

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

August 17, 1981



Director of Nuclear Reactor Regulation
Attention: Ms. E. Adensam, Chief
Licensing Branch No. 4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Ms. Adensam:

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

TVA is proceeding to implement a Permanent Hydrogen Mitigation System (PHMS) at Sequoyah Nuclear Plant units 1 and 2 to satisfy license condition 2.C.(22)D.(2) for unit 1 and 2.C.(8)g.(1) for unit 2. These conditions require that "for operation of the facility beyond January 31, 1982, the Commission must confirm that an adequate hydrogen control system for the plant is installed and will perform its intended function in a manner that provides adequate safety margins." The PHMS is designed to ensure controlled combustion of hydrogen using thermal igniters and is intended to completely replace the installed Interim Distributed Ignition System (IDIS). However, because of the lead time required to procure the system components and the adequacy of the similar IDIS that is already operational, TVA requests that implementation be deferred until the first refueling outage for each unit. The current schedules for these outages are September 1982 for unit 1 and January 1983 for unit 2. This request has been made previously to the NRC staff (reference my letter to A. Schwencer dated March 10, 1981 and M. R. Wisenburg's letter to E. Adensam dated July 1, 1981). It should be noted that TVA's request for extension is for hardware implementation only and is not related to the research program which should be concluded and substantially documented by January 31, 1982.

The IDIS that is installed and operational in both Sequoyah units is very similar to the PHMS in functional operating capability with the major difference being complete redundancy. TVA believes that the IDIS will continue to serve as an "adequate hydrogen control system" until the PHMS can be installed. In order to further improve the quality and redundancy of the controlled combustion system, new equipment is being procured for the PHMS. This includes qualified electrical transformers, distribution panels, cables, and control switches. The lead times, even under emergency purchase, are such that delivery of all the components cannot be promised before June 1, 1982. TVA has decided to specify the highest practical system and component standards for the PHMS rather than to relax the standards in order to expedite delivery.

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Director of Nuclear Reactor Regulation

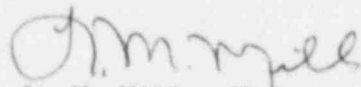
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The installation of the PHMS inside containment will require extended periods of occupancy (preliminary estimate of several hundred total man-weeks of labor) in both upper and lower compartments during a shutdown. New cable and conduit must be routed for each of the 60 new igniter locations, and new igniter assemblies must be mounted. By the nature of the igniter locations being distributed throughout the containment area and generally at the top of each volume, physical access for installation of the system is difficult. As a result, temporary scaffolding will be required for most of the work. In addition, the containment access restrictions applicable during shutdown of a unit that has been in operation complicate the work schedule. Therefore, the shutdown necessary to install the containment portion of the PHMS must be deferred until the first refueling outage for each unit to avoid a separate forced outage.

In summary, TVA is proceeding to replace the present Interim Distributed Ignition System with the Permanent Hydrogen Mitigation System in both Sequoyah units. However, since all of the qualified equipment cannot be procured and delivered until mid-1982 at the earliest and because refueling outages will follow soon thereafter, TVA requests that the license conditions be modified to allow installation to be completed during the first refueling outage for each unit. In the meantime, TVA believes that the Interim Distributed Ignition System that is installed and operational in both units provides fully adequate safety margins to mitigate the effects of hydrogen released during a degraded core event.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



L. M. Mills, Manager
Nuclear Regulation and Safety

Sworn to and subscribed before me
this 17th day of August 1981

Paullette H. White
Notary Public
My Commission Expires 9-5-84