



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

February 5, 1986

MEMORANDUM FOR: Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Ben B. Hayes, Director
Office of Investigations

James M. Taylor, Director
Office of Inspection and Enforcement

John A. Olshinski, Deputy Regional Administrator for TVA
Region II

FROM: Ledyard B. Marsh, Section Leader
Reactor Systems Branch
Division of Pressurized Water Reactor Licensing - B
Office of Nuclear Reactor Regulation

Phillip F. McKee, Chief
Operating Reactor Programs Branch
Division of Inspection Programs
Office of Inspection and Enforcement

David M. Verrelli, Chief
Reactor Projects Branch 1
Division of Reactor Projects

SUBJECT: REVIEW OF TVA'S PROCESS FOR HANDLING CONDITIONS ADVERSE
TO QUALITY

On March 27-29, 1985, a review of TVA's process for the handling of two Non-Conformance Reports regarding the Sequoyah Units 1 and 2 containment pressure transmitters was conducted. That review resulted in findings of a breakdown in TVA's management controls for evaluating and reporting potentially significant safety conditions. As a result, on June 14, 1985, TVA was issued an Order Modifying Licenses that required several actions to upgrade their programs. TVA submittals in response to the Order described actions taken and provided revised procedures that were represented as program upgrades. As followup, TVA's Sequoyah site and TVA Engineering Offices in Knoxville were revisited on December 18-20, 1985, to review the actions taken by TVA to address the deficiencies originally identified.

The enclosed report presents our review and findings regarding TVA's programs to upgrade their handling of potentially significant safety issues raised by the Office of Engineering. The review did not cover TVA's process for closing out or re-investigating engineering issues that were identified prior to the recently upgraded program. It is our understanding that TVA's handling of engineering issues identified prior to the implementation of the new procedures is the subject of separate reviews.

8602180193

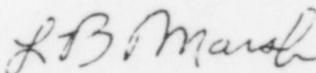
XA

Enclosure

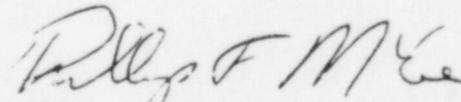
Our review indicates that TVA has made a significant effort to upgrade their program. This was evident by programmatic upgrades including: (1) major overhaul of procedures for dealing with significant safety issues; (2) conduct of a formal, comprehensive training program for use of the revised procedures; and (3) implementation of a tracking system to assure timeliness of addressing identified issues. Based on our review of the programmatic changes and interviews of TVA staff and management involved with the process, we believe the programmatic upgrades made by TVA represent a marked improvement.

Further, we noted several other non-programmatic factors that should contribute to a more workable and efficient process. These factors include better channels of informal communication between Office of Engineering and site management and staff, and greater attention by Office of Engineering personnel to the significance of issues that potentially affect an operating facility.

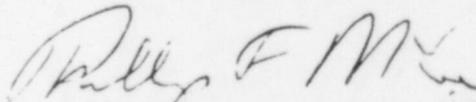
While our review indicated that there are still some programmatic deficiencies that need to be corrected, overall TVA's program for handling potentially significant issues raised by the Office of Engineering has been upgraded. We also reviewed TVA's programs with respect to the programmatic findings contained in our April 18, 1985 report and are satisfied with corrective actions taken to address these findings. We, therefore, consider that TVA's actions are fully responsive to the June 14, 1985 Order Modifying Licenses.



Ledyard B. Marsh, Section Leader
Reactor Systems Branch
Division of Pressurized Water Reactor Licensing - B
Office of Nuclear Reactor Regulation



Phillip F. McKee, Chief
Operating Reactor Programs Branch
Division of Inspection Programs
Office of Inspection and Enforcement



David M. Verrelli, Chief
Reactor Projects Branch 1
Division of Reactor Projects

Enclosure: As stated

REVIEW OF TVA'S PROCESS FOR HANDLING CONDITIONS ADVERSE TO QUALITY

I. Introduction

On March 27-29, 1985, representatives of NRR and IE, accompanied by Region II staff, conducted a review of TVA's handling of Nonconformance Report (NCR) SQNNEB 8501 Revisions 1 and 2. The NCR addressed technical issues pertaining to the qualification of Sequoyah Units 1 and 2 containment pressure transmitters. The review resulted in findings of significant deficiencies in TVA's management controls for identifying, evaluating, and reporting potentially significant safety conditions. The results of that review are documented in an April 18, 1985 report. As a result of the review, on June 14, 1985, TVA was issued an Order Modifying Licenses (Browns Ferry and Sequoyah Units). The order required them to take several actions to upgrade their programs for handling potentially significant safety issues initiated by the engineering organization.

TVA also initiated several self evaluation studies of their programs for handling issues initiating in the engineering organization. In response to the NRC Order and the self evaluations, comprehensive changes to procedures and other actions were initiated. These actions and commitments were documented in TVA submittals to the NRC in response to the NRC Order.

On December 18-20, 1985 representatives of NRR (L. Marsh), IE (P. McKee), and Region II (D. Verrelli) reviewed TVA's actions to upgrade their program for handling potentially safety significant conditions. The review was conducted at TVA's Office of Engineering (OE) office in Knoxville and at the Sequoyah site. The purpose of the review was to verify the status of actions taken by TVA, evaluate the extent to which previously identified deficiencies were being addressed, and, to the extent possible, evaluate the quality of program improvements. This report documents the findings of the review. The review did not cover followup items specifically related to NCR SQNNEB 8501 Revision 0 and 1 or Part V, Section C, of the NRC Order. The review also did not cover TVA's actions for close-out or re-investigation of engineering issues that were identified prior to implementation of the program upgrades.

The report herein is divided into several sections. Section II describes TVA actions taken with respect to upgrading of their procedures for handling conditions adverse to quality (CAQ). Section III describes actions taken by TVA to train management and staff with respect to the revised procedures. Section IV describes actions taken by TVA to upgrade management oversight and tracking of CAQs identified in the revised program. Section V provides a general summary and conclusion of TVA's overall actions to improve their program.

II. Procedures

Several of the findings from the NRC March 1985 review of the circumstances associated with TVA's handling of NCR SQNEB 8501 pointed to procedural problems. These problems included timeliness of addressing potential generic concerns, timeliness of evaluation and resolution of potentially significant safety conditions, clarity of terms in the procedures, and clarity of responsibilities for actions required by the procedures.

Internal TVA reviews of activities associated with NCR SQNEB 8501 identified similar problems. Part V.A. of the June 14, 1985 TVA Order Modifying Licenses required TVA to evaluate procedures applicable to operating sites to assure their adequacy with respect to issues raised during the NRC March 1985 review. The Order further required TVA to submit the evaluation to NRC along with a plan and schedule for properly revising the procedures for controlling the handling of conditions adverse to quality. By NRC request, a copy of the procedural changes were provided to NRC by TVA's November 15, 1985 letter. The November 15, 1985 TVA submittal also provided examples of how the procedures would be applied.

The adequacy of the revised procedures were reviewed with TVA's management and staff at their Office of Engineering and at the Sequoyah site. This review consisted of review of the procedures, interviews with management and staff who use the procedures, and a walkthrough of one issue for which the procedures were applied.

Based on the review, it was determined that procedural changes have been made to address the procedural deficiencies identified during the March 1985 NRC review. The changes have been in effect since August 1985 or earlier and appear to represent a clear improvement. In particular, effective upgrades in procedural control were apparent in: (1) identification and handling of potentially generic issues, (2) timeliness requirements for evaluation of potentially significant safety conditions, (3) interface controls between OE and site staff and management, and (4) documentation required to control resolution of the issue.

The procedures involve numerous organization elements both in OE and on-site and numerous steps. Therefore, the procedures are extremely detailed. This factor increases the importance of adequate staff training in their use (discussed in the next section). Also, a critical aspect in the implementation of the procedures is the interface points between OE and onsite staff. Although improved, weaknesses still appeared to exist in two interface areas.

1. The Design Services, Nuclear Power (NUC PWR), is an organization that reports to onsite Sequoyah Management and, as one function, serves the role of receiving Engineering Reports with a complete Failure Evaluation from OE staff onsite. They then forward the form to RES, NUC PWR. Their role appears to be only an administrative, middleman role. If only administrative, this function potentially could impede the timely communication and resolution of an issue.
2. OE staff onsite serve the important function of being the primary point of contact with onsite operations staff. Based on discussions with one member of the onsite OE group, two apparent weaknesses were observed with the OE onsite function. The first involves OE having organizational functional responsibilities to both OE and NUC PWR. Lack of clarity in these responsibilities could result in problems in resolution of technical differences between OE and NUC PWR. The second weakness involves transmittal

of the Engineering Report to RES, NUC PWR. Upon completion of Part A of a Significant Condition Report (SCR), OEP-17 requires completion of Part A of an Engineering Report and immediate notification of NUC PWR, including giving them a copy of the completed ER form (Part A) and coordination of preparation of a failure evaluation. Several or all of these functions can be assigned to ER staff onsite. If onsite ER staff are not familiar in advance of the issues involved in a SCR, difficulties could result in competent completion of the above functions in the time required.

III. Training

Several of the findings from the NRC March 1985 review related to deficiencies in staff understanding and use of the procedures. These issues stem from inadequate training of staff who might be required to deal with potentially significant engineering issues at operating facilities. The weaknesses in the training of TVA staff who were involved with potentially significant engineering issues was one of the conclusions of the June 5, 1985 TVA Nuclear Safety Review Staff report, "Special Review of the Office of Engineering and Office of Nuclear Power Activities Associated with Sequoyah Containment Pressure Instrumentation." Part V.B of the June 14, 1985 TVA Order Modifying Licenses required TVA to develop and submit to NRC a plan for training of all personnel involved in implementing revised procedures to ensure that such personnel recognize potentially significant safety conditions and ensure that they are expeditiously evaluated, reported, and corrected and understand their individual responsibilities in carrying out the procedures. All training of applicable TVA staff had been reported by TVA as complete prior to the beginning of this review.

The adequacy of the training conducted by TVA was evaluated based on review of submittals, description by TVA management of training given, and interviews with staff and management who use the procedures. Based on the evaluation, it was evident that extensive training had been conducted. The training consisted of a video presentation, job specific training, and testing. The TVA staff interviewed had a good knowledge of the procedures, including an understanding of the importance of potential safety conditions at operating facilities.

IV Management Oversight and Tracking of Issues

A general conclusion of the March 1985 review was that there were management control breakdowns in oversight of the process for handling potential safety significant technical issues initiated by OE. Problems in oversight of timely resolution of NCRs and management involvement in resolution of significant safety concerns were examples of breakdowns in this area. Similar problems were identified by TVA internal reviews.

While licensee changes to procedures (Section II) and training (Section III) served to increase management oversight, additional actions were taken by TVA to enhance this area.

Although not a specific part of the June 14, 1985 Order, several of the actions taken by TVA were reviewed. These actions included detailed systems for tracking the status of all conditions adverse to quality (CAQ) by each OE Branch, frequent senior level OE management review of the status of CAQs, and close onsite review and tracking of the status of CAQs. The tracking systems were observed to be effective tools for close management oversight of the process.

V. Summary and Conclusions

The review indicates that TVA has made a significant effort to upgrade their programs for evaluating and reporting significant conditions adverse to quality. This was evident by major programmatic upgrades including: (1) major overhaul of procedures for dealing with significant safety issues; (2) conduct of a formal, comprehensive training program for use of the revised procedures; and (3) implementation of a tracking system to assure timeliness of addressing identified issues. Based on review of the programmatic changes and interviews of TVA staff and management involved with the process, the programmatic upgrades made by the TVA appear to represent a marked improvement.

Further, several other non-programmatic factors that should contribute to a more workable and efficient process have been implemented. These factors include better channels of informal communication between Office of Engineering and site management and staff and greater attention by Office of Engineering personnel to the significance of issues that potentially affect an operating facility.

While the review indicated that there are still some programmatic deficiencies that need to be corrected, overall TVA's program for handling potentially significant issues raised by the Office of Engineering has substantially improved. Corrective actions have been taken with respect to the programmatic findings contained in the April 13, 1985 report that reviewed TVA's handling of NCR SQNNEB 8501. Also, all the actions required by Part V.A. and Part V.B. of the June 14, 1985 Order were found to be fully satisfied.