



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20586

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO THE PROGRAMMATIC ASPECTS OF THE

ELECTRICAL CONDUIT AND CONDUIT SUPPORT

CORRECTIVE ACTION PROGRAM PLAN

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR POWER PLANT

UNIT 1

DOCKET NO. 50-390

1.0 INTRODUCTION

TVA in a letter dated November 18, 1988 submitted the Corrective Action Program (CAP) Plan for Electrical Conduit and Conduit Support, Revision 1. The program was developed as a result of information which became known to TVA related to deficiencies within the area of the support of safety-related Category I and I(L) conduit. The program involves revisions to the design criteria, revisions to the standard drawings and details for conduit runs and the associated supports as well as field walk-throughs of all conduit installation for adequacy.

2.0 SCOPE

The scope as defined in the program plan encompasses all Category I and I(L) conduit and conduit supports so as to provide assurance that the as-designed and as-installed conduit runs and associated supports meet the the regulatory and licensing requirements including the FSAR design criteria as well as the lower tier design, fabrication, installation, inspection and test requirements imposed by TVA.

Included within this scope is the resolution of the various deficiencies which formed the basis for the program. The sources for these deficiencies included such areas as the employee concerns, findings from efforts by various task groups, independent reviews as well as the TVA quality assurance program which identified a portion of the deficiencies. The scope is of a breadth and depth as to encompass a series of Problem Identification Reports (PIRs), Significant Condition Reports (SCRs), Non-Conformance Reports (NCRs), Conditions Adverse to Quality Reports (CAQRs), Corrective Action Tracking Documents (CATDs), Deficiency Reports (DRs) and NRC inspection findings.

These can be characterized into the following subject areas:

- o inadequacy of criteria and design bases
- o inadequacy of design documents

- o as-built configurations not in conformance with design
- o installation errors
- o inspection documentation inconsistent with as-built configuration
- o incomplete inspections

Based on a review of the elements encompassed by the program, the staff finds the scope adequate to address the known deficiencies and uncover any new problem areas which, if left uncorrected, could jeopardize the health and safety of the public.

3.0 PROGRAM DESCRIPTION

The TYA program can be described as consisting of five major steps which are as follows:

1. Review, correct, update and document the design bases and design criteria for the conduit support system.
2. Review, correct, update and document all existing design output and issue additional documents where guidance is required.
3. Revise construction, maintenance and QA procedures to be compatible with the design output documents.
4. Complete a walk-through procedure over each run of safety-related conduit and develop critical cases for evaluation and complete any necessary corrective action or modifications to hardware.
5. Complete actions to prevent recurrence of this type-problem in the future.

Based on the program description contained in the Corrective Action Program, the staff finds that there is reasonable assurance that the objectives can be met.

4.0 METHODOLOGY FOR EXECUTION

The execution of the program will be based on the sequential completion of the five major steps of the program. Since the program is based on a walk-through procedure which requires all conduit runs and conduit supports to be examined, no special sampling methodology will be involved. Once the criteria and design bases have been successfully revised and updated and the appropriate design documents revised, the program execution will be controlled by the field walk-through effort, performed by qualified engineers. The results of the field walk-throughs then become a key element in the methodology. A critical measure of the effectiveness of the walk-through process is whether different field teams in independent evaluations of the same run of conduit would reach the same conclusions regarding the degree of conformance of the as-built system to the criteria and design documents.

The final key element for the successful completion of this program is development of the critical cases and the corrective actions which must be completed for those instances where the support falls outside the bounds of a critical case.

TVA has defined interfaces required to complete the program. The steps are clearly defined in the program plan in the flow chart.

Based on its review of the program plan, the staff finds the methodology is well-defined and adequate to accomplish the program objectives.

5.0 CONCLUSION

Based on the program as outlined in the Corrective Action Program Plan, the NRC staff concludes that the document describes a plan for action which provides upon successful implementation, an acceptable methodology to assure that the conduit runs are adequately supported for all plant design conditions. The details of the CAP implementation including criteria, methodologies and issue resolution will be evaluated by the staff in future reviews, audits and inspections.

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