



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

SAFETY EVALUATION BY THE OFFICE OF SPECIAL PROJECTS

OF BROWNS FERRY QUALITY ASSURANCE PROGRAM

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT, UNITS 1, 2 AND 3

DOCKET NOS. 50-259/260/296

1.0 INTRODUCTION

The TVA organization for quality assurance (QA) that has been in use since mid-1976 is described in a topical report, TVA-TR75-1, entitled "QA Program Description for Design, Construction, and Operation of TVA Nuclear Power Plants." This report contains organization charts, a description of the organization, and the QA responsibility assignments. As the QA organization has changed over the years, the NRC has been informed. The staff has reviewed and approved each organizational arrangement reported by TVA. However although the staff accepted each QA program described by TVA, problems were encountered in program execution, and the staff's systematic assessment of licensee performance (SALP) reports for TVA nuclear activities from 1980 through mid-1985 showed a need to improve QA.

As noted in the revised Browns Ferry Nuclear Performance Plan, TVA's nuclear QA and quality control (QC) functions had not been effectively unified in a single department. One nuclear QA organization was responsible for conducting corporate-level audits, a separate nuclear QA group within the construction division was responsible for inspection construction activities, and a third nuclear QA group within engineering was responsible for conducting audits of engineering activities. To further compound the problem, each nuclear site had its own QA group responsible for QA/QC activities at that site. As a result, TVA's nuclear QA activities were not conducted according to a consistent set of programs and procedures, and the QA groups reported to various management groups within TVA, thereby diminishing the visibility and importance of these activities to top-level management. As a result, the staff believes that the QA program has not always been implemented on an effective, consistent basis.

2.0 EVALUATION

The staff evaluation of TVA's Browns Ferry Quality Assurance Program is based on a review of Section 2.6, "Quality Assurance" in Revision 1 to Browns Ferry Nuclear Performance Plan (Volume 3) Part II dated June 1987.

Under the new organization, the responsibility for all nuclear QA/QC functions has been consolidated under the Director of Nuclear Quality Assurance, who reports directly to the Manager of Nuclear Power. This responsibility includes all QA/QC activities related to engineering, construction, and operations, as well as QC inspections of construction and maintenance/modification activities.

A standardized TVA QA program, nuclear quality standards and directives, and model QA procedures for the sites are being developed. The standard nuclear QA program is to be implemented at each site, with site-specific adjustments allowed only if (1) they do not degrade the level of quality provided by the standard program and (2) they are approved by the Director of Nuclear Quality Assurance.

The staff concludes the overall revisions to the TVA nuclear quality assurance program as generally described in the revised Browns Ferry Nuclear Performance Plan represent QA programmatic improvements and if properly implemented are acceptable.

TVA submitted a revised and upgraded version of its QA topical report, (TVA-TR75-1A) for NRC review on May 1, 1986. The report described the then-current organization and QA procedure system. After a review of the report and a meeting with TVA representatives, the staff forwarded a request for additional information to TVA on August 1, 1986. TVA revised the topical report to address these staff questions and to fully reflect the organization of the Office of Nuclear Power which was conditionally approved by NRC letter of January 30, 1987 to TVA.

Determining if the changes in the TVA QA topical report will resolve past problems can only be done by observing TVA's performance over an extended period. As noted above, the problems in TVA's nuclear activities occurred under a previously approved QA program, however, that program was not implemented the way it was described. Thus, it is important to note that the staff's review and acceptance of the QA topical report means only that TVA's commitments meet the programmatic requirements of 10 CFR 50, Appendix B, as described in Section 17 of the NRC Standard Review Plan (NUREG-0800). The staff will assess whether these commitments are fully and effectively met in its ongoing oversight and inspection of TVA's technical and QA programs. Because of TVA's past problems in the QA area, the staff approved this revision (Revision 9) to the QA topical report on January 30, 1987 for a period of two (2) years. The staff's decision on extending the approval of the topical report will depend on how effectively TVA implements the program.

### 3.0 Conclusion

On the basis of the NRC staff review of the Browns Ferry Quality Assurance Program provided in the Browns Ferry Nuclear Performance Plan (Volume 3) Part II dated June 1987, the staff finds that with proper implementation the Quality Assurance Program description is acceptable.

Principal Contributor: J. Gilray

Dated:

Mr. S. A. White  
Tennessee Valley Authority

Browns Ferry Nuclear Plant  
Units 1, 2, and 3

cc:

General Counsel  
Tennessee Valley Authority  
400 West Summit Hill Drive  
E11 B33  
Knoxville, Tennessee 37902

Regional Administrator, Region II  
U.S. Nuclear Regulatory Commission  
101 Marietta Street, N.W.  
Atlanta, Georgia 30323

Mr. R. L. Gridley  
Tennessee Valley Authority  
5N 157B Lookout Place  
Chattanooga, Tennessee 37402-2801

Resident Inspector/Browns Ferry NP  
U.S. Nuclear Regulatory Commission  
Route 12, Box 637  
Athens, Alabama 35611

Mr. H. P. Pomrehn  
Tennessee Valley Authority  
Browns Ferry Nuclear Plant  
P.O. Box 2000  
Decatur, Alabama 35602

Mr. Richard King  
c/o U.S. GAO  
1111 North Shore Drive  
Suite 225, Box 194  
Knoxville, Tennessee 37919

Mr. M. J. May  
Tennessee Valley Authority  
Browns Ferry Nuclear Plant  
P.O. Box 2000  
Decatur, Alabama 35602

Dr. Henry Myers, Science Advisor  
Committee on Interior  
and Insular Affairs  
U.S. House of Representatives  
Washington, D.C. 20515

Mr. D. L. Williams  
Tennessee Valley Authority  
400 West Summit Hill Drive  
W10 B85  
Knoxville, Tennessee 37902

Chairman, Limestone County Commission  
P.O. Box 188  
Athens, Alabama 35611

Claude Earl Fox, M.D.  
State Health Officer  
State Department of Public Health  
State Office Building  
Montgomery, Alabama 36130