

OCT 30 1987

official

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

Tennessee Valley Authority
ATTN: Mr. S. A. White
Manager of Nuclear Power
6N 38A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Gentlemen:

SUBJECT: MEETING SUMMARY - SEQUOYAH, DOCKET NOS. 50-327 AND 50-328

This refers to the management meeting conducted, at our request, at the Sequoyah site on September 24, 1987. The meeting was held to discuss concerns related to: TVA's handling of current matters involving equipment operability problems; and the scope of TVA's corrective programs for past and current operational events. A summary of the meeting topics is provided in Enclosure 1. A list of attendees at the meeting is shown in Enclosure 2.

It is our opinion that this meeting was beneficial in that we feel it provided both the NRC and TVA a better understanding of the issues. As discussed in the meeting, specifics on the recent NRC review of TVA's responses to violations associated with the 1984 thimble tube ejection event have been issued with Inspection Report 50-327,326/87-50. Additionally, TVA commitments regarding the containment spray system are provided in Enclosure 1.

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

Should you have any questions concerning these matters, we will be pleased to discuss them.

Sincerely, ORIGINAL SIGNED BY
GARY G. ZECH

Gary G. Zech, Assistant Director
for Inspection Programs
TVA Projects Division
Office of Special Projects

Enclosures:

1. Meeting Summary
2. Meeting Attendees

cc w/encls: (See page 2)

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cc w/encls:

- ✓ H. L. Abercrombie, Site Director
Sequoyah Nuclear Plant
- ✓ J. A. Kirkebo, Director,
Nuclear Engineering
- ✓ R. L. Gridley, Director
Nuclear Safety and Licensing
- ✓ M. R. Harding, Site Licensing
Manager
- ✓ TVA Representative, Bethesda
Office

bcc w/encls:

- ✓ J. G. Keppler, OSP
- ✓ S. D. Ebner, OSP
- ✓ J. A. Zwolinski, OSP
- ✓ B. D. Liaw, OSP
- ✓ S. D. Richardson, OSP
- K. P. Barr, OSP/RII
- F. McCoy, OSP/RII
- R. Carroll, OSP/RII
- Brady, OSP/RII
- ✓ ~~Resident~~ Resident Inspector
NRC Document Control Desk
State of Tennessee
- ✓ J. Rutberg, OGC

OSP/RII

RC
RCarroll:er
10/14/87

OSP/RII

FM
FMcCoy
10/28/87

OSP/RII

KB
KBarr
10/26/87

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ENCLOSURE 1

On September 24, 1987, representatives of Tennessee Valley Authority (TVA) met with the Office of Special Projects-NRC, at NRC's request, at the Sequoyah site. The purpose of the meeting was to discuss concerns related to: TVA's handling of current matters involving equipment operability problems; and the scope of TVA's corrective programs for past and current operational events.

NRC opened the meeting by telling TVA that their handling of current equipment operability problems had raised concerns by the staff. The specific matters prompting these concerns were then briefly summarized as follows:

- (1) Auxiliary Feedwater (AFW) Pump 2A-A; Following installation of the cavitating venturi in 1984, the pump could not deliver 440 GPM (bases for Technical Specification (TS) D/P value). Subsequently, TVA analysis identified that a flow of 400 gpm, would provide adequate cooling capacity, and Unit 2 was returned to power operations without disposition of the TS test value. The NRC staff considered that TVA did not implement 10 CFR 50.59 adequately in that a Technical Specification change was required and not requested and commission approval for the modification and degraded flow condition was not obtained. The NRC was concerned that without recent NRC intervention, this condition would not have been adequately resolved prior to restart.
- (2) Hydrogen Analyzers; Both Unit 2 trains appear to be inoperable due to initial design and construction deficiencies. After being made aware of NRC concerns, TVA determined the system to be adequate without proper walkdown and evaluation. If not for NRC involvement since November 1986, the deficiencies would have gone undetected and uncorrected.
- (3) Essential Raw Cooling Water (ECRW) Screen Wash System and Strainer Backwash System; Screen differential level detectors have been defective since 1980. Power was removed from screen wash and strainer backwash pumps on May 16, 1986, such that automatic operation was defeated. The system was used in intermittent manual operation only. There was no safety evaluation performed or formalized procedure for system control in this state. Night orders were used to control it. Furthermore, there were no established provisions for assuring maintenance of screens and strainers during an event.
- (4) ERCW Skid Valves; ERCW supply to safety injection and coolant charging pumps passes through unlabeled and uncontrolled in-line valves located on the pump skids. This condition has existed since initial startup and has remained uncorrected until NRC identification in August 1987 despite Design Baseline Verification Program (DBVP) and associated surveillance instruction (SI) system walkdowns performed by TVA.
- (5) Containment Spray (CS) System; During preoperational testing, pump head inadequacies were discovered and flow orifices were installed in both units to increase pump D/P without addressing or verifying the affect on system flow. The inappropriate orifice installation and the resultant reduction in CS flow, was identified through TVA's special Nuclear Performance Plan (NPP) programs for DBVP and restart testing. The NRC feels

Enclosure 1

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that the identified hardware problem would have been corrected by TVA prior to heatup. However, the Condition Adverse to Quality Report (CAQR) identifying this problem was marked with "reportability" indeterminate. It was not until three months later that the CAQR was revised to be reportable. Consequently, the NRC is concerned on how timely TVA will be on determinations involving equipment operability and event reportability when the units are operating.

In response to the individual matters addressed above, the following comments were made:

- (1) AFW Pump 2A-A; TVA stated that when the flow rate dropped in 1984 after installing the cavitating venturi, they had Westinghouse perform an analysis. The analysis supported a flow rate of 400 GPM and the related surveillance instruction was changed accordingly. TVA stated that this matter was informally discussed with the NRC staff and based on this discussion, TVA felt the subsequent restart in 1985 was okay. However, TVA indicated that they had always intended to restore the flow rate back to 440 GPM as evidenced by the fact that they replaced the flow venturi during this current outage. Additionally, they said the pump's impeller was just recently replaced when it became evident to them that the NRC had related concerns.

NRC pointed out to TVA that when the flow rate of 440 GPM could not be obtained, the modification made to AFW pump 2A-A no longer met the requirements of 10 CFR 50.59. Consequently, a TS change was required prior to Unit 2 restart in 1985. TVA acknowledged this and indicated that they have taken corrective actions to assure such occurrences are prevented in the future. Stated corrective actions include an independent review of the engineering safety evaluation by licensing personnel prior to the performance of related work, as well as a licensing review of the work plan after the work is complete to assure no changes, test deficiencies, etc. have occurred.

- (2) Hydrogen Analyzer; The licensee indicated that this system had been plagued with installation problems (ie., piping, power supplies, reagent air supplies etc.). TVA's determination that the system was adequate without doing a proper walkdown or evaluation, was attributed by TVA to be an attitude problem of both the lower and middle management involved. In part, this situation was considered to be an engineering/operations interface problem. Accordingly, TVA indicated plans to acclimate and train their design engineering staff on TSs and their importance to the plant. Additionally, TVA suggested that SI repeatability problems may have led TVA to correct some of the system's deficiencies prior to restart.
- (3) ERCW Screen Wash System and Strainer Backwash System; TVA was in agreement with NRC's dissertation of the problem. They expressed a new policy of no longer accepting such conditions. To assure that similar situations don't exist, TVA indicated that night orders, hold orders and temporary alteration control forms were presently being reviewed, and an enhanced staff interview process was in progress to identify similar type problems. At the time of the meeting, there

had been no similar problems found. However, a large majority of night orders were found to provide instructions on the use and manipulation of safety-related equipment. These night orders were in the process of being eliminated and appropriate procedural instructions were being written in their place. The existing night order instruction (USLA-30) was also being changed to provide better guidance in this area. Additionally, some long standing tagouts (hold orders) were found to be in effect, providing isolation of nonessential or partially eliminated equipment. An unresolved safety question determination (USQD) was made for each of these items, and the hold order procedure (AI-3) was being changed to ensure an USQD is performed for such long term tagouts during the yearly review/rewrite of existing hold orders in effect. The licensee also indicated that enhancements made to the procedural change process through the new PORC operation, as well as recent stream lining of the design change process, have helped eliminate these contributing factors to the problem.

- (4) ERCW Skid Valves; TVA pointed out that the DBVP walkdowns would not have identified the existence of the skid valves; however, the walkdown associated with the related SI review should have. The fact that it didn't was attributed to personnel error. At the time of the meeting, TVA was in the process of looking at other skid mounted equipment, and had yet to find any similar type control problems. The licensee stated that prior to restart, related procedures would be changed accordingly to ensure control of the skid valves. Additionally, TVA indicated that all valves in the 37 systems reviewed during the DBVF will have tags and label plates before restarting.
- (5) CS System; TVA indicated that the related deficiency was identified as a heatup item, and that the CAQR was marked indeterminate because more information was requested to support an engineering evaluation. Since CS is not required in mode 5, TVA saw no immediate urgency attached to the engineering evaluation. TVA assured the NRC that when an apparent problem like the CS issue is identified while operating, the appropriate TS action is taken immediately, and the engineering evaluation is performed in parallel.

When questioned as to who was aware of the "indeterminate" CAQRs, the licensee indicated it was the Plant Operational Review Staff (PORS) supervisor; and it was he who informed the plant if the identified problem is a TS operability issue. The NRC told TVA that they should consider keeping the operations management (i.e., Plant Manager, Site Director, Assistant Site Director, etc.) informed of all "indeterminate" CAQRs and not rely solely on the PORS supervisor's discretion. TVA acknowledged the concern and said they would pursue an amenable solution. To help bridge the gap between operations and engineering, TVA said they planned to put design engineers in the system engineering group to allow them first hand knowledge of system test results and equipment problems.

Additionally, discussion specifically related to the CS system led to the following licensee commitments:

- (a) Perform an engineering evaluation of the test results for CS pump 2A and verify that test data is not indicative of possible pump failure.
- (b) Look into scaling control room indication using test results from previous tests.
- (c) Review the location of the ANUBAR flow instruments and evaluate the possibility of any needed modifications.
- (d) Verify heat exchanger D/P during each SI or ASME section XI testing of the pump and add an acceptable fouling factor.

Having completed the discussion of current operational matters, the meeting focused in on the recent NRC review of the 1984 thimble tube ejection event. Specifically, NRC expressed the concern that TVA's responses of two of the related violations (50-327,328/84-24-01 and 02) indicated an inadequate root cause analysis, resulting in corrective actions that may not be appropriate to preclude recurrence. TVA was told that the specifics of the NRC review would be issued in Inspection Report 87-50. At that time TVA would be requested in writing to evaluate NRC concerns in this area, and identify whether corrective actions associated with recent operational events, such as the reactor coolant spill events of February and April 1987, encompass these concerns. Additionally, TVA was told that they should identify what actions they consider necessary to assure that problems are adequately analyzed for root cause in order that appropriate corrective actions are identified. TVA indicated that they understood, and would proceed with their own review.

The meeting was brought to a close with the general understanding that the current equipment operability matters discussed in this meeting were still under NRC evaluation for potential enforcement action.

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ENCLOSURE 2

Meeting Attendees

U. S. Nuclear Regulatory Commission

S. D. Ebnetter, Director, Division of TVA Projects (TVAPD), OSP
G. G. Zech, Assistant Director for Inspection Programs, TVAPD, OSP
K. P. Barr, Deputy Assistant Director for Inspection Programs, TVAPD, OSP
F. R. McCoy, Section Chief, Sequoyah
R. E. Carroll, Jr., Project Engineer, Sequoyah
K. M. Jenison, Senior Resident Inspector, Sequoyah
P. M. Harmon, Resident Inspector, Sequoyah
W. K. Poertner, Resident Inspector, Sequoyah
M. W. Branch, Startup Coordinator, Sequoyah

Tennessee Valley Authority

C. C. Mason, Deputy Manager, Office of Nuclear Power
H. L. Abercrombie, Site Director, Sequoyah Nuclear Plant
J. LaPoint, Assistant Site Director
L. M. Nobles, Plant Manager
R. Lewis, Assistant to the Plant Manager
M. R. Harding, Engineering Group Manager
R. H. Buchholz, Sequoyah Site Representative
L. E. Martin, Manager, Site Quality
J. H. Sullivan, Supervisor, Plant Operational Review Staff
J. Hosmer, Division of Nuclear Engineering
R. H. Scheide, Licensing Engineer