UNITED STATES
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
TENNESSEE VALLEY AUTHORITY	)	Docket Nos. 50-327 and 50-328
Sequoyah Nuclear Plant	)	License Nos. DPR-77 and DPR-79
Units 1 and 2	)	EA 96-414

ORDER IMPOSING CIVIL MONETARY PENALTY

I

Tennessee Valley Authority (Licensee) is the holder of Operating License Nos. DPR-77 and DPR-79 issued by the Nuclear Regulatory Commission (NRC or Commission) on September 17, 1980, and September 15, 1981, respectively. The licenses authorize the Licensee to operate the Sequoyah Nuclear Plant, Units 1 and 2 in accordance with the conditions specified therein.

II

An inspection of the Licensee's activities at the Sequoyah Nuclear Plant was conducted during the period September 19 through November 2, 1996. The results of this inspection indicated that the Licensee had not conducted its activities in full compliance with NRC requirements. A written Notice of Violation and Proposed Imposition of Civil Penalties (Notice) was served upon the Licensee by letter dated December 24, 1996. The Notice stated the nature of the violations, the provisions of the NRC's requirements that the Licensee had violated, and the amount of the civil penalty proposed for the violations.

The Licensee responded to the Notice in a letter dated January 23, 1997. In its response, the Licensee agreed that the violations occurred but contested NRC's application of the Enforcement Policy and requested the NRC to reconsider its decision to categorize Violations A(1), A(2) and A(3) as a

Severity Level III problem and mitigate the proposed civil penalty for Violations A(1), A(2) and A(3) in its entirety. The Licensee's request was based on its view that NRC's categorization of Violations A(1), A(2) and A(3) as a Severity Level III problem and the proposed imposition of a $50,000 civil penalty was inconsistent with the NRC Enforcement Policy.

III

After consideration of the Licensee's response and the statements of fact, explanation, and argument for mitigation contained therein, the NRC staff has determined, as set forth in the Appendix to this Order, that the violations occurred as stated and that the penalty proposed for the violations designated in the Notice should be imposed.

IV

In view of the foregoing and pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205, IT IS HEREBY ORDERED THAT:

The Licensee pay a civil penalty in the amount of $50,000 within 30 days of the date of this Order, by check, draft, money order, or electronic transfer, payable to the Treasurer of the United States and mailed to

James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738.

V

The Licensee may request a hearing within 30 days of the date of this Order. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time must be made in writing to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and include a statement of good cause for the extension. A request for a hearing should be clearly marked as a "Request for an Enforcement Hearing" and shall be addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Commission's Document Control Desk, Washington, D.C. 20555. Copies also shall be sent to the Assistant General Counsel for Hearings and Enforcement at the same address and to the Regional Administrator, NRC Region II, Atlanta Federal Center, 61 Forsyth Street, S.W., Suite 23T85, Atlanta, Georgia 30303.

If a hearing is requested, the Commission will issue an Order designating the time and place of the hearing. If the Licensee fails to request a hearing within 30 days of the date of this Order (or if written approval of an extension of time in which to request a hearing has not been granted), the provisions of this Order shall be effective without further proceedings. If payment has not been made by that time, the matter may be referred to the

Attorney General for collection.

In the event the Licensee requests a hearing as provided above, the issue to be considered at such hearing shall be:

Whether on the basis of the violations admitted by the Licensee, this Order should be sustained.

FOR THE NUCLEAR REGULATORY COMMISSION

E L Jordan

Edward L. Jordan
Deputy Executive Director for
Regulatory Effectiveness, Program
Oversight, Investigations and Enforcement

Dated at Rockville, Maryland
this 23rd day of May 1997

EVALUATIONS AND CONCLUSION

VIOLATIONS A(1), A(2) AND A(3)

On December 24, 1996, the NRC issued to Tennessee Valley Authority (licensee or TVA) a Notice of Violation and Proposed Imposition of Civil Penalties (NOV) including three violations, described as A(1), A(2) and A(3), identified during an NRC inspection conducted during the period September 19 through November 2, 1996, at the Sequoyah Nuclear Plant. In its response dated January 23, 1997, the licensee agreed that the violations occurred but stated that NRC's categorization of Violations A(1), A(2) and A(3) as a Severity Level III problem and the proposed imposition of a $50,000 civil penalty was inconsistent with the NRC Enforcement Policy. The licensee requested that the NRC reconsider its decision regarding the severity level of the violations and/or mitigate the proposed civil penalty in its entirety. The NRC's evaluations and conclusion regarding the licensee's requests are as follows:

Summary of Licensee's Request for Reduction in Severity Level

In its request for reconsideration of the severity level of Violations A(1), A(2) and A(3), the licensee maintained that site management had begun a series of initiatives designed to improve corrective action program effectiveness. The initiatives included: (1) providing root cause analysis training to engineering personnel, (2) increasing engineering awareness of maintenance and plant activities, (3) lowering the threshold for identifying deficient plant conditions through management monitoring and coaching in the field, and (4) adding senior management review of equipment root cause analysis to reinforce management expectations.

With regard to TVA's history of activities to upgrade the Sequoyah corrective action program, the licensee maintained that as early as July 1996, TVA had identified the fact that problems existed with corrective action program implementation. In a management meeting with the NRC on August 8, 1996, TVA informed the NRC that corrective actions did not always achieve problem resolution. Additionally, based on a 1995 TVA quality assurance audit, an accelerated audit schedule was initiated in the area of the corrective action program. The September 1996 corrective action audit identified that corrective action program implementation was not totally effective. Therefore, the licensee concluded that the root cause for the October 11, 1996 equipment failures (inadequate corrective action program implementation) was previously identified by TVA in advance of the equipment failures.

In addition, TVA noted that the NRC's Enforcement Policy specifically recognizes that credit for identification is warranted in those situations where the problem is identified through an event, and the licensee has made a noteworthy effort in determining the root cause associated with the violations. TVA stated that it believed that such credit is especially warranted in this case because TVA had identified the root cause even before the equipment failures arose and was taking action, both at the time of the failures and after the failures took place, to address the cause. The following summarizes the violations cited by NRC and information submitted by TVA in support of a request for reduction in severity level.

Violation A(1):

This violation involved the licensee's failure to perform adequate evaluations of deficient conditions and to take adequate corrective actions to preclude repetition of significant conditions adverse to quality for the main feedwater isolation valve (MFIV) failures in January 1989, September 1990, September 1994, and April 1995. The failure to preclude repetition of this adverse condition resulted in the failure of MFIV 2-MVOP-003-0100-B to close on October 11, 1996, after receiving a valid feedwater isolation signal.

The licensee stated that the listing of the earlier MFIV "failures" oversimplified the maintenance history of the subject valve. The January 1989 failure marked the first failure of a MFIV due to corrosion build-up on the brake. Extensive corrective actions were taken, and it was believed that those actions were fully adequate to prevent recurrence following the 1990 MFIV failure. The licensee noted that the motor did not fail to stroke in September 1994; however, water and rust were found in the brake assembly. The licensee stated that in April 1995, the MFIV did not initially travel to the closed position on operator demand due to an electrical short in the brake circuitry and the problem was not associated with motor brake corrosion.

In addition, the licensee noted that the NOV cover letter discussed failures of the MFIV to stroke on four previous occasions. The licensee, in clarification of the previous failures, noted that the valve failed to stroke on two occasions due to corrosion of the brake assembly and failed a third time due to an electrical problem. The licensee also indicated that the brake was not tested prior to maintenance in September 1994 and, therefore, the NRC statement that the valve failed to stroke was not accurate.

Violation A(2):

This violation involved the licensee's failure to implement a corrective action plan developed in late 1993 to address issues identified in NRC Inspection and Enforcement (IE) Bulletin 78-14, "Deterioration of Buna-N Components in ASCO Solenoids," and Generic Letter 91-15, "Operating Experience Feedback Report, Solenoid-Operated Valve Problems at United States Reactors." This violation also addressed the licensee's failure to implement effective corrective actions for Problem Evaluation Report (PER) SQPER930001, which identified previous deficiencies in the operation of ASCO solenoid valves due to degradation of the Buna-N material.

The December 24, 1996 NRC letter stated that the failure of the ASCO solenoid valve caused excessive reactor coolant pump (RCP) seal leakage. The licensee stated that, more accurately, TVA shut down the unit in accordance with procedural guidance for an alarm condition, that RCP total seal flow remained stable, that the No. 2 RCP seal is designed for 100 hours of operation at full reactor coolant system pressure, and that as such, the condition of the No. 2 RCP seal was within its design basis.

In addition, the licensee contended that the December 24 letter inaccurately stated that a number of other valves were subsequently determined to be degraded. In response, TVA noted that some of the valves containing the Buna-N material had signs of aging, but were capable of performing their intended safety function.

The licensee further noted that the December 24 letter stated that TVA had been alerted to problems with Buna-N by NRC Bulletin 78-14 and Generic Letter 91-15, however; the licensee maintained that these documents did not specifically identify the problems that TVA experienced. The licensee noted that NRC Bulletin 78-14 discussed deterioration through natural aging and did not specifically address thermal degradation of the Buna-N materials. The licensee also stated that Generic Letter 91-15 discussed the reliability of solenoid valves used in safety applications and then stated that the RCP seal return isolation valve solenoid was not safety related.

Finally, the licensee noted that PER SQPER930001 was initiated to address solenoid valves that were mounted directly to hot piping systems and that the solenoid valve on the RCS pump seal return flow control valve operated in a much more moderate temperature and was not mounted directly to any hot piping system.

Violation A(3):

This violation involved the licensee's failure to develop an adequate corrective action plan and the failure to implement adequate corrective actions for the inadvertent fire system deluge actuation in July 1996.

In response, TVA noted that it had corrected the leaking water source, replaced the failed fire detector, and conducted a post-deluge walkdown of the area, but did not inspect the affected junction box. The licensee also noted that it would have been difficult to recognize the water intrusion path.

The licensee concluded that given TVA early identification and initiation of corrective actions and its several initiatives to upgrade the plant's material condition, sufficient bases exists for not imposing any civil penalty for the events associated with the October 11, 1996, Unit 2 shutdown. The licensee concluded that the violations could more appropriately be cited as separate Severity Level IV violations or that enforcement discretion should be exercised based on credit for TVA's identification and comprehensive corrective action. TVA also noted that a civil penalty under the facts and circumstances at hand would serve no purpose other than to punish the licensee and would be in contrast to the enforcement policy's stated purpose which is to, among other things, focus on the current performance of the licensee.

NRC Evaluation of Licensee's Request for Reduction in Severity Level

In reviewing the licensee's response, no additional information was provided that was not previously considered by the NRC in its deliberations regarding this matter.

The NRC acknowledges the licensee's position that, individually, the safety consequences of these violations were not a major concern. However, based on the fact that the three equipment failures that resulted from failures to take adequate corrective action all complicated the recovery from one event, the NRC concludes the regulatory significance of failing to take adequate corrective action and the potential safety consequences of the resulting multiple equipment failures during an event represents a significant regulatory concern. As stated in Section IV.A of the Enforcement Policy (NUREG-1600), a group of Severity Level IV violations may be evaluated in the aggregate and assigned a single, increased severity level, thereby resulting in a Severity Level III problem, if the violations have the same underlying cause or programmatic deficiencies. The purpose of aggregating violations is to focus the licensee's attention on the fundamental underlying causes for which enforcement action is warranted and to reflect the fact that several violations with a common cause may be more significant collectively than individually and may, therefore, warrant a more substantial enforcement action. In this case, the NRC determined that the violations have the same underlying cause: inadequate implementation of the corrective action program; and therefore, were considered to be a significant regulatory concern.

The licensee's position that the NRC should exercise discretion for identifying corrective action program problems and the improvements initiated in September 1996 cannot be supported. The NRC recognizes that improvement steps have been taken. However, inadequate implementation of the corrective action program has been identified as a continuing problem. NRC-identified corrective action program implementation deficiencies were noted in multiple inspection reports and previous Systematic Assessments of Licensee Performance (SALP) reports, in addition to present findings from licensee audits indicating the need for further improvements. Specifically, the Sequoyah Quality Assurance (QA) organization recently published similar conclusions. QA's "Sequoyah Executive Summary-First Quarter Fiscal Year 1997" report identified that both the Maintenance and Engineering organizations had failed to correct long-standing issues. In addition, recent, continuing QA audits of the corrective action program have identified poor corrective action program implementation in that a significant number of PERs were being rejected due to inadequate root cause determination or insufficient corrective actions. The most recent NRC SALP report, NRC Inspection Report (IR) 50-327 and 50-328/96-99, dated September 6, 1996, also stated that corrective actions were untimely and not fully effective in many cases. Prior to that, the 1995 NRC SALP report, IR 95-99, dated February 21, 1995, noted several instances where ineffective corrective actions were observed. IRs 327, 328/96-09, 96-08, 96-01, and 95-26 identified various ineffective corrective action issues or violations. In addition, IR 327, 328/95-25, the Final Integrated Performance Assessment Process Report, noted in the area of Engineering, a "Weakness" in Problem Identification/Problem Resolution and in the area of Safety Assessment/Corrective Action, noted a "Significant Weakness" in the area of Problem Resolution. These problems with the corrective action program indicated continuing weak program implementation and weak expectations regarding equipment failure trending, which related to a lack of management oversight and control of the corrective action program. Accordingly, enforcement discretion is not warranted.

A discussion of the licensee's specific comments on each violation is described in detail below:

Violation A(1):

Enclosure 1 of the NOV cited TVA's failure to perform adequate evaluations or to take adequate corrective actions for MFIV failures in January 1989, September 1990, September 1994, and April 1995. The licensee stated "this listing of MFIV failures oversimplified the maintenance history of the subject MFIV." The licensee provided a short history of each of the brake failures, and noted that the MFIV only failed to stroke on two occasions. In addition, the licensee stated: "In April 1995, the MFIV did not initially travel to the closed position on operator demand because of an electrical short circuit. The problem was not associated with motor brake corrosion."

The NRC does not disagree with the licensee's clarification regarding the number of times the MFIV failed to stroke. However, the licensee has not provided a sufficient basis to support its conclusion that the April 1995 MFIV failure was due to an electrical short circuit, and the NRC does not agree with the licensee's evaluation. The work order associated with the April 1995 failure listed an "electrical ground" as the cause of the failure, not an electrical short. A grounded lead would not have affected the functioning of the MFIV. A circuit short would have caused the motor brake assembly circuit fuses to blow, which was not documented. Regardless, neither an electrical ground nor a short circuit would have prevented the operation of the MFIV. The inspectors were informed by the licensee that the motor is designed to override the brake assembly and to close the valve if the brake does not electrically release. In addition, the inspectors noted that the brake assembly was discarded due to a grounded lead, which did not appear to be reasonable for an expensive piece of equipment, and that an evaluation or root cause determination of the brake assembly was not performed. In addition, maintenance workers extensively applied a sealant to the brake assembly housing, indicating that water intrusion was a known problem for this valve. This was especially apparent since none of the other seven MFIVs had any sealant applications.

In this example, the NRC violation specifically cited the licensee's failure to perform adequate evaluations of deficient conditions. Although the actual root cause of the April 1995 failure, is unknown and debatable, the inspectors concluded that the licensee's documented root cause, "grounded lead," would not have resulted in the observed failure. Therefore, the NRC concluded that the licensee failed to perform an adequate evaluation for the April 1995, failure and subsequently did not identify appropriate corrective actions.

Nevertheless, the NRC continues to believe numerous opportunities existed to identify this particular component as problematic and to perform the necessary evaluation to identify the MFIV moisture intrusion problem. TVA failed to identify the root cause and take adequate corrective actions for the recurring failures.

Violation A(2):

The licensee indicated that the NRC December 24, 1996 letter statement, "...the failure of the ASCO solenoid valve caused excessive RCP seal leakage," was not accurate. The licensee took exception to the word "excessive" and then stated, "More accurately, TVA shut down the unit in accordance with procedural guidance applicable to the alarm condition resulting from low No. 1 seal return flow. Specifically, the closure of the No. 1 seal return flow control valve resulted in the normal No. 1 seal return flow cascading to the Nos. 2 and 3 seals. Overall, total seal flow to the RCP remained stable. The No. 2 RCP seal is designed for 100 hours of operation at full RCS pressure to allow operators time to react. As such, the condition to which the No. 2 seal was subjected was within the design condition for that seal."

The inspectors noted that, on October 11, 1996, a seal leakoff low flow alarm for the No. 4 RCP annunciated, followed shortly by the RCP standpipe alarm high/low annunciation. The operators entered Abnormal Operating Procedure R.04, "Reactor Coolant Pump Malfunctions," Section 2.3, "RCP #1 Seal Leakoff Low Flow." Step 6 of Section 2.3, "Verify RCP #2 seal leakoff less than or equal to 0.5 gpm," directed the operators to Section 2.4, "RCP #2 Seal Leakoff High Flow." A note in Section 2.4 states, "A leakoff of greater than 0.5 gpm indicates that a seal problem exists." Step 3 of Section 2.4 directs the operators to "Monitor RCP #2 seal INTACT: VERIFY RCP #2 seal leakoff less than or equal to 0.5 gpm...." If RCP #2 seal is greater than 0.5 gpm, the operators are directed to perform a plant shutdown within 8 hours. Also, Summary Report, Failure of 2-FCV-62-48, RCP #4 Seal Leak Off Isolation Valve, stated, "An entry was made in containment to check the Loop 4 No. 1 Seal Leak Off Isolation valve and it was found to be closed, resulting in abnormally high leak off from the No. 2 seals...."

The NRC realizes that total seal leakage for this event was not significant when based on overall RCS inventory. However, based on leakage that exceeded the alarm setpoint and which required a plant shutdown, the NRC still considers the term "excessive" to be appropriate as used in this context.

The licensee indicated that the December 24 NRC letter inaccurately stated that "...a number of other valves were subsequently determined to be degraded." The licensee stated, "More accurately, following the October 11, 1996 event, TVA's extent of condition review found no other instances where solenoid valves had failed. The review did identify some solenoid valves containing Buna-N material with signs of aging. As a conservative measure to increase equipment reliability, these solenoid valves were replaced. The replaced solenoid valves were capable of performing their intended function in their 'as-found' condition."

The NRC disagrees with this licensee position. The NRC's statement was based on information provided to the NRC by the licensee which indicated that several of the valves were determined to be "leaking through" and/or had reduced o-ring elastomer resiliency. The NRC

considers these "signs of aging" to be indications of degradation. In addition, the ASCO solenoid valves with the Buna-N material were only qualified for environmental conditions of less than 125 degrees F. However, they were installed where area temperatures exceeded 125 degrees F, which greatly reduced their qualified life. The licensee documented that the valves remained in service for extended periods past their qualified life and as a result, showed signs of aging.

The licensee quoted a statement in the NRC December 24 letter accompanying the violation that "TVA had been alerted to problems with Buna-N by NRC Bulletin 78-14, Generic Letter 91-15, and a SQN Problem Evaluation Report (PER);" and stated that "Listing these documents gives the impression that each document directly addressed the problem at hand. This is not the case."

The NRC's intent in listing these documents was to indicate that generic information was available on thermal aging of Buna-N that should have been implemented into Sequoyah's corrective action program. Generic communications are not intended to address every possible failure mechanism. However, in this case Generic Letter 91-15 referenced NUREG-1275, Vol. 6, Operating Experience Feedback Report - Solenoid-Operated Valve Problems, which focused on solenoid operated valve (SOV) failures from 1984 through 1989. Section 5.1.1.3 of NUREG-1275 discussed localized "hot spots" in containment and reductions in qualified life of the SOVs, which was the precise condition TVA experienced. In addition, based on Generic Letter 91-15, in December 1993, TVA developed corrective actions to implement the Generic Letter concerns (PER SQPER930001), which if broadly implemented had the potential to identify and correct the adverse Buna-N condition; however, at the time of the event, the corrective actions had not been implemented. The NRC's conclusions regarding the ASCO solenoid valve failure were based on the licensee's root cause investigation, which stated that TVA never implemented the action plan developed in 1993.

Further, the NRC noted that following the event, PER No. SQ962633 was initiated and stated, "Although this type of failure had occurred previously at Sequoyah and had been addressed in an NRC Generic Letter, actions were not taken by plant personnel to prevent future similar failures. The root cause of the valve failure is ineffective application of plant and industry operating experience." Based on this documented statement, the licensee's contention that they had not been alerted to the problem is inconsistent with what was said previously in PER No. SQ962633.

Violation A(3)

The licensee's interpretation noted that TVA had corrected the leaking water source, replaced the failed fire detector, conducted a post-deluge walkdown of the area but did not inspect the affected junction box. TVA also noted that it would have been difficult to recognize the water intrusion path.

The NRC was aware of the immediate corrective action plan initiated by the licensee in response to the high-pressure fire protection system deluge header actuation in the Unit 2 turbine building which occurred on July 16, 1996. However, that action plan was not thorough in that it did not consider water intrusion into junction boxes. The licensee stated in their reply to the Notice of Violation that, subsequent to the Unit 2 turbine runback and trip on October 11, 1996, a total of 66 Unit 2 local instrument panels and 70 Unit 1 junction boxes were inspected and evaluated, and repairs were either completed during the forced outage or scheduled within the work scheduling process. During that review, additional junction boxes in the turbine buildings for both units were identified where previous water intrusion was evident. The NRC concluded that a thorough corrective action plan following the July 1996 deluge event would have at least considered the possibility of water intrusion into junction boxes and instrument panels.

In sum, the failure to take appropriate corrective actions as demonstrated by the three violations represent a significant regulatory concern as the inadequate corrective actions contributed to plant events. The licensee has not provided an adequate bases to modify the Severity Level determination.

Summary of Licensee's Request for Mitigation of Civil Penalty

The licensee believes the civil penalty should be mitigated in its entirety because the current site management team was "keenly aware" that the quality of past corrective actions was still impacting current performance. In addition, the problems associated with the corrective action program were being aggressively addressed by ongoing improvement initiatives. TVA noted that the comprehensive actions greatly mitigated any regulatory significance that might otherwise exist in this area. TVA requested the NRC to view events in the broader perspective of the improved corrective action program and plant material condition upgrades in exercising discretion to mitigate the civil penalty associated with these violations.

NRC Evaluation of Licensee's Request for Mitigation of Civil Penalty

The NRC does not fully agree with the licensee's position that TVA identified the corrective action program implementation problems and then took comprehensive actions in September 1996. Previous inspection reports and SALP reports noted corrective action program implementation problems. However, the licensee did not fully address the problems in September 1996, and significant corrective action program problems are still being identified. The problems with the corrective action program indicated continuing weak program implementation and weak expectations regarding equipment failure trending, which related to a lack of management oversight and control of the corrective action program.

Contrary to the licensee's statements, the NRC did consider the licensee's efforts to improve the corrective action program's effectiveness prior to the October 11, 1996 event. However, as evidenced by the violations cited in the Notice and the specific circumstances surrounding them, as described in the

inspection report, the NRC concluded that (1) the licensee's corrective actions prior to the equipment failures associated with the October 11, 1996 Unit 2 shutdown, were not fully effective in assuring adequate resolution of repetitive equipment failures and avoiding additional non-compliances, and (2) the violations were the result of ineffective corrective action program implementation. Specifically, the examples of inadequate corrective actions identified in Violations A(1), A(2) and A(3) indicate that previous initiatives had not achieved the desired results.

The guidance described in Section VI.B.2.b of the Enforcement Policy was used to evaluate the licensee's actions related to the factor of *Identification*. Specifically, the NRC concluded that Violations A(1), A(2) and A(3) were revealed through an event. The three violations were identified as a result of the failure of the components involved during the October 11, 1996 event. When violations are identified through an event, Section VI.B.2.b of the Enforcement Policy states that the decision on whether to give the licensee credit for actions related to identification normally should consider: (1) the ease of discovery; (2) whether the event occurred as the result of a licensee self-monitoring effort; (3) the degree of licensee initiative in identifying the problem or problems requiring corrective action, and (4) whether prior opportunities existed to identify the problem. Enforcement Policy Section VI.B.2.b further states that any of these considerations may be overriding if particularly noteworthy or particularly egregious.

With regard to ease of discovery and prior opportunities, the NRC believes that sufficient information was available to the licensee in each case that led to a violation to indicate that a problem existed. The failure to consider adequately the potential scope of the problems indicated by previous equipment failures and generic communications was an overriding reason to deny credit for identification.

With regard to the degree of licensee initiative in identifying the problem, the fact that TVA had previously recognized the shortcomings of the corrective action program as early as 1995 but failed to identify the violations was of concern to the NRC. In the licensee response, the highlighted corrective actions only addressed actions to ensure future identification of problems and did not address correction of previous failures of the corrective action program to resolve deficiencies.

The event did not occur as a result of a licensee self-monitoring activity; therefore, the NRC concluded, as stated in the December 24, 1996 letter, that credit was not warranted for the factor of *Identification*. The licensee has not provided an adequate argument to mitigate the civil penalty based on the identification factor.

The NRC did conclude in the December 24, 1996 letter that credit was warranted for the factor of *Corrective Action*, based on the extensive corrective actions outlined by the licensee at the December 16, 1996 predecisional enforcement conference to improve (1) plant material conditions, (2) management effectiveness, and (3) implementation of the corrective action program. The NRC acknowledged that the licensee had taken and proposed steps, at the time of the predecisional enforcement conference, to improve corrective actions at

Sequoyah. However, based on subsequent QA findings, it appears that even TVA's most recent efforts to improve the corrective action program have not been fully effective. While the NRC is not reconsidering the decision to grant *Corrective Action* credit, the NRC remains concerned and emphasizes again the importance of prompt and comprehensive corrective action.

NRC Conclusion

The NRC concludes that the violations occurred as stated and that collectively they represent a Severity Level III problem. The licensee had opportunities to resolve the issues, in some cases multiple opportunities, however, the deficiencies remained until clearly identified as a result of the October 11, 1996, plant event. Therefore, the NRC has concluded that, neither an adequate basis for a reduction of the severity level nor for mitigation of the civil penalty were provided by the licensee. Consequently, the proposed civil penalty in the amount of $50,000 should be imposed.

Response to Licensee Comments on Violations B(1), B(2) and B(3)

In its response of January 23, 1997, TVA expressed the following concerns with the descriptions of violations B(1), B(2), and B(3) in the NOV.

1. The licensee noted that the December 24, 1996 NRC letter identified one of the root causes of the violations as poor communications among Operations, Maintenance, and Engineering, and the licensee also noted that it could be inferred that poor communication was prevalent throughout the event. In addition, the licensee stated its belief that the poor communications were limited to the subsequent analysis of the equipment condition.

   The December 24 letter statement was intended to be a general statement and was not intended to infer that poor communications were "prevalent" throughout the event. However, NRC findings indicated that poor communication was not limited only to the subsequent analysis of the condition. Interviews indicated that the Shift Manager, Unit Shift Supervisor and operators had concerns with operability of the reactor trip breaker; however, the differences between Operations and Maintenance/Engineering were not resolved without management intervention, which resulted in the Limiting Condition for Operation (LCO) being exceeded. This was considered to be a communications issue. In addition, the initial PER did not identify in writing the issue regarding the P-4 turbine trip function, that was later added to the PER due to the Shift Manager's request the following day. This was also considered to be a communications issue. These issues, i.e., the fact that the event review team knew that the disconnected reactor trip breaker contacts affected the operability of the breaker, Technical Support had evaluated the disconnected contact condition, compliance personnel had evaluated the disconnected contacts, management was not notified of the adverse condition and, the event review did not document the adverse condition, were collectively considered to represent poor communications.

2. The licensee noted that the December 24, 1996 NRC letter identified non-conservative decision making as one of the root causes of the violations. This was based on Operations' failure to remove the suspect reactor trip breaker (RTB) for a number of hours. An early, conservative decision on RTB operability could have precluded exceeding the LCO. The licensee stated that at the time the LCO expired, available information/data, did not indicate any abnormality beyond a set of dirty contacts or a loose connection associated with the RTB computer input circuit, and a "conservative decision" was made "not" to remove the RTB until: (1) an evaluation was made related to the potential for a transient and (2) the breaker was determined to be the most likely cause of the alarm.

   The intent of the December 24 letter comment was to put the licensee on notice that a conservative decision "could" have prevented exceeding the LCO. In this case, when the breaker abnormality was indicated by an alarm following refurbishment activities, it was not a conservative decision to assume the cause prematurely and leave the breaker in place. A conservative decision would have been instead to remove the suspect equipment until further testing could be completed to ensure operability.

3. The licensee noted that the December 24, 1996 NRC letter stated that Maintenance and Engineering personnel failed to recognize the significance of the rod deviation computer alarm and failed to understand its potential impact on operability. The licensee stated that this NRC comment was based on the licensee staff proposal to troubleshoot the RTB and to "dummy" a signal to the computer. In the TVA clarification, the licensee stated that there were no indications that more than one contact was suspect and that the dummied computer value allowed continuous rod deviation monitoring which relieved operators from additional LCO actions. In addition, the licensee stated that it considered the insertion of the dummied value to be more conservative and that the activity was not performed to mask the alarm condition. The licensee also stated that it did not agree with the NRC's statement that resources were diverted for insertion of a value into the computer in order to clear the alarm.

   It is the NRC's conclusion that the licensee failed to recognize the significance of the rod deviation alarm. The licensee stated that there were no indications that more than one contact was involved, however, two previous Westinghouse letters from 1979 and 1987, available to the licensee, identified that the reactor trip breaker P-4 circuitry contained potentially undetectable failures, and in fact several contacts were involved with this event and they were "undetectable" without the proper testing. Had appropriate actions in response to the Westinghouse letters been taken, this event potentially would have been avoided. With regard to the "dummied" computer input, during initial NRC interviews with the Shift Manager, Unit Shift Supervisor and other control room personnel, the inspector noted that it was the control room staff's belief that, if the computer point could have been readily fixed, no further action would be necessary. In addition, the control

room staff expressed an opinion that they had performed above and beyond normal just to get the faulty breaker out of the cubicle. The inspector noted that the insertion of a dummied signal eliminated relatively minor surveillance activities which did not appear to be warranted until the cause for the alarm was positively identified.

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