

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401  
400 Chestnut Street Tower II

April 23, 1982

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  
Tennessee Valley Authority

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Docket Nos. 50-327  
50-328

Enclosed is the sixth interim quarterly progress report on the research and development program on hydrogen combustion and control for our Sequoyah Nuclear Plant. This report provides as Part I a status of testing and a schedule for completion of the remaining tests. Also provided, as Part II, is a report on the containment test facility phase 3 testing at Whiteshell Nuclear Research Establishment. We expect to provide a final quarterly report within 60 days from completion of the research efforts as specified in R. L. Tedesco's April 13, 1982 letter to H. G. Parris.

If you have any questions concerning this matter, please get in touch with J. E. Wills at FTS 858-2683.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

*L. M. Mills*  
L. M. Mills, Manager  
Nuclear Licensing

Sworn to and subscribed before me  
this 23<sup>rd</sup> day of April 1982  
*Paulette H. White*  
Notary Public  
My Commission Expires 9-5-84

Enclosures  
cc: See page 2

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Director of Nuclear Reactor Regulation

April 23, 1982

cc: U.S. Nuclear Regulatory Commission  
Region II  
Attn: Mr. James P. O'Reilly, Regional Administrator  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303

SEQUOYAH NUCLEAR PLANT

HYDROGEN COMBUSTION AND CONTROL

SIXTH INTERIM PROGRESS REPORT

# PART I

## STATUS AND COMPLETION SCHEDULE OF REMAINING TESTS

The only remaining research activities to be completed are the combustion behavior study of a Tayco igniter and the Containment Test Facility (CTF) Phase 4 pipe-sphere geometry tests at Whiteshell Nuclear Research Establishment (WNRE) and the durability proof-testing of a Tayco igniter by TVA at our Singleton Laboratory. These activities are underway. Our schedule for completion of testing and submittal of reports is provided in the following table:

	<u>Test Complete Date</u>	<u>Utility Report Submitted</u>	<u>EPRI Report Submitted</u>
Acurex	Completed	1/22/82	*
FM <sup>1</sup>	Completed	1/22/82	*
HEDL <sup>2</sup>	Completed	1/22/82	*
WNRE-CTF Phases 1,2	Completed	1/22/82	*
CTF Phase 3	Completed	4/15/82	*
CTF Phase 4	5/7/82	5/28/82	*
GM Glow Plug	Completed	1/22/82	*
Tayco Igniter	5/7/82	5/28/82	*
Singleton-Glow Plug	Completed	-	12/1/81
Tayco	5/7/82	-	5/28/82

1 Factory Mutual Research

2 Hanford Engineering Development Laboratory

\* Publication date of final EPRI report on these tests is not presently available.

Shakedown tests preparatory to the CTF Phase 4 tests have just been completed and took longer than anticipated due to new equipment (e.g., unequal gas concentration diaphragm) being installed and personnel being unavoidably shifted to higher priority work associated with a WNRE research reactor outage. Phase 4 testing will begin the week of April 12. Minor modifications have recently been made by Tayco to the prototype igniter being developed for the Permanent Hydrogen Mitigation System (PHMS). The delay in unavailability of the final igniter model has prevented the WNRE and Singleton Tayco tests from being completed as originally scheduled. However, both facilities are currently conducting the testing.