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November 6, 1992

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

Gentlemen:

In the Matter of)	Docket Nos. 50-327
Tennessee Valley Authority)	50-328

SEQUOYAH NUCLEAR PLANT (SQN) - TECHNICAL SPECIFICATION CHANGE 91-09,
CONTAINMENT RADIATION MONITOR ISOLATION, REQUEST FOR ADDITIONAL
INFORMATION RESPONSE (TAC NOS. M81384 AND M81385)

- References:
1. NRC letter to TVA dated March 12, 1992, "Technical Specification Change 91-09, Containment Radiation Monitor Isolation, Request for Additional Information - Sequoyah Nuclear Plant, Units 1 and 2 (TAC Nos. M81384 and M81385)"
 2. TVA letter to NRC dated August 27, 1991, "Sequoyah Nuclear Plant (SQN) - Technical Specification (TS) Change 91-09, Revision of Containment Radiation Monitor Requirements"

TVA submitted TS Change Request 91-09 to NRC by Reference 2. During NRC's review, questions were identified that required additional information to support NRC's approval of the requested TS change. TVA provided answers to questions in telephone conferences held on January 21, February 4, February 20, and March 2, 1992. NRC subsequently provided the questions requiring additional information by Reference 1 and requested TVA to document the answers that were verbally discussed in the telephone calls and address remaining NRC questions. The enclosure to this submittal provides TVA's written response to the NRC questions.

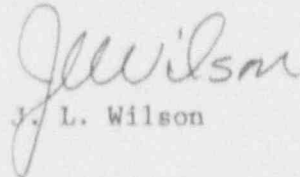
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Please direct questions concerning this issue to K. C. Weller at
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Sincerely,



J. L. Wilson

Enclosure

cc (Enclosure):

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ENCLOSURE

Responses to NRC's Request for Additional Information Technical Specification (TS) Change 91-09

1. "In the justification for the proposed Technical Specification (TS) amendment, TVA noted that the Containment Gas and Particulate Radiation Monitors do not provide any primary safety functions for containment valve isolation (CVI) in the Sequoyah Final Safety Analysis Report (FSAR). However, in the amendment request, TVA did not explain why the CVI signal associated with the radiation monitor is in the TS. Thus, the staff has found it difficult to ensure that deletion of the CVI from the TS will not result in an unreviewed safety question. The staff requests that TVA describe the original basis for inclusion of the CVI signal in the TS, and an explanation of why, based on this information, the CVI is no longer needed."

Response:

Section 12.2.4.1.2 of the FSAR states, "The initiation of containment ventilation isolation by channels RE-90-106A, RE-90-106B, RE-90-112A, and RE-90-112B is a design feature that pre-dates the provision of the containment purge exhaust monitors in the plant design." Decisions were made to maintain the CVI actuation function for the existing containment radiation monitors as a conservative design measure upon the addition of the containment purge radiation monitors even though they were not assumed in the accident analysis. The spurious CVI actuations that SQN has experienced from these monitors during operation were not anticipated.

The NRC standard TSs in use at the time SQN was licensed included requirements for CVI. Both sets of radiation monitors were included because they were installed in the plant. In general, the instrumentation section of the standard TSs reflected installed equipment rather than just that assumed in the accident analysis (e.g., see Bases for reactor protection system channel). On the other hand, no standard TS existed at that time for the filtration system of the reactor building purge ventilation system (RBPVS) and none was proposed by NRC. These conditions were accepted by the staff in NUREG-0011, Section 16.0 (page 16-1), which states, "Furthermore, the limiting conditions for operations and surveillance requirements will assure that necessary engineered safety features will be available in the event of malfunctions within the plant." Since initial licensing, standard TSs have changed with respect to CVI and RBPVS. The technical justification for the deletion of the CVI signal has been provided in proposed TS Change 91-09, and it is consistent with the current licensing basis for SQN. The deletion of the CVI initiation signal from the containment radiation monitor channels will reduce some diversity for CVI actuation; however, it will not reduce any redundancy or diversity in the safety analysis (reference FSAR Sections 15.4.5 and 9.4.7.3).

In summary, TVA concludes that the existing CVI actuation from the containment radiation monitors provides additional but unnecessary isolation capability relative to other design features and the SQN accident analysis assumptions. Spurious or inadvertent actuations from these radiation monitors needlessly challenge isolation safety systems.

2. "The staff noted that, even though credit is not taken for the purge radiation monitors in the FSAR, credit is taken for cleanup of a release due to a fuel handling accident using the Reactor Building Purge Ventilation System (RBPVS), an engineered safety system consisting of HEPA filters and charcoal absorbers. The FSAR further states that during refueling operations, the containment will either be isolated or ventilated through the RBPVS. This commitment was also noted in Section 15.4.2 of the staff's SER during the operating licensing phase. Credit for this Engineered Safety Feature was noted in the same section.

"However, staff review of the proposed amendment has determined that there are no TS [SIC] that define the operability or surveillance requirements for the RBPVS. Consequently, removal of the isolation function presently served by the Containment Gas and Particulate Radiation monitors would remove a TS-controlled safety feature that could limit the potential consequences of a fuel handling accident and remove the only radiation monitor that is required to be operable in all modes that could initiate a CVI. Therefore, it appears that the analysis for the fuel handling accident inside the containment is not supported by the proposed amendment.

"Provide the basis for not having a TS on the RBPVS and justification for the proposed removal of the isolation function of the Containment Gas and Particulate monitors without having such a TS."

Response:

While it is true that the containment gas and particulate radiation monitors are a TS-controlled feature, the CVI feature is redundant to that of the RBPVS radiation monitors, which are similarly TS controlled. In addition, while TS 3.3.3.1 currently requires the containment gas and particulate radiation monitors to be operable in "ALL MODES," it also requires the RBPVS radiation monitors to be operable in all modes except Mode 5 in which containment integrity is not required. Also, TS 3.9.9 requires the CVI system to be operable during "CORE ALTERATIONS" or movement of irradiated fuel within the containment. From the combination of the above constraints, there are no additional credible failure modes for which the RBPVS radiation monitors do not provide adequate coverage as required by the accident analyses.

With respect to the RBPVS filtration system, not only is the system of the same design as the other engineered safety feature filtration systems, but the filters have been and are currently administratively controlled and tested in a method consistent with the other TS filtration systems in accordance with the parameters defined in the FSAR, which is maintained current with accident analysis. Further, during the initial licensing of SQN, the NRC staff was aware that the RBPVS filtration system was considered to be an emergency safety feature (ESF) system; however, incorporation into the SQN TSs was not considered to be necessary.

In an effort to eliminate any perceived confusion between the FSAR and TSs, TVA is working with Westinghouse Electric Corporation to complete an evaluation of the SQN fuel handling accident inside containment without taking credit for the RBPVS high-efficiency particulate air filters and charcoal adsorbers. This analysis will utilize the containment ventilation isolation features as actuated by the containment purge radiation monitors for ensuring compliance with 10 CFR 100 requirements. Operability of the containment purge radiation monitors and isolation valves will continue to be required by the SQN TSs and is designed with appropriate redundancy and functionality to satisfy safety-related design requirements.

This ongoing analysis has no bearing on the requested TS change relative to CVI actuation radiation monitor sources. No credit is presently taken or will be taken for any CVI actuation from the containment radiation monitors. Instead, these monitors will only be used to provide the RCS leak-detection functions. Therefore, the processing of the CVI actuation deletion for the containment radiation monitors proposed by TS Change 91-09 is not affected by the current ESF status of the RBPVS filters and adsorbers or the future proposed reanalysis.

3. "TS Surveillance Requirement 4.9.9 requires that CVI operability tests be performed using a test signal from the 'containment radiation monitoring instrumentation channels.' Presumably, the referenced instrument channels consist of the Containment Purge Radiation Monitoring System and the Containment Gas and Particulate Radiation Monitoring System. Since the containment radiation monitoring function of the Containment Gas and Particulate Radiation Monitors is not affected by the proposed TS change, explain why this TS requirement is not affected by the proposed amendment."

Response:

TVA evaluated the impact to TS 4.9.9 during the preparation and review of TS Change 91-09 and determined that a revision to this surveillance requirement (SR) was not necessary. This was based on the position that containment radiation monitoring instrumentation channels applicable to this SR would be limited to the radiation monitors that have CVI actuation capability. Therefore, the application of this SR to the upper- and lower-containment radiation monitors, after deletion of CVI actuation circuitry, would not be achievable and was considered to no longer apply to these monitors. In order to prevent any confusion with the application of SR 4.9.9, TVA is amenable to the modification of this SR to clarify that it only applies to the containment purge air exhaust radiation monitors. This clarification of the SR would not alter any of the discussions previously provided in the original TS Change 91-09 submittal or significant hazards evaluation. The addition of this "clarification" to the TS amendment would be considered a clarification that supports the changes proposed in the original TS Change 91-09 submittal, and no additional justifications would be required.