

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

R.J. Adney  
Site Vice President  
Sequoyah Nuclear Plant

December 19, 1996

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

Gentlemen:

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

SEQUOYAH NUCLEAR PLANT (SQN) - REPLY TO NOTICE OF VIOLATION  
(NOV) AND PROPOSED IMPOSITION OF CIVIL PENALTY - NRC  
INSPECTION REPORT NOS. 50-327, 328/96-10 - ENFORCEMENT ACTION  
96-269

This letter responds to Stewart D. Ebnetter's letter to Oliver D. Kingsley, Jr., dated November 19, 1996, that transmitted the subject NOV. The NOV addresses four violations and a civil penalty. The first violation involves the failure to promptly resolve adverse conditions related to the fire protection program. The second violation addresses the inoperability of the carbon dioxide system for the plant computer room. The third violation is associated with the failure to verify that required fire barriers were functional. The fourth violation involves the failure to demonstrate operability of reactor building fire hoses by performance of periodic hydrostatic testing. The NRC classified these violations in the aggregate as a Severity Level III problem and proposed a base civil penalty of \$50,000.

TVA met with the NRC in a predecisional enforcement conference in NRC's region II office on October 24, 1996. During that conference, TVA discussed each individual apparent violation, its root cause, the corrective actions taken to address the problem, as well as its safety significance.

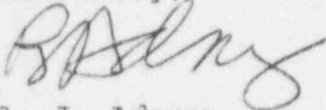
9612300037 961219  
PDR ADOCK 05000327  
G PDR

IE14 1/

U.S. Nuclear Regulatory Commission  
Page 8  
December 19, 1996

Enclosure 2 provides the list of commitments associated with TVA's reply. If you have any questions concerning this submittal, please telephone me at (423) 843-7001.

Sincerely,



R. J. Adney

Sworn to and subscribed before me  
this 19<sup>th</sup> day of December, 1996

Brenda L. Coffman  
Notary Public  
My Commission Expires 10/21/98

Enclosures

cc (Enclosures):

Mr. R. W. Hernan, Project Manager  
Nuclear Regulatory Commission  
One White Flint, North  
11555 Rockville Pike  
Rockville, Maryland 20852-2739

NRC Resident Inspector  
Sequoyah Nuclear Plant  
2600 Igou Ferry Road  
Soddy-Daisy, Tennessee 37379-2000

Regional Administrator  
U.S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323-2711

TVA addressed extensively what it viewed as the root cause of these violations -- insufficient management involvement in the oversight of the fire protection program. As was described in our presentation, TVA undertook comprehensive corrective actions to address each of these problems and the root cause. The actions were taken primarily as a result of escalated Quality Assurance (QA) audit results, and prior to any significant NRC involvement.

TVA's detailed discussion of its response to each of the violations is provided in Enclosure 1. The management initiatives undertaken by the SQN management team to address the insufficient management oversight of the fire protection program are also included.

While TVA agrees that these violations occurred, TVA maintains that the NRC's decision to categorize the four individual violations as a Severity Level III problem and impose a base civil penalty amount of \$50,000 is inconsistent with the Enforcement Policy as it has been applied. TVA therefore respectfully requests that NRC reconsider its decision to characterize the subject violations as a Severity Level III problem, and pursuant to the provisions of 10 CFR 2.205, TVA asks that the civil penalty amount be mitigated in its entirety.

#### CHARACTERIZATION AS SEVERITY LEVEL III

The NRC based its decision to classify these violations as Level III on its belief that they were of significant regulatory concern, representing a significant lack of attention and priority to the overall fire protection program. We maintain that this conclusion is inconsistent with the history of extensive activities which SQN has taken to upgrade its fire protection program.

- First, and most importantly, it is unnecessary to use escalated enforcement as a means of emphasizing the importance of management involvement in and oversight of fire protection activities. Since 1991 TVA has dedicated significant attention to upgrading the SQN fire protection program. TVA implemented a four-phase Fire Protection Improvement Plan (FPIP) beginning in 1991 which was primarily aimed at addressing important engineering-related items such as evaluating the hydraulic performance of the fire protection system, updating the fire hazard analysis, and completing the fire protection report. As a result of implementing this program, 61 of the 63 items

identified in the FPIP were completed. The two remaining issues involve (1) replacing the fire pumps and upgrading the fire protection water system from raw water to a potable primary water supply, and (2) completing the evaluation of approximately 1500 remaining fire penetration seals. Prior to NRC enforcement, both of these remaining activities were scheduled for completion in 1997. The FPIP effort involves thousands of man-hours and several million dollars. Considerable progress was achieved and many improvements made under this program. TVA's substantial expenditure of resources and progress on its FPIP since 1991 clearly demonstrates management's attention and priority to the overall fire protection program. However, this is not acknowledged in the NRC's NOV.

- Secondly, as explained below, TVA maintains that the violations have no actual and only minimal potential safety significance. TVA contends that whether considered individually or in the aggregate, they are not of a nature to constitute a Severity Level III problem.
  - A. Violation A involved QA findings, including delays in implementation of a program for addressing the remaining 1500 degraded fire barrier penetrations of the 24,500 inspected; degraded fire dampers for which the schedule of correction has been accelerated; and deviations from procedures for controlling transient fire loads. Not only do these violations have minimal potential safety significance, their regulatory significance is also low when placed in the context established by actions taken since 1991. For example, only 8 of 326 fire dampers require additional work. These 8 were evaluated, and it was conservatively determined to replace them rather than perform additional evaluations. This does not indicate a lack of management attention.
  - B. Violation B involved an inoperable carbon dioxide system in the computer room. That system is scheduled to be repaired as part of the overall upgrade of the computer room. The minimal potential safety significance associated with this situation did not warrant rearranging priorities to do part of the computer room upgrades out of sequence.

- C. Violation C involved a failure to perform a surveillance of the penetrations in a high radiation area due to a misunderstanding of the surveillance procedure. Subsequent review found these penetrations fully acceptable.
- D. Violation D involved the failure to hydrostatically test 9 of 119 fire hoses that are within the surveillance program three years after they were installed. Subsequent testing found that these hoses were capable of performing their intended function. Such limited procedural non-adherences have not traditionally been the subject of escalated enforcement. When placed in context, the minimal regulatory as well as minimal potential safety significance of the violation is clear.

Moreover, the regulatory significance of the violations can be fully determined only by considering them in the context of TVA's actions to assure regulatory compliance and enhance program performance. We believe that the factual situation existing here presents a strong case for the NRC's application of a broader perspective which gives credit to TVA's overall progress in the area of fire protection. In promulgating the "General Statement of Policy and Procedure for Enforcement Actions," (NUREG-1600), the NRC stated:

An underlying basis of this policy that is reflected throughout it is that the determination of appropriate sanction requires the exercise of discretion such that such enforcement action is tailored to the particular factual situation.

(60 Fed. Reg. 34380, June 30, 1995)

In exercising discretion to tailor an enforcement action to the particular situation, the NRC has traditionally taken a much broader view to include consideration of all relevant factors, including the extent to which the licensee has been implementing a program to upgrade its performance in the area in which the violation occurred. Such an approach is particularly appropriate where, as here, the violations themselves have minimal actual safety significance.



- Finally, the NRC also cites SQN's use of fire watch patrols as inconsistent with NRC policy or expectations and uses that as a factor in assessing the violations as a Severity Level III problem. In its discussion, NRC characterizes fire watch patrols as "interim, short-term compensatory measures until degraded fire protection features can be repaired or replaced." For many years, NRC has accepted fire watches as acceptable alternatives for degraded fire protection conditions, and TVA is unaware of any time limits being placed on their applicability. As such, TVA has considered the use of fire watches to provide an acceptable level of safety. We acknowledge that reliance on fire watch patrols as compensatory measures may not be appropriate in all instances, particularly where not adopted by considered decision making or where serious safety issues are involved. However, this is not the case here, where the use of fire watches is expressly set forth in SQN's Technical Specifications without regard to specific time limits. TVA also disagrees that there was a challenge to defense in-depth due to reliance on fire watch patrols. Use of fire watch patrols restores the margin of safety that is lost with degraded conditions. Therefore, it is an acceptable substitute as opposed to an additional level of protection. Linking the use of fire watches to any resulting increased vulnerability to potential fire exposure or fire damage is unwarranted and contrary to the history of NRC's acceptance of fire watch patrols. In any event, unless the reliance on fire watch patrols could be shown to result in violations of regulatory requirements, no enforcement action should be taken.

#### MITIGATION OF CIVIL PENALTY

TVA believes the penalty assessed should be mitigated in its entirety because of TVA's identification of the problems and the corrective actions taken.

The NRC has acknowledged that credit was warranted for Identification because TVA, in general, identified the issues to be corrected in this case. Escalated Quality Assurance audit activities identified the issues and caused corrective actions to be taken prior to significant NRC involvement.

In considering whether credit is to be given in the area of Corrective Action, the NRC's enforcement policy states:

Normally, the judgment of the adequacy of corrective actions will hinge on whether the NRC had to take action to focus the licensee's evaluative and corrective process in order to obtain comprehensive corrective action. This will normally be judged at the time of the enforcement conference.

(60 Fed. Reg. 34391, June 30, 1995)

The facts make it clear that TVA took comprehensive corrective actions prior to NRC enforcement action. While the violation examples may have been long-standing, SQN management took both individual and broad-based corrective actions to fix the problems and their source on its own.

- The Fire Protection Improvement Program described above has resulted in considerable progress and program improvement.
- In addition to the actions completed in the FPIP, TVA more recently implemented a number of broad ranging changes to address the individual problems identified in the NOV and improve management responsiveness to identified problems. The program-oriented improvements were described in detail at the enforcement conference, and these are acknowledged on page three of the NRC's letter transmitting the NOV. Among the actions undertaken were (1) the centralization of fire protection program ownership and responsibility within one department, (2) management's establishment of clear program priorities and performance expectations, and (3) the appointment of a new Fire Protection Manager with proven management ability and authority to carry out fire protection program objectives.
- Another important corrective action was the establishment of an integrated schedule designed to track fire protection issues to closure. This action was taken in June 1996 and, like the other broad program-based corrective actions, was taken prior to the NRC's taking enforcement action in this case.
- In addition, and as a follow-up to these actions, a comprehensive self-assessment was performed to evaluate the effectiveness of the corrective actions and improvements. The results of the assessment indicated that the immediate actions taken were appropriate.

Management is continuing to monitor program performance indicators and has increased oversight of program issues.

- Prior to the NRC's consideration of any enforcement in this area, TVA took steps to reinforce that its QA organization had a clear direction to escalate its concerns to management in order to assist management in collectively analyzing individual problems such as those identified here. Greater emphasis was initiated earlier this year within the QA organization on ownership of QA-identified problems to ensure proper follow-up and, where necessary, paths of problem escalation. Sequoyah management is keenly aware of the important role that the QA organization plays in assisting management in identifying potentially significant problems to facilitate early corrective action.

Thus, the fact that TVA management recognized the lack of timeliness associated with the individual fire protection issues, instituted both individual and broad-based corrective actions, and verified their effectiveness, all prior to any NRC enforcement action, are certainly important factors and should be considered in deciding whether to pursue escalated enforcement and impose a civil penalty under the circumstances of this case. To fine TVA after it took self-motivated actions to reorganize its fire protection program to enable management to better recognize the collective significance of fire protection deviations would be contrary to the enforcement policy. Imposition of a civil penalty under these circumstances would serve no purpose other than to punish the licensee and would be in contrast to the enforcement policy's stated focus to, among other things, "[f]ocus on current performance of licensees." (60 Fed. Reg. 34381, June 30, 1995).

#### CONCLUSION

In summary, TVA maintains that sufficient bases exist for not pursuing escalated enforcement or imposing any civil penalty. On the basis of the foregoing, TVA respectfully requests that the NRC reconsider its decision to categorize the individual violations as a Severity Level III problem and mitigate in its entirety the proposed civil penalty.



ENCLOSURE 1

REPLY TO THE NOTICE OF VIOLATION  
NRC REPORT NOS. 50-327, 328/96-10  
STEWART D. EBNETER'S LETTER TO OLIVER D. KINGSLEY, JR.  
DATED NOVEMBER 19, 1996

VIOLATION 50-327, 328/96-10-01

- "A. Technical Specification (TS) 6.8.1.f provides that written procedures shall be established, implemented and maintained covering the Fire Protection Program.

Tennessee Valley Authority's (TVA) Nuclear Quality Assurance Plan (NAQP), TVA-NQA-PL89-A provides a complete description of the quality assurance program for operation of the Sequoyah Nuclear Plant (Sequoyah). NAQP TVA-NQA-PL89-A, Section 5.0 identifies the programs and features to which the NAQP applies. Section 5.0.B.6 lists fire protection as one of these programs.

NAQP, TVA-NQA-PL89-A, Section 10.2.2.B, Corrective Action for Adverse Conditions, requires, in part, that the TVA nuclear organizations and onsite non-TVA nuclear service organizations performing quality-related activities at nuclear facilities promptly identify and resolve adverse conditions.

Contrary to the above, adverse conditions related to the fire protection program were not promptly identified and/or resolved, in that:

1. Quality Assurance (QA) audits of the fire protection program, dated October 9, 1992, August 1, 1994, January 24, 1995, and July 14, 1995, identified discrepancies associated with inadequate implementation of the Sequoyah fire protection program, and corrective actions had not been implemented and/or completed to adequately address these discrepancies. Specifically,
  - a. Inadequate installation of emergency lighting and an inadequate program for preventive maintenance of the installed lighting units was identified during the 1992 QA audit; however, as of August 22, 1996, field testing of installed lighting and preventive maintenance procedure revisions to resolve this issue had not been completed.

- b. Lack of a restoration program for approximately 1500 degraded fire barrier penetration seals was identified during the 1994 audit; however, as of August 22, 1996, no date had been proposed for the completion of any required modifications.
  - c. Inadequate procedures for the evaluation and control of transient combustibles was identified during the 1994 QA audit; however, as of August 22, 1996, the applicable procedures had been revised but had not been effectively implemented. The issue associated with the storage of combustible materials was scheduled to be resolved by November 1996.
  - d. Inadequate design control of fire barrier penetration seals was identified during the 1994 QA audit. As of August 22, 1996, this issue had not been fully resolved and was scheduled for completion in late 1997.
  - e. Changes made to the plant without following the design change process (i.e., inadequate controls over plant modifications which affect the fire protection program) were identified during the 1996 QA audit. As of August 22, 1996, this issue was scheduled to be resolved by 1997.
  - f. Lack of testing of the backup fire suppression system for the cable spreading room since 1982 was identified by the 1995 QA audit. As corrective action, TVA planned to install a blind flange in this system and remove it from service; however, as of August 22, 1996, the design change package was scheduled to be issued September 15, 1996, but no schedule date was provided for completion of this modification.
2. From initial plant licensing until September 21, 1993, 326 fire barrier penetrations in Units 1 and 2 which provided fire rated separation between redundant safety related components were not functional as required by TS 3.7.12, Fire Barrier Penetrations. Specifically, on September 21, 1993, TVA determined that a number of fire dampers in Units 1 and 2 were not installed in accordance with the vendor's recommendations and were not functional. The required compensatory measures, which included an hourly fire watch, were implemented for these areas on September 21, 1993, and continue; however, as of

August 22, 1996, final resolution of this issue was not scheduled until 1997.

3. TVA's 1994 QA audit identified problems with the control of combustible and transient fire loads in the Elevation 669 Spare Room, yet two specific violations of transient fire load procedural requirements, contained in Procedure SSP-12.15, Fire Protection Plan, Appendix E, Procedure SSP-9.3, Plant Modifications and Design Change Controls, and/or SSP-12.4, Temporary Alterations Control Program, continued as of July 8-12, 1996. Specifically:

a. Transient Fire Load (TFL) Permit TFL-95-0254 was issued for the storage of 1100 pounds of clothing and 400 pounds of rubber/plastic radiation protective clothing on Elevation 690 between column lines A4 and A6 in the Auxiliary Building. This TFL permit expired on December 31, 1995, and a new permit had not been issued nor had an appropriate engineering analysis been performed, as required. This material was stored directly beneath electrical raceways containing safe shutdown related cables.

b. The following permits issued for the spare room on Elevation 669 were issued for longer than six months, had not received approval by the Site Fire Protection Engineer, and had not received an engineering analysis to justify the change in occupancy:

(1). Permit TFL-95-0033 (high fire load), issued February 5, 1995, and extended to December 31, 1996:

(2). Permits TLC-96-0003 (no fire load indicated) issued January 1, 1996, with expiration date of December 31, 1996:

(3). Permit TFL-96-004 (medium fire load), issued January 1, 1996, with expiration date of December 31, 1996: and

(4). Permit TFL-96-0005 (no fire load indicated) issued January 1, 1996, with expiration date of December 31, 1996.

"B. TS 3.7.3, Carbon Dioxide (CO<sub>2</sub>) Systems, requires that the computer room low pressure CO<sub>2</sub> system shall be operable whenever equipment protected by the CO<sub>2</sub> system is required

to be OPERABLE. The computers in this room are required to support plant operations.

Contrary to the above, from May 1990 until December 18, 1995, the computer room low pressure CO<sub>2</sub> system was not operable when the computers within this room were required to be operable to support plant operations. Specifically, in May 1990, the heating ventilation air conditioning system for the Control Building was modified by the installation of duct penetrations which were not arranged with dampers to close and isolate the room upon actuation of the CO<sub>2</sub> system. The computer room CO<sub>2</sub> system was placed out of service in December 1995 and, as of August 22, 1996, remained out of service with an hourly fire watch patrol implemented to meet the compensatory requirements of the TS.

- "C. TS 4.7.12.a. Fire Barrier Penetrations, Surveillance Requirements, provides that each of the required fire barrier penetrations shall be verified to be functional at least once per 18-months.

Contrary to the above, all fire barrier penetrations were not verified to be functional at least once per 18-months, in that the Auxiliary Building penetrations in high radiation areas were not included in the 18-month surveillances performed in March 1994 and August 1995.

- "D. TS 4.7.11.4.c.2 states that each of the fire hose stations shown in Table 3.7-5 shall be demonstrated operable at least once per three years by conducting a hose hydrostatic test at a pressure of 150 pounds per square inch gauge (psig) or at least 50 psig above maximum fire main operating pressure, whichever is greater. The hose stations installed in the reactor buildings are included in Table 3.7-5.

Contrary to the above, between November 10, 1990, and February 15, 1996, the fire hoses installed in the hose stations in the reactor buildings were not demonstrated operable at least once per three years by conduct of hose hydrostatic tests, as required."

"This is a Severity Level III Problem (Supplement I)."  
"Civil Penalty - \$50,000"

## ADMISSION OR DENIAL OF THE ALLEGED VIOLATIONS

TVA admits the violations.

## REASONS FOR THE VIOLATIONS

### VIOLATION A (EEI 50-327, 328/96-10-01):

#### **Reason For Violation:**

The cause for the violation was insufficient management involvement in the fire protection program. This resulted in the ineffective program ownership of the fire protection program.

In 1991, SQN developed a four-phase Fire Protection Improvement Plan (FPIP) to address a variety of fire protection issues with several organizations responsible for implementation. Subsequent to the development of the FPIP, resources were temporarily reprioritized to address other design issues that resulted from erosion/corrosion concerns and the shutdown of both units. In addition, from 1992 through 1995, new fire protection issues were identified in both site and corporate quality assurance (QA) audits.

Organizations that were responsible for fire protection program activities were active in the resolution of identified concerns. Engineering developed the design for a treated water fire protection system, performed walkdowns of approximately 24,500 fire barrier penetration seals, dispositioned 318 fire damper installations, updated the fire hazard analysis, and performed a hydraulic analysis of the fire protection system. As a result of implementing this program, 61 of 63 items identified in the FPIP have been completed. However, responsibility for resolving fire protection deficiencies was divided among several organizations. This fragmentation of responsibilities temporarily masked the inter-relationship of the examples identified in the violation.

The aggregate effect of these issues came into focus in May 1996, as a result of a corporate QA audit of the fire protection program. This evaluation, in conjunction with prior licensee event reports associated with the fire protection program, provided site management with the indicators to determine that prior management involvement was insufficient.

#### **Safety Significance:**

In general, the issues identified in the violation were identified by TVA. Review of the violation examples



determined that there was no actual safety significance and only minimal potential safety significance.

With regard to Item 1.a of the NOV examples, existing emergency lights were operable and capable of providing emergency lighting.

With regard to Items 1.b and 1.d of the NOV examples, of approximately 24,500 penetration seals that were walked down only 14 were found to be inoperable and needing repair. These 14 penetration seals were immediately corrected within the technical specification allowed outage time. Remaining penetration seals were capable of performing their compartmentalization function.

In response to Items 1.c, 1.e, and 3, of the NOV examples, transient combustibles were stored in low risk locations that contained either operable fire detection and suppression or in a compartmentalized room under a fire watch patrol.

In response to Item 1.f of the NOV examples, the cable spreading room was protected by a water fire suppression system and fire detection.

Relative to Item 2 of the NOV examples, fire dampers have been evaluated and it was determined that 318 are operable. The remaining eight fire dampers would have actuated, in the unlikely event that they were required, and fire detection and suppression was available. However, the full fire rating of the eight dampers was not confirmed, therefore they were not declared operable.

**VIOLATION B (EEI 50-327, 328/96-10-02):**

**Reason For Violation:**

The cause of the violation was personnel error by the designers during the development of the design change that added the dampers. Specifically, when the ventilation system to the computer room was modified to provide additional air flow to the computer room, the designers failed to recognize the system interaction that affected the isolation of the computer room. As a result, the design did not contain carbon dioxide actuated dampers for isolation of the new ductwork.

**Safety Significance:**

Problems with the carbon dioxide system were identified by TVA and presented to NRC in Licensee Event Report (LER) 50-327/95018. The condition was evaluated as having minimal safety significance because of several factors. The carbon dioxide system would not have performed its intended function

in the event of a fire in the computer room. The ventilation system would have removed carbon dioxide from the room via the battery board room exhaust fans and discharged the carbon dioxide to the atmosphere. However, the supply and exhaust ducts are equipped with fire dampers that would have closed, isolating a fire in the computer room.

**VIOLATION C (EEI 50-327, 328/96-10-04):**

**Reason For Violation:**

The cause for the violation was personnel error by both the surveillance instruction (SI) performer and reviewer. The individual performing the SI for visual verification of penetration fire barriers and the document reviewer incorrectly believed that visual inspection was not required if access to an area was prevented or restricted by radiological conditions (high radiation, dose rate greater than 1 rem/hr). Therefore, the reviewer inappropriately accepted the SI package as being complete. This error in judgment was the result of a misunderstanding of the SI requirements. The SI requires the inspection of both sides of a barrier. If one side is restricted because of radiological conditions or immovable obstructions, then at least one side requires visual inspection along with written justification for the reason why the other side could not be inspected.

The involved individuals incorrectly extended this allowance to cover a condition where access restrictions or obstructions exist on both sides. As a result, they concluded that a notation referring to access restrictions on both sides of a barrier was appropriate justification for not performing the inspection.

**Safety Significance:**

Failure to properly perform the SI was identified by TVA and presented to NRC in LER 50-327/96003. An evaluation of this condition concluded that no actual or potential safety significance existed. All fire penetration barriers were operable and capable of performing the intended compartmentalization function.

**VIOLATION D (EEI 50-327, 328-96-10-03):**

**Reason For Violation:**

The cause of the violation was personnel error during a procedure revision and procedure review during the performance of the revision. During revision of the SI, the requirement to ensure that new or replacement fire hoses are

within the testing frequency was deleted. For ALARA reasons, the procedure was revised to allow replacement of the existing hose with a new hose and did not require verification or documentation of the hose purchase date or hydrostatic test date. The procedure allowed a three-year replacement of the hose based on the installation date. This procedure revision was based on the National Fire Protection Association Code that was in effect at the time. That version of the Code did not require hydrostatic testing of a new hose before being placed in service and allowed five years before the next hydrostatic test was required. The individuals involved with the procedure revision did not recognize that technical specification requirements were more restrictive than the code. This resulted in 9 of 30 fire hose stations inside Unit 1 reactor building not being tested within the technical specification required test frequency.

#### **Safety Significance:**

Failure to properly perform the SI was identified by TVA and presented to NRC in LER 50-327/96002. An evaluation of this condition concluded that no actual or potential safety significance existed. Subsequent testing found the fire hoses were capable of performing the intended fire suppression function. The condition did not have any impact to Unit 2, and only 9 of 30 hose stations in the Unit 1 reactor building were affected.

#### **CORRECTIVE STEPS TAKEN AND THE RESULTS ACHIEVED**

##### **VIOLATION A (EEI 50-327, 328/96-10-01):**

In July 1996, TVA centralized responsibilities for the fire protection program in the Operations area and established clear management expectations for program performance. A new fire protection manager was assigned to improve action implementation within the fire protection organization. Additionally, actions have been taken to strengthen the fire protection program by assigning a technical support engineer to Operations, assigning surveillance instruction responsibilities to the fire protection section, and eliminating a layer of management within the fire protection organization. To ensure appropriate management involvement is maintained on the program deficiencies, the fire protection manager meets with site management on a periodic basis to review outstanding fire protection issues and performance indicators.

To independently evaluate those actions that were taken to improve the fire protection program, a self-assessment was performed, in August 1996, using experienced fire protection personnel from other TVA nuclear sites, corporate staff, and

an independent consultant. The self-assessment concluded that the immediate actions taken by management were appropriate. Management is continuing to monitor program performance indicators and has increased its oversight of program issues.

The additional management focus placed on the program has resulted in accelerated completion of many of the conditions identified in the NOV. In June 1996 outstanding fire protection program items were identified on an integrated matrix. Approximately 66 percent of the matrix items have been closed or completed.

With regard to Item 1.a of the NOV examples, emergency lighting inadequacies relative to installation and preventive maintenance have been resolved. Plant modifications have installed eight new lights, modified the light direction of eight lights, and changed the manufacturer of one light. Procedures associated with the modification have been revised to reflect the plant modification. These actions close the QA audit finding.

With regard to Items 1.b and 1.d of the NOV examples, approximately 24,500 fire barrier penetrations have been walked down, and approximately 23,000 have been dispositioned. Of approximately 24,500 penetrations, only 14 were found inoperable and were repaired within the technical specification allowed outage time. The deficiencies found during the walkdown would have been identified and corrected during the next performance of the applicable surveillance instruction. Initial review of the remaining penetrations indicates that their resolution will be accomplished with additional documentation, and no plant modification is expected. A formal analysis and documented dispositions of these remaining 1500 penetration seals will be completed by July 1, 1997.

With regard to Items 1.c, 1.e, and 3 of the NOV examples, the open issues associated with storage of combustible materials were evaluated and resolved, meeting the November 1996 schedule for closure of four transient fire loads (TFL) permits that were in place over six months. Procedure inadequacies for control of combustibles have been corrected. The procedure required TFLs over six months old to be removed, processed in accordance with the temporary plant alteration program, or to be included in the Fire Hazard Analysis (FHA). Additionally, the procedure was revised to require that any extension over six months must be approved by the site fire protection engineer and reviewed by the Plant Operations Review Committee.



TVA considers that this programmatic change has achieved the desired result as indicated by: (1) radiation protective clothing is no longer stored on auxiliary building floor elevation 690; (2) fire detectors have been installed in the auxiliary building spare room on floor elevation 669, and the FHA has been revised to designate the room for storage use allowing the storage and dispensing of the radiation protective clothing; (3) TFL permits (TFL-95-0033, 96-0003, 96-004, and 96-0005) for materials in the spare room have been closed, and the associated materials have been removed, including the removal of radiation protective clothing from the Cask Decontamination Collector Tank Room and closure of the associated TFL permit; and (4) the number of TFLs in the plant has been reduced from approximately 55 in August 1996 to 8 by December 19, 1996, and zero TFLs over six-months old. These actions have resolved the QA finding.

In response to Item 1.f of the NOV examples, a blind flange has been installed in the cable spreading room carbon dioxide fire suppression system to allow that section of the system to be removed from service.

Regarding Item 2 of the NOV examples, engineering activities are in progress for modification of the plant for the eight fire dampers that did not fully meet design requirements. The design activity is approximately 50 percent complete. Although plant modifications were originally scheduled for implementation in the 1998 fiscal year, the schedule has been improved. Modification of these eight fire dampers is now scheduled to be completed by June 30, 1997.

**VIOLATION B (EEI 50-327, 328/96-10-02):**

Upon discovery of the inoperable carbon dioxide system by TVA, a fire watch was established in accordance with technical specification requirements. For personnel safety, a hold order was placed on the carbon dioxide system to prevent system actuation in the computer room. The design control process was reviewed, and it was determined that enhancements made subsequent to the condition would have prevented the design error that occurred. The modification criteria and safety assessment/safety evaluation requires an independent review by a design engineer, the fire protection engineer, and the 10 CFR 50, Appendix R, engineer, if required, by responses to the checklist.

To correct the existing deficiency, the plant will be modified to provide complete isolation of the computer room on a carbon dioxide actuation. This action will be completed as committed in a previously submitted licensee event report as part of the integrated computer upgrade project that is scheduled for the Unit 1 Cycle 8 (U1C8) refueling outage.



The U1C8 refueling outage is currently scheduled to begin March 21, 1997. Firewatch patrols will continue until the plant modification is completed.

**VIOLATION C (EEI 50-327, 328/96-10-04):**

Upon discovery of the condition by TVA, the missed areas were visually inspected and found acceptable. The inspection determined that the penetration fire barriers were fully operable and capable of performing their compartmentalization function. Review of other SI performances identified one other SI (March 1994) where the visual inspection of penetration fire barriers was not properly performed. Inspection found the fire barriers acceptable. The review of past SI performances determined that the same individuals within the modifications organization were responsible for the improper performance of both the March 1994 and the August 1995 inspections. Appropriate disciplinary action was taken with the involved individuals. Management reinforced expectations for proper procedure adherence, proper completion of documentation, and accountability (including potential disciplinary actions) with site employees. Subsequent to the event, the organization has been restructured, as described in response to Violation A, to place the responsibility for performing penetration fire barrier inspections with the Fire Protection Manager.

**VIOLATION D (EEI 50-327, 328-96-10-03):**

Upon identification of the condition by TVA, compensatory measures were established on both units in accordance with technical specifications. Reviews identified fire hoses that were not within the required test frequency. These hoses were replaced with hoses that were within the test frequency. Subsequent testing found the fire hoses were capable of performing the intended fire suppression function. The procedure associated with the event was revised to correctly reflect technical specification requirements, and appropriate personnel were trained on the event and their responsibilities relative to procedure revisions. Additional surveillance instruction reviews in the Operations area were performed to identify if other potential inadequacies existed relative to implementation of technical specification requirements. None were identified.

**CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS**

No additional actions are required to address these violations.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

With respect to Violations C and D, TVA is in full compliance. TVA will be in full compliance with Violations A and B after completion of the identified fire damper modifications by June 30, 1997, and disposition of the remaining penetration seals by July 1, 1997.

ENCLOSURE 2

COMMITMENTS TO THE NOTICE OF VIOLATION  
NRC REPORT NOS. 50-327, 328/96-10  
STEWART D. EBNETER'S LETTER TO OLIVER D. KINGSLEY, JR.  
DATED NOVEMBER 19, 1996

Violation A (EEI 50-327, 328/96-10-01)

1. A formal analysis and documented dispositions of the remaining 1500 penetration seals will be completed by July 1, 1997.
2. Modification of eight fire dampers will be completed by June 30, 1997.

Violation B (EEI 50-327, 328/96-10-02)

Note, this is a restatement of the commitment made in LER 50-327/95018, and no additional commitment has been made.

The plant will be modified to provide complete isolation of the computer room on a carbon dioxide actuation. This action will be completed as part of the integrated computer upgrade project currently scheduled for the Unit 1 Cycle 8 refueling outage.