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MAY 28 1992

Docket Nos. 50-327, 50-328
License Nos. DPR-77, DPR-79

Tennessee Valley Authority
ATTN: Dr. Mark O. Medford, Vice President
Nuclear Assurance, Licensing and Fuels
3B Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

Gentlemen:

SUBJECT: ENFORCEMENT CONFERENCE SUMMARY (NRC INVESTIGATION
REPORT NO. 2-90-019)

This letter refers to the Enforcement Conference held at our request on May 27, 1992. This meeting concerned activities authorized at your Sequoyah facility. The issues discussed at this conference related to the incorrect information provided to the NRC concerning your electrical conduit testing program. A list of attendees and a copy of your handouts are enclosed. We are continuing our review of these issues to determine the appropriate enforcement action.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10 Code of Federal Regulations, a copy of the letter and its enclosures will be placed in the NRC Public Document Room.

Should you have any questions concerning the letter, please contact us.

Sincerely,

(Original signed by L. Reyes)

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Luis A. Reyes, Director
Division of Reactor Projects

Enclosures:

- 1. List of Attendees
- 2. Cable Test Program Handout

cc w/Encls: (See page 2)

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PDR ADOCK 05000327
G PDR

IE01

MAY 28 1992

Tennessee Valley Authority

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cc w/encls:

Mr. John B. Waters, Director
Tennessee Valley Authority
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400 West Summit Hill Drive
Knoxville, TN 37902

Mr. M. J. Burzynski, Manager
Nuclear Licensing and
Regulatory Affairs
Tennessee Valley Authority
5B Lookout Place
Chattanooga, Tennessee 37402-2801

TVA Representative
Tennessee Valley Authority
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Mr. Michael H. Mobley, Director
Division of Radiological Health
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Nashville, TN 37219-5404

General Counsel
Tennessee Valley Authority
ET 11H
400 West Summit Hill Drive
Knoxville, TN 37902

County Judge
Hamilton County Courthouse
Chattanooga, TN 37402

Mr. J. R. Bynum, Vice President
Nuclear Operations
Tennessee Valley Authority
3B Lookout Place
101 Market Street
Chattanooga, TN 37402-2801

State of Tennessee

bcc w/encls: (See page 3)

Ms. Marci Cooper, Site Licensing
Manager
Sequoyah Nuclear Plant
Tennessee Valley Authority
P. O. Box 2000
Soddy-Daisy, TN 37379

Mr. Jack Wilson, Vice President,
Sequoyah Nuclear Plant
Tennessee Valley Authority
P. O. Box 2000
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Tennessee Valley Authority

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bcc w/encls:

S. D. Ebnetter, RII

L. A. Reyes, RII

J. R. Johnson, RII

G. C. Lainas, NRR

F. J. Hebdon, NRR


P. J. Kellogg, RII

D. E. Labarge, NRR

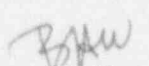
NRC Document Control Desk

NRC Senior Resident Inspector
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Soddy-Daisy, TN 37379

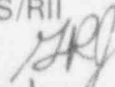
DRP/RII


PKellogg
5/29/92

DRP/RII


BWilson
5/28/92

EICS/RII


GJenkins
-Blye
5/28/92

ENCLOSURE 1

LIST OF ATTENDEES

NRC

L. A. Reyes, Director, Division of Reactor Projects (DRP), Region II (RII)
F. J. Hebdon, Director, Project Directorate II-4, Nuclear Reactor Regulation (NRR)
B. A. Wilson, Chief, Reactor Projects Branch 4, DRP, RII
W. E. Holland, Senior Resident Inspector, DRP, RII
C. J. Kellogg, Chief, Reactor Projects Section 4A, DRP, RII
D. E. LaBarge, Senior Project Manager, NRR
J. B. Brad, Project Engineer, DRP, RII
A. C. Marinos, Section Chief, NRR
G. R. Jenkins, Director, Enforcement and Investigations coordination Staff (EICS), RII
B. Uryc, Senior Enforcement Specialist, EICS, RII
C. E. Evans, Regional Counsel, RII
R. C. Hoefling, Senior Attorney, Office of General Counsel

TVA

M. O. Medford, Vice President, Nuclear Assurance, Licensing and Fuels
D. E. Nunn, Vice President, Nuclear Projects
J. L. Wilson, Vice President, Sequoyah
M. J. Burzynski, Manager, Licensing
J. E. Allen, Chief Engineer
L. M. Cuoco, Attorney, Office of General Counsel

Cable Test Program Enforcement Conference Agenda

- INTRODUCTION - Mark Medford
 - Objectives
 - TVA Inspector General Investigation

- ENGINEERING ASPECTS - John Allen
 - Chronology
 - Preparation Of Calculation 009 In 1987
 - Engineering Corrective Actions
 - Independent Review Of Engineering Practices

- LICENSING ASPECTS - Mark Burzynski
 - Sequoyah Cable Program Letters
 - Identification And Notification Issues
 - Licensing Corrective Actions

- CONCLUSIONS - Mark Medford

Cable Test Program Enforcement Conference

Introduction

- TVA Recognizes Regulatory Significance Of Problems Associated With The Sequoyah Cable Test Program
- TVA Wants To Emphasize The Importance Placed On Open And Forthright Communication With NRC
- Issues Surrounding The Cable Test Program Were Fully Investigated By TVA
- TVA-IG Report And Answers To Specific NRC Questions Were Provided Last Week
- Objective For Today Is To Discuss The Engineering And Licensing Process And Related Corrective Actions

Cable Test Program TVA Inspector General Investigation

- Investigation Initiated In August 1990 When Errors Were Identified In Calculation 009
- Purpose Was To Investigate Cable Test Program Allegations For Misconduct By TVA Employees
- Investigation Conclusions
 - Specific Allegation Not Substantiated
 - Did Not Find Any Misconduct
- Recommendations Provided And Addressed

Cable Test Program Chronology

- 1987 Cable Test Program Activities
- July - August 1989 Calculation 009 Identified As Not Issued As A Result Of Watts Bar Cable Program
- March 1990 TVA Letter To Address Impact Of Watts Bar Cable Pullby Damage On Sequoyah Relied On Unissued Calculation 009
- June 1990 Onwards
 - QA Lock-Back Review Initiated
 - TVA Meeting With NRC On Calculation Errors
 - TVA IG Investigation Conducted
 - Independent Review Of TVA Engineering Processes
 - Cable Program Reevaluation And Additional Cable Testing

Cable Test Program Preparation Of Calculation 009 In 1987

- United Engineer & Constructors Performed The Cable Test Program Work Under Contract To TVA
 - UE&C Made the Errors In Calculation 009
 - TVA Review Of Calculation 009 Was An Overview Of Scope, Methodology, And Results
 - TVA Did Not Review The Appendices That Contained Data

- Calculation 009 Was Never Issued By TVA.
 - TVA Unaware Of Errors In Calculation 009

- TVA IG Concluded That Calculation 009 "Fell Through The Cracks"

- A Number Of Factors Contributed To Failure To Issue
 - Management Changes And Communication Problems
 - Inadequate Definition Of UE&C's Role
 - Nature Of Cable Test Program
 - No Tracking System For Unissued Calculations

Cable Test Program Engineering Corrective Actions

- Cable Program Reevaluation And Additional Testing
- Extent Of Condition Evaluated During QA Look-Back Review
 - Previous Audit Results Reviewed
 - Calculation Database Reviewed
 - Special Programs Evaluated
 - Lead Engineers Interviewed
- Condition Limited To Special, Unique Calculation Applications
 - Non-Design Change Related Calculations
 - Non-Design Basis Related Calculations
 - This Classification Put Calculation Outside Scope Of Normal QA Review
- 4 Unissued Calculations Identified And Resolved

Cable Test Program Engineering Corrective Actions (Cont.)

- TVA Has Significantly Improved And Standardized Engineering Work Practices Since 1987 (e.g. Calculations, Design Control, And Contractor Management)
- TVA Has Improved Its Ability To Manage Engineering Contract Work (e.g. Limiting Number Of Contractors And Controlling Scope)
- Response To TVA IG Recommendations
 - Training Was Conducted With Sequoyah Managers
 - Actions Regarding TVA Employees
 - Independent Review Of Engineering Practices

Cable Test Program

Independent Review Of Engineering Practices

- Independent Review Conducted By ERC Environmental And Energy Services Co.
 - To Determine Work Process Deficiencies Present In 1987 That May Have Contributed To Cable Program Problems
 - To Determine Whether Corrective And Preventive Actions Have Been Taken To Remove The Deficiencies
 - Provide Any Recommendations Regarding Work Processes Reviewed

- Areas Evaluated Include The Following:
 - Calculations And Engineering Records
 - Procurement Of Engineering Services
 - Corrective Actions
 - Engineering Review
 - Testing/Engineering Support
 - NRC Interface/Commitment Identification & Tracking
 - Training
 - Responsibilities

Cable Test Program Independent Review (Cont.)

- Conclusions About The 1987 Cable Test Program Work
 - Essential Engineering Work Processes Were In Place
 - Failure To Use And Adhere To Existing Procedures
 - Inadequate Ownership For Various Engineering Work
 - Insufficient Contractor Oversight And Management

- Conclusions Regarding The 1991 Work Processes
 - Work Processes Are Significantly Improved Especially In The Areas Of Calculations, Design Control, And Procurement Of Engineering Services
 - Communications And Clarification Of Roles Between Corporate And Site Engineering Has Improved
 - Lead Engineers Informed Of Open Calculations In CCRIS On Monthly Basis

- Several Good Recommendations Made To Improve Work Processes
 - Many Have Already Been Acted On
 - Others Are Being Evaluated For Action

Cable Test Program Sequoyah Cable Program Letters

- November 20, 1987 Cable Letter
 - Licensing Process Relied On Prepared, Checked, Reviewed, And Approved Cable Test Report
 - Cable Report Was Reviewed To Ensure That It Conformed With Cable Test Program Plan
 - Licensing Process Did Not Independently Check Report For Correctness

- March 28, 1990 Cable Letter
 - Technical Information Prepared By Engineering
 - Letter Addressed 3 Specific Questions
 - Peer Review And Calculations Used To Ensure Technical Accuracy
 - Limited Use Of Calculation 009 To Determine The "Screened Out" Conduits And The 15 Tested Conduits

- 15 Worst Case Conduits Discussed In The Two Letters Were Invalidated By Errors In Calculation 009 That Affected The Ranking Of Conduits

Cable Test Program Identification And Notification Issues

- Identification Of Unissued Calculation
 - TVA IG Concludes Some Engineering Managers Learned in July - August 1989 That 009 Was Unissued
 - Errors Made in Not Initiating CAQR, Pursuing Resolution, And Informing NRC
- Several Factors Contributed To These Errors
 - Given Low Priority (Administrative Problem)
 - Effort Involved To Resolve Administrative Issues
 - Perceived Resource Priorities
 - Insensitivity To Importance Of Problem Identification
- TVA IG Did Not Find That Any Employee Intentionally Tried To Mislead Or Deceive NRC
- Actions Taken By TVA In 1990 To Change Personnel Attitudes About Problem Identification (e.g. Lower Threshold For Reporting And Use Of Single Reporting Document)

Cable Test Program Licensing Corrective Actions

- TVA Has Previously Strengthened Process Used To Prepare Correspondence To NRC (Reference March 24, 1989 Letter)
 - Explicit Reference To 10 CFR 50.9 In Procedures
 - Identifies Individual Responsibilities And Accountabilities
 - Provides Guidelines For Objective Evidence
 - Reinforces Accountabilities Through Concurrence
 - Has Provisions For Independent Verification

- General Employee Training Reviewed And Contains Appropriate Discussion Of Completeness And Accuracy Requirements

- Training Module Developed In April 1991 For Use By
 - Training To Reinforce Requirements for Letters To NRC
 - Training Information Reviewed With Key Sequoyah Managers During Summer 1991
 - Specific Training Given To Sequoyah Engineering Managers On Importance Of Open And Forthright Communication With NRC in July 1991
 - Training Module Is Applicable To All TVA Sites And Is Designed To Be Given On An Annual Basis

Cable Test Program Conclusions

- TVA Engineering And Licensing Programs Have Been Reviewed And Enhanced And Are Significantly Improved
- Failure To Aggressively Resolve Problems With 009 Was An Error Made By Small Group During Heavy Work Period
- Actions Of These Individuals With Regard To Calculation 009 Should Be Judged Against Knowledge At That Time And Not What Is Known Today
- TVA's Corrective Actions Appropriate And Thorough