1 and 3. NRC provided an initial response to this letter on March 14, 1991 and requested additional information regarding the management programs addressed in Section II of the BFNPP. Specifically, NRC requested that TVA document the extent to which the management programs are applicable to BFN Units 1 and 3. NRC also asked if TVA planned to conduct an Operational Readiness Review prior to the restart of Unit 3. TVA's response to these items is provided below.

ENCLOSURE 1

Page 10 of 16

BROWNS FERRY NUCLEAR PLANT (BFN) REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3 (CONTINUED)

Management Issues

The NRC's September 17, 1985 letter requested TVA identify corrective actions for management deficiencies that contributed to poor direction and control of nuclear activities. The CNPP outlined TVA's approach to solving the problems with its nuclear program. In general, the approach to resolving management issues consisted of the addition of experienced managers, the clarification of management lines of authority and responsibility, the restoration of employee trust in management, and changes in the management of plant activities. The corporate managerial issues were resolved prior to the restart of the Sequoyah nuclear plants as documented in NUREG-1232, Volume 1, Safety Evaluation Report on the Tennessee Valley Authority Revised Corporate Nuclear Performance Plan, dated July 28, 1987. In this document, the staff concluded that the organization and staffing of the Office of Nuclear Power and the programmatic improvements in place or under way were sufficient to resolve the concerns at the corporate level that led to the issuance of the NRC Staff's 10 CFR 50.54(f) letter, dated September 17, 1985. This SER was applicable to all three Browns Ferry dockets. Therefore, TVA considers the corporate managerial issues resolved for all three Browns Ferry units.

The corrective actions taken to strengthen the Browns Ferry site management and organization and to increase management control and involvement were addressed in Section II of the BFNPP. Overall, the BFN nuclear site support organizations were strengthened by a reorganization along functional lines that generally paralleled the functional departments in TVA's Nuclear Power organization. Where applicable, each site support organization received technical direction from its respective Nuclear Power department while receiving direction on priorities and day to day functions from the Site Director. In a number of areas, BFN managers and their organizations lacked a clear assignment of responsibility and authority. Accordingly, position descriptions were revised or developed to clarify each manager's area of responsibility and establish accountability. The organizational structure was subsequently refined so that personnel on site reported to the Site Director, except for Quality Assurance, Human Resources, Medical Services, Employee Concerns, Information System Services, and the Site Training organization. A description of the Brown Ferry organization is included in Topical Report TVA-NPOD89-A, Nuclear Power Organization Description, which was originally submitted in June 1989, last updated in April 1991, and is updated annually.

ENCLOSURE 1

Page 11 of 16

BROWNS FERRY NUCLEAR PLANT (BFN) REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3 (CONTINUED)

In studying the problem of management involvement at Browns Ferry, TVA identified the following contributing factors:

- An absence of effective organizational structure with clear lines of responsibility, authority, and accountability.
- A lack of sufficient numbers of experienced managers to provide the necessary leadership and direction.
- A lack of commitment to, and responsibility for, achieving excellence in performance.
- Insufficient follow-up to verify proper implementation of goals and directives.
- The failure to adequately scope, plan, and apply resources to emerging problems.

TVA determined that there was no single root cause to the management problems, rather it was a result of a general attitude that required correction. This attitude was corrected by obtaining experienced nuclear managers from outside TVA to assist in adopting and implementing a philosophy of involvement and follow-through.

The detailed corrective actions taken to increase the Browns Ferry site management control and involvement included:

- Establishing clear management goals and objectives.
- Enhancing communication with employees.
- Implementing training initiatives in the areas of engineer and manager training, technical training for non-licensed plant personnel, accreditation of training programs by the Institute for Nuclear Power Operations, and upgrades to the site training facilities.
- Instituting a procedures upgrade program.
- Committing to take action to ensure that conditions adverse to quality are resolved in a timely manner.

ENCLOSURE 1
BROWNS FERRY NUCLEAR PLANT (BFN)
REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3
(CONTINUED)

- Implemented commitments to consolidate the Quality Assurance organization and ensure that BFN organizations, managers, and employees share the responsibility for implementing the Quality Assurance program.
- Instituted a new Employee Concern Program.
- Developed a Plant Performance Monitoring Program.
- Upgrade the Fitness for Duty Program.
- Established a Work Control Group.

TVA's program for improving management control at Browns Ferry was substantial in its impact and caused real change to take place. It was structured to provide continuing follow-up over a significant time period and was intended to support sustained improvements in performance.

The NRC's July 31, 1990 SER documents the evaluation of the authorities, responsibilities, and structure of the site organization and the position description for the managers and supervisors described on the organizational charts. Also reviewed was the management control system with respect to planning, release, and tracking of work. The NRC Staff concluded that the resultant Browns Ferry management organization and associated control systems could support the restart and safe operation of Unit 2.

Subsequent to these organizational changes and the NRC evaluation described above, BFN was reorganized to more effectively manage the operation of BFN Unit 2 and the return to service of BFN Units 1 and 3. The Units 1 and 3 Restart organization was established to allow the BFN Operations organization the opportunity to focus on operations and programs at the Browns Ferry Nuclear Plant which affect the licensing, operations, and maintenance of the units.

ENCLOSURE 1

Page 13 of 16

BROWNS FERRY NUCLEAR PLANT (BFN) REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3 (CONTINUED)

The BFN Restart organization provides services to BFN management for implementing modifications to Units 1 and 3 based on NRC commitments and established criteria, using BFN procedures. This includes planning, baselining design requirements and plant configuration, developing required design changes, implementing modifications, and performing post-modification testing of systems required for the safe and efficient restart of Units 1 and 3. Personnel with adequate qualifications and experience are assigned to key BFN Restart management positions. Position descriptions were revised or developed to clarify each manager's area of responsibility and establish accountability. When the BFN Restart organization has completed its efforts, the upgraded Units 1 and 3 will be turned over to BFN Operations.

In order to assure that the BFN Restart managers and their organizations have a clear assignment of responsibility, authority, and to define lines of communication between BFN Operations and BFN Restart, Site Standard Practice (SSP) 1.51, Unit 1 and 3 Restart Administration and Control, was issued. Excerpted from this procedure is the attached Figure 1. Figure 1 represents the responsibilities between the organizations and their working relationships.

The positions of Restart Licensing Manager, Restart Operations Manager, Restart Engineering Manager, and Restart Project Procedures Manager are matrixed to the Vice President - Browns Ferry Restart (VP-BFR). In this organization, they receive technical direction from their respective Browns Ferry Operations managers and are responsible to the VP-BFR for budget, performance, and schedule. The Restart Engineering Manager receives technical requirements and criteria from BFN Operations Engineering and is responsible for the implementation of the requirements and criteria. The Restart Quality Manager reports directly to, and receives technical direction from, Site Quality Manager. He is responsible for budget, performance, and schedule to Site Quality and communicates directly to the VP-BFR on quality related matters.

ENCLOSURE 1

Page 14 of 16

BROWNS FERRY NUCLEAR PLANT (BFN) REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3 (CONTINUED)

In summary, the management deficiencies which led to the voluntary shutdown of Browns Ferry were corrected at the corporate level prior to the restart of Sequoyah and at the site level prior to the restart of Browns Ferry Unit 2. The BFN Restart organization was established:

- 1) As a special project within the BFN site organization with clear assignments of responsibility and authority.
- 2) To relieve Browns Ferry Operations of most of the day to day Units 1 and 3 restart responsibilities and to allow them to concentrate on safe and efficient operation of Unit 2.

The corrective actions implemented to resolve the Browns Ferry site specific management problems have not been diluted by the implementation of the BFN Restart organization. The management issues raised in the NRC's September 17, 1985 letter are closed for all Browns Ferry units. TVA has committed to provide the NRC Staff with annual updates of the topical report which describes the TVA Nuclear Power organization. Future NRC Staff review of management issues at Browns Ferry should be addressed through review of that document and the normal Systematic Assessment of Licensee Performance process.

Operational Readiness

The overall goal of the operational readiness assessment program for Unit 2 was to establish a high degree of confidence that the plant and personnel were ready to restart and operate Unit 2 in a safe and reliable manner. The operational readiness program had three distinct parts:

- 1) A site managed operational readiness assessment,
- 2) An independent corporate operational readiness review, and
- 3) A Senior Management Assessment of Readiness Team (SMART) review which was directed by corporate management.

ENCLOSURE 1

Page 15 of 16

BROWNS FERRY NUCLEAR PLANT (BFN) REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3 (CONTINUED)

The BFN Unit 2 Power Ascension program is in progress and is being closely monitored by the restart organization in order to incorporate lessons learned into the process for the restart of Units 1 and 3. Within ninety days after the Unit 2 power ascension program is completed, TVA will submit to NRC a Units 1 and 3 operational readiness program description. This submittal will include:

- 1) An outline of the program which will be used to transfer Unit 3 to Browns Ferry Operations.
- 2) A review the Unit 2 operational readiness program to identify lessons learned which would improve the Unit 3 restart process, and
- 3) Identify the self, independent TVA, and outside (such as INFO and ANI) assessments, procedures, programs, and management reviews and approvals which will constitute the Units 1 and 3 operational readiness assessment.

CONCLUSIONS

The regulatory framework for the restart of Unit 2 was unusual. TVA's submittal of the Browns Ferry Nuclear Performance Plan and NRC's review and issuance of Safety Evaluation Reports for each individual program was atypical. While this level of NRC involvement did result in added confidence for the approval of Unit 2 restart, it required significant TVA and NRC resources to negotiate the approval of individual programs and criteria. In most cases, TVA began the implementation of these programs "at risk", which meant prior to NRC approval. Significant redesign and additional modifications were required whenever the criteria was changed during the approval process.

ENCLOSURE 1

Page 16 of 16

BROWNS FERRY NUCLEAR PLANT (BFN)
REGULATORY FRAMEWORK OF THE RESTART OF UNITS 1 AND 3
(CONTINUED)

TVA's proposed overall regulatory framework for the restart of Units 1 and 3 is consistent with normal industry practice. The proposed program will establish a high degree of confidence that the facility and personnel are ready to restart and operate Units 1 and 3 in a safe and reliable manner, and promote the efficient utilization of TVA and NRC resources. TVA's plans for the restart of Units 1 and 3 are based on the corrective action programs, commitments, technical specification improvements, and internally identified deficiencies and concerns which were resolved prior to the restart of Unit 2. TVA has begun detailed walkdowns of Unit 3 and has made several submittals which defined and justified deviations from the Unit 2 precedent for these BFNPP special programs. Expeditious NRC review and concurrence with this proposed overall regulatory framework is requested in order to proceed with the resolution of the detailed criteria, programmatic, and compliance issues.

ENCLOSURE 1 - TABLE 1
BROWNS FERRY NUCLEAR PLANT
UNITS 1 AND 3 RESTART COMMITMENTS OR REGULATORY ISSUES

The following is a list of previous commitments or regulatory issues which will be resolved prior to the restart of Units 1 and 3. This list includes NUREG-0737 Action Items, Bulletins, Generic Letters, Unresolved Safety Issues, Generic Safety Issues, Multi-Plant Action Items, and other regulatory requirements.

NUREG-0737 (TMI Action Plan) Action Items:

Item I.D.1 - Control Room Design Review (Safety, Significant [Category 1 and 2] Human Engineering Deficiencies (HEDs) and those additional HEDs which were required for Unit 2 restart)

Item I.D.2 - Safety Parameter Display Console

Item II.B.3 - Post-Accident Sampling System

Item II.E.4.2.1-4 - Containment Isolation Dependability - Implement Diverse Isolation

Item II.E.4.2.6 - Containment Isolation Dependability - Containment Purge Valves (Unit 3 Only - Unit 1 Previously Completed)

Item II.F.1.2.A - Accident - Monitoring - Noble Gas Monitor

Item II.F.1.2.B - Accident - Monitoring - Iodine/Particulate Monitor

Item II.F.1.2.C - Accident - Monitoring - Containment High Range Radiation Monitor

Item II.F.1.2.D - Accident - Monitoring - Containment Pressure (Unit 3 Only - Unit 1 Previously Completed)

Item II.F.1.2.E - Accident - Monitoring - Containment Water Level (Unit 3 Only - Unit 1 Previously Completed)

Item II.F.2.4 (Generic Letter 84-23)- Instrumentation for Detection of Inadequate Core Cooling

Item II.K.3.13 - HPCI/RCIC Initiation Levels

Item II.K.3.18 - ADS Actuation Modifications

Item II.K.3.28 - Qualification of ADS Accumulators

ENCLOSURE 1 - TABLE 1 (CONTINUED)
BROWNS FERRY NUCLEAR PLANT
UNITS 1 AND 3 RESTART COMMITMENTS OR REGULATORY ISSUES

Bulletins (B):

TVA has reviewed the Bulletins which were addressed during the current Unit 2 outage. The following list includes those Bulletins which TVA will complete prior to restart of Units 1 and 3:

- B 79-02 - Pipe Support Base Plate Designs Using Concrete Expansion Anchor Bolts
- B 79-12 - Short Period Scrams at BWR Facilities
- B 79-14 - Seismic Analysis for As-Built Safety-Related Piping Systems
- B 79-18 - Audibility Problems
- B 80-06 - Engineered Safety Feature (ESF) Reset Controls
- B 83-08 - Electrical Circuit Breakers with an Undervoltage Trip Feature in use in Safety-Related Applications other than the Reactor Trip System
- B 84-02 - Failures of General Electric Type HFA Relays in Use in Class 1E Safety Systems
- B 86-02 - Static "O" Ring Differential Pressure Switches
- B 88-03 - Inadequate Latch Engagement in HFA Type Relays Manufactured by General Electric Company
- B 88-07 - Power Oscillations in Boiling Water Reactors
- B 90-01 - Loss of Fill Oil in Rosemount Transmitters

ENCLOSURE 1 - TABLE 1 (CONTINUED)
BROWNS FERRY NUCLEAR PLANT
UNITS 1 AND 3 RESTART COMMITMENTS OR REGULATORY ISSUES

Generic Letters (GL):

TVA has reviewed the Generic Letters which were addressed during the current Unit 2 outage. The following list includes those Generic Letters which TVA will complete prior to restart of Units 1 and 3 :

GL 82-33 - Instrumentation to Follow the Course of an Accident - Regulatory Guide 1.97

GL 83-08 - Modification of Vacuum Breakers on Mark I Containments (Open on Unit 1 only)

GL 83-28 - Salem ATWS

GL 83-36 - NUREG-0737 Technical Specifications

GL 88-01 - NRC Position on IGSCC in BWA Austenitic Stainless Steel Piping

GL 88-11 - Radiation Embrittlement of Reactor Vessel Materials and its Impact on Plant Operations

GL 88-14 - Instrument Air Supply System Problems Affecting Safety-Related Equipment

GL 88-20 - Initiation of the Individual Plant Examination for Severe Accident Vulnerabilities

GL 89-06 - Safety Parameter Display System - 10 CFR 50.54(f)

GL 89-10 - Safety-Related Motor-Operated Valve Testing and Surveillance

GL 89-13 - Service Water Systems Problems Affecting Safety-Related Equipment

GL 89-16 - Installation of a Hardened Wetwell Vent

GL 89-19 - Request for Action Related to Resolution of Unresolved Safety Issue A-47, "Safety Implication of Control Systems in LWR Nuclear Power Plants", Pursuant to 10 CFR 50.54(f)

ENCLOSURE 1 - TABLE 1 (CONTINUED)
BROWNS FERRY NUCLEAR PLANT
UNITS 1 AND 3 RESTART COMMITMENTS OR REGULATORY ISSUES

Unresolved Safety Issues (USIs) [Associated Multi-Plant Action Item (MPA)]:

The following list of USIs which TVA will complete prior to restart of Units 1 and 3:

USI A-7 (MPA D-01) - Mark I Long-Term Program

USI A-9 - Anticipated Transients Without Scram [10 CFR 50.62]

USI A-24 (MPA B-60) - Qualification of Class IE Safety-Related Equipment

USI A-36 (MPA C-10) - Control of Heavy Loads Near Spent Fuel Pool

USI A-42 (MPA B-05) - Pipe Cracks in Boiling Water Reactors

USI A-44 - Station Blackout [10 CFR 50.63]

USI A-48 (MPA A-19) - Hydrogen Control Measures and Effects of Hydrogen Burns

Generic Safety Issues (GSIs) [Associated Multi-Plant Action Item (MPA)]:

The following list of GSIs which TVA will complete prior to restart of Units 1 and 3:

GSI 40 (MPA B-065) - Safety Concerns Associated with Pipe Breaks in the BWR Scram System

GSI 41 (MPA B-058) - BWR Scram Discharge Volume System

GSI 43 (MPA B-107) - Reliability of Air Systems

GSI 51 (MPA L-913) - Improving the Reliability of Open-Cycle Service Water Systems

ENCLOSURE 1 - TABLE 1 (CONTINUED)
BROWNS FERRY NUCLEAR PLANT
UNITS 1 AND 3 RESTART COMMITMENTS OR REGULATORY ISSUES

Multi-Plant Action Items (Not Previously Listed):

The following is a list of MPAs which TVA will complete prior to restart of Units 1 and 3:

MPA A-01 - 10 CFR 50.55A(G) - Inservice Inspection

MPA A-04 - 10 CFR 50, Appendix J - Containment Leak Testing

MPA B-41 - 10 CFR 50, Appendix R - Fire Protection

MPA C-10 - Control of Heavy Loads - Phase I (NUREG-0612)

Other Programs:

The following regulatory requirement will also be completed prior to the restart of Units 1 and 3:

10 CFR 55.45(B)(2)(III) and (IV) - Plant Simulator

ENCLOSURE 1 - TABLE 2
BROWNS FERRY NUCLEAR PERFORMANCE PLAN (BFNPP) SPECIAL PROGRAMS

COMPLETED ON UNITS 1, 2, AND 3

Heat Code Traceability
Secondary Containment Penetrations
Wall Thinning Assessment Program (Pipe Erosion/Corrosion)
Welding

UNITS 1 AND 3 IMPLEMENTATION IN ACCORDANCE WITH THE UNIT 2 PRECEDENT

Cable Ampacity
Cable Tray Supports
Component and Piece Part Qualification
Containment Coatings
Control Rod Drive (CRD) Insert and Withdrawal Piping
Design Calculations Review
Environmental Qualification
Flexible Conduits
Fuses
HVAC Duct Supports
Intergranular Stress Corrosion Cracking (IGSCC)
Large Bore Piping and Supports (Bulletins 79-02 and 79-14)
Miscellaneous Steel Frames
Moderate Energy Line Break (MELB)
Platform Thermal Growth
Probabilistic Risk Assessment
Q-List
Seismic Class II Over Class I / Spatial System Interactions and Water Spray
Splices
Thermal Overloads

ENCLOSURE 1 - TABLE 2 (CONTINUED)
BROWNS FERRY NUCLEAR PERFORMANCE PLAN (BFNPP) SPECIAL PROGRAMS

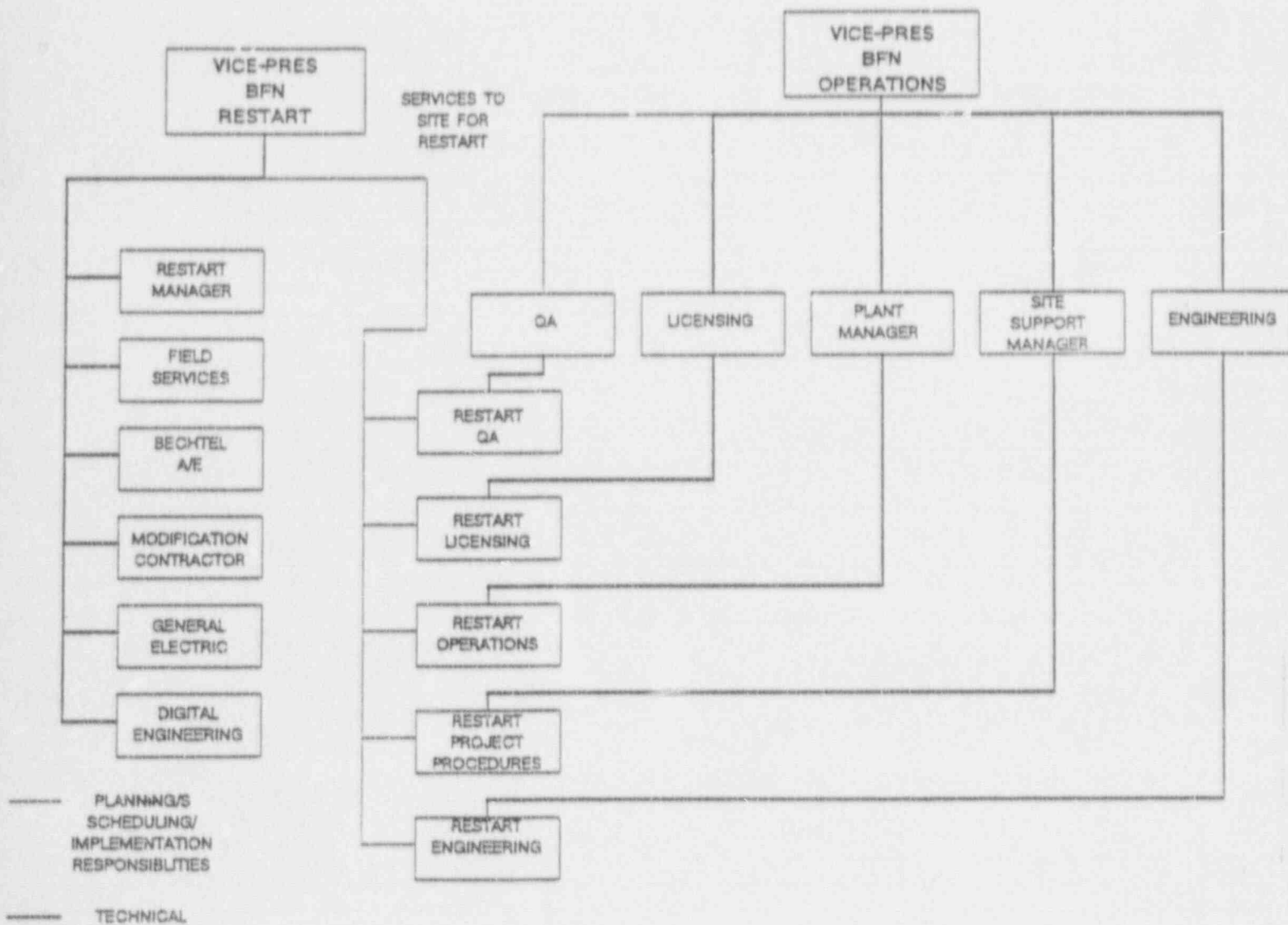
UNITS 1 AND 3 PROGRAMS WHICH DEPART FROM THE UNIT 2 IMPLEMENTATION PRECEDENT

Cable Installation (Including Cable Separation)
Conduit Supports
Configuration Management / Design Baseline
Instrument Tubing
Instrument Sensing Lines
Long Term Torus Integrity Program
Restart Test Program
Small Bore Piping

UNITS 1 AND 3 PROGRAMS WHICH DEPART FROM THE UNIT 2 CRITERIA PRECEDENT

Fire Protection / 10 CFR 50, Appendix R
Lower Drywell Platforms and Miscellaneous Steel

**ENCLOSURE 1 - FIGURE 1
BROWNS FERRY NUCLEAR PLANT
OPERATIONS AND RESTART ORGANIZATIONS INTERFACE CHART**



ENCLOSURE 2
BROWNS FERRY NUCLEAR PLANT
SUMMARY OF COMMITMENTS

- 1) In accordance with the Unit 2 precedent, TVA will not restart Browns Ferry Units 1 or 3 without prior NRC approval.
- 2) TVA will provide notification to NRC when the restart commitments or regulatory issues in Table 1 are implemented on Units 1 and 3.
- 3) Within ninety days after the Unit 2 power ascension program is completed, TVA will submit to NRC a Units 1 and 3 operational readiness program description.
- 4) TVA will review the pre-restart changes made to the Unit 2 technical specifications but not incorporated into the Unit 3 technical specification. TVA will propose technical specification amendments to incorporate these changes into the Unit 3, and Unit 1 where possible, technical specifications.