



Tennessee Valley Authority, Post Office Box 2000, Soddy-Daisy, Tennessee 37379

J. L. Wilson
Vice President, Sequoyah Nuclear Plant

August 13, 1992

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of)
Tennessee Valley Authority)

Docket Nos. 50-327
50-328

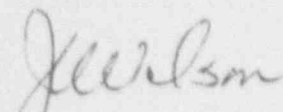
SEQUOYAH NUCLEAR PLANT (SQN) - FIRE PROTECTION IMPROVEMENT PLAN QUARTERLY STATUS REPORT

A working meeting between TVA and NRC was held at SQN on August 19, 1991, to discuss the self-identified problems in SQN's fire protection program and the improvement plan efforts initiated by TVA. As a result of this meeting, TVA agreed to submit a quarterly status report to inform NRC on the progress of efforts made in conjunction with the improvement plan.

The most recent quarterly status report identifying progress achieved and areas needing further action is included as Enclosure 1. Changes to the improvement plan are identified in Enclosure 2. The scheduled completion date for Phase III is October 1, 1993, with the majority of the items expected to be finished near the end of the period. Therefore, upon completion of Phase II, presently scheduled for October 1, 1992, the status reporting period will be changed to semiannual.

If you have any questions concerning this submittal, please telephone M. A. Cooper at (615) 843-8422.

Sincerely,


J. L. Wilson

Enclosures
cc: See page 2

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Enclosures

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ENCLOSURE 1

FIRE PROTECTION IMPROVEMENT PLAN - STATUS FOR PERIOD ENDING JUNE 1, 1992

Phase I - Phase I is Complete

Phase II - Targeted Completion Date October 1, 1992

- 2-1 Perform independent Fire Protection assessment to assess that actions taken in Phase I are properly implemented and effective.

Status: This item is complete. The Site Quality organization has assessed the Phase I items and has found the implementation and effectiveness adequate. Additionally, the NRC inspection conducted in May 1992 closed all open Fire Protection unresolved items (URIs) and licensee event reports (LERs) and concluded the program appeared to be effective.

- 2-2 Implement revised specification G-40 requirement to show cable routing leg using document change authorization sketches with required zones and tolerances called out. If walkdown is required, coordinate with fire hazard analysis (FHA) walkdown.

Status: This item is complete. A walkdown is not required. The walkdown of cable routes is performed on an as-needed basis as determined by the task engineer.

- 2-3 Ensure that Sequoyah Nuclear Plant (SQN) fire protection design and site-specific implementing instruction (for design) adequately reflect design criteria and general engineering specifications issued from corporate Nuclear Engineering.

Status: This item will be accomplished simultaneously with Item 2-15. This item will involve review of design standards, design guides, engineering specifications, and design criteria. During the implementation of Phase I and Phase II items, it was determined that the appropriate time to update the design criteria would be after the completion of Phase II. This would allow the incorporation of ongoing activities, such as the updating of the safety function position statements (SFPSs) and the reviews of other design documentation into the design criteria. This will be tracked as part of Phase III of the Fire Protection Improvement Plan (refer to Item 3-9).

As part of the Phase II effort, a review of the design standards, design guides, and engineering specifications is being performed. This review is to identify requirements reflected in the documents such that they can be included in the revisions to take place as part of Phase III.

- 2-4 Review SQN Q-List versus respective engineering drawings to ensure that all fire protection components are correctly classified.

Status: This item is complete. A weighted, average sample of 500 out of 2,750 Q-List components was reviewed for correct classifications. The results indicated that 0.6 percent of the reviewed Q-List items were underclassified. Based on this sample, the review of all Q-List components is not necessary.

- 2-5 Evaluate system modifications to enable performance of a main drain test and to assist in the draining of the system following actuation.

Status: This item is not started, but no problems that will delay completion of this action are anticipated at this time.

- 2-6 Incorporate safety function position statements into a controlled QA record and ensure that they are updated on a periodic basis.

Status: This item is 60 percent complete.

- 2-7 Recheck and/or revise Calculation SQN-CSS-023 to ensure that interactions are adequately and consistently dispositioned.

Status: This item is complete.

- 2-8 Complete Appendix R analysis of the turbine trip logic.

Status: This item is considered complete. The manual turbine trip actions are not located in the auxiliary building and, thus, would be unaffected by potential fires in the auxiliary building. Tripping of the turbine from the main turbine front standard involves activation of a mechanical lever to achieve turbine trip. Stopping of the electrohydraulic control system pumps at the local pump control station can also be used to achieve turbine trip.

The licensing basis for Appendix R does not require an assumption of "random single failures" and therefore, unavailability of multiple pieces of equipment outside the same fire zone is not credible. The licensing basis also stipulates that no design basis events, except loss of offsite power, are considered concurrent with a postulated fire.

Based on the above, it is not considered necessary to do additional Appendix R analyses on the turbine trip assumption used in the safety function position statement for the steam generator secondary side isolation.

- 2-9 Review a valid sample of design change notices (DCNs) and evaluate the need to perform field walkdown for Appendix R considerations on all DCNs and establish future policy.

Status: This item is complete. Review of 38 DCNs did not indicate any areas of deficiencies. Therefore, no further actions are warranted.

- 2-10 Perform plant walkdown procedure to update FHA.

Status: This item has been rescheduled to Phase III. See Item 3-5. This walkdown and the penetration seal data base revisions are closely related and will be accomplished simultaneously.

- 2-11 Develop program and train Modifications personnel in basic Appendix R requirements.

Status: This item is complete. A detailed orientation program for Modifications and/or craft personnel has been developed explaining the Appendix R requirements at SQN. The qualification card system to monitor the training was not incorporated into the new training and/or orientation program. Orientation training for Modifications contracted personnel is in place. Constructibility walkdowns by Nuclear Engineering are being performed to ensure adequacy of design. Design reviews are being conducted by Operations' Fire Protection technical personnel to ensure design aspects are covered.

- 2-12 Revise O-SI-SFT-026-002.0 to incorporate the following:

- a. The demands of all of the standpipe and sprinkler systems should be identified and documented.
- b. The commitments and requirements for operation of the system with a single impairment and the type of impairment and any requirements for feed via the two 8-inch supply headers should be identified and documented.
- c. The acceptance criteria should be based upon the flow and pressure required at various points in the system and not upon a single point.
- d. Other items to be considered for this revision are the trending of data to identify degradation, use of "alert" values to identify an adverse trend and possibilities for flow testing of each sprinkler and standpipe system to accurately quantify the flows and pressures at various locations.

Status: This item is in progress with an expected completion date of August 30, 1992. This procedure will measure the flows at the most limiting cases in the plant for the auxiliary building.

- 2-13 Revise prefire plans into prefire plan manual to add and clarify information.

Status: This item is in progress and on schedule.

- 2-14 Upgrade the preventive maintenance (PM) program for fire protection related hardware.

Status: The preventive maintenance program has been updated for the hydraulic suppression system (i.e., System 26). Additional recommendations are being suggested as a result of the reliability-centered maintenance program. A schedule is being developed to incorporate the carbon dioxide (CO₂) (System 39) components into the upgraded PM program. It was concluded that the surveillance and inspection requirements presently in place for the remaining components (i.e., barriers, detectors, extinguishers, fire hose, and SCBAs) are adequate, and no further action is required.

- 2-15 Review fire protection design documentation (i.e., compartmentation drawings, and general design criteria) for accuracy and completeness.

Status: This item is ten percent complete and ongoing. No discrepancies have been identified at this time. This item will be combined with Item 2-3 and completed in Phase III (refer to Item 3-9).

- 2-16 Recommend to SQN plant management the permanent Fire Protection organization requirements for SQN based on program needs and requirements.

Status: The present Fire Protection Manager is working with plant management and interviewing for a permanent Fire Protection Manager. The current plan is to fill the Fire Protection Manager position and then the Fire Protection engineer and/or specialist position. Following the filling of the managerial and technical positions, the base load of work in the Fire Protection organization will be evaluated and a determination made as to the most effective way for performing maintenance and surveillance activities. This effort is expected to be complete by October 1, 1992.

- 2-17 Complete remaining procedure reviews.

Status: The procedural upgrade effort is progressing. Although the majority of the procedural enhancements have been made, procedures will continue to be reviewed and revised as necessary, based on plant needs and requirements. This base effort is expected to be complete by October 1, 1992.

- 2-18 Evaluate flows at diesel generator building hose stations and determine corrective actions.

Status: This item is in progress. Problems were identified in the diesel generator hose station calculation for a 40-year life expectancy. During subsequent analyses, conservative errors were identified in the computer models. Before the end of Phase II, the appropriate calculations will be revised and any corrective actions formulated.

Phase III - Targeted Completion Date October 1, 1993

- 3-1 Perform independent Fire Protection assessment to assess that actions taken in Phase II are properly implemented and effective.

- 3-2 Issue revised FHA.

Status: This item is in progress. The contractor to perform this task is in place and completion is expected in July 1993 in conjunction with the penetration seal documentation effort.

- 3-3 Perform life-cycle analysis on high-pressure fire protection components and provide replacement recommendations.

Status: This item has not been started.

- 3-4 The Fire Protection Manager is to review previous commitment items for effectiveness and completeness to ensure the improvement program has adequately addressed and implemented proposed corrective actions. This item will be accomplished in conjunction with the independent assessment described in Item 3-1.

Status: This item has not been started.

- 3-5 Perform plant walkdown procedure to update FHA.

Status: The contractor is in place, and walkdowns are in progress. The expected completion date for FHA and penetration seal data base revisions is July 1993.

- 3-6 Evaluate the necessity of field verification of the FHA and establish methods as appropriate before issuance of the FHA.

Status: The FHA is to be field-verified by the walkdown as described in Item 3-5. The means to keep this document current will be incorporated into the revised FHA before issuance.

- 3-7 Issue a design package for Project Control No. 607, Fire Suppression/System Upgrade.

Status: This item is now scheduled to be completed in Phase IV (refer to new Item 4-4).

- 3-8 Complete evaluation of the mechanical and electrical fire barrier penetration seals in accordance with the guidelines in Information Notice No. 88-04 (replaces Action 4-2).

Status: This evaluation will be combined with the plant walkdown effort as described in Item 3-5.

- 3-9 Ensure that SQN fire protection design and site-specific implementing instruction (for design) adequately reflect design criteria and general engineering specifications issued from corporate Nuclear Engineering.

Status: This item is ten percent complete. After complete scoping of this item and review of ongoing activities, it has been determined that this item will be completed in April 1993.

Phase IV - Targeted Completion December 1, 1994

- 4-1 Perform independent Fire Protection assessment to assess that actions taken in Phase III are properly implemented and effective.

- 4-2 Complete evaluation of the mechanical and electrical fire barrier penetration seals in accordance with the guidelines established in NRC inspection and enforcement notice evaluations.

Status: This item has been rescheduled to be completed during Phase III (see Item 3-8).

- 4-3 Issue remaining updated design documentation to support final compilation into the SQN fire protection report and establish a process to maintain documentation current.

Status: Compilation of design material and documentation is in progress. Current design control processes are considered adequate to maintain the documentation current.

- 4-4 Issue a design package for Project Control No. 607, Fire Suppression/System Upgrade.

Status: This item has been rescheduled to be completed December 31, 1993.

ENCLOSURE 2

CHANGES TO THE FIRE PROTECTION IMPROVEMENT PLAN

Phase II

- 2-11 Qualification cards will not be used to document the adequacy or content of training of Modifications personnel as originally planned.

Phase III

- 3-9 This item was originally described in action Items 2-3 and 2-15.

Review and ensure that the SQN fire protection design and site-specific implementing instruction (for design) adequately reflect design criteria and general engineering specifications issued from corporate Nuclear Engineering.

This item is ten percent complete. After complete scoping of this item and review of ongoing activities, it has been determined that this item will be completed in April 1993.

Phase IV

- 4-2 Complete evaluation of the mechanical and electrical fire barrier penetration seals in accordance with the guidelines established in NRC Inspection and Enforcement Notice 88-04. The documentation of this evaluation shall be placed in the plant's formal retrieval system that documents NRC IE notice evaluations.

This item has been rescheduled to be accomplished during the Phase III timeframe (refer to Item 3-8).

- 4-4 Issue a design package for Project Control No. 607, Fire Suppression/System Upgrade.

This item was originally Item 3-7; however, because of funding and resource limitations, the item is expected to be completed during Phase IV. The scheduled completion date is December 31, 1993.