

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 23rd 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
Regional 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 ¹	Completed	1/22/82	*
HEDL ²	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.