

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
GEORGIA POWER COMPANY)	Docket Nos. 50-424
<u>et al.</u>)	50-425
)	(OL)
(Vogtle Electric Generating Plant,)	
Units 1 and 2))	

AFFIDAVIT OF CHANG-YANG LI

I, Chang-Yang Li, being duly sworn according to law, depose and say as follows:

1. My name is Chang-Yang Li. I am a containment systems engineer in the Containment Systems Branch, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission. I am responsible for the technical review and evaluation of the hydrogen recombiner system and hydrogen monitoring system for Vogtle. Attached to this affidavit is a statement of my professional qualifications.

2. The purpose of this affidavit is to support the Applicants' Motion for Summary Disposition of Joint Intervenor's Contention 10.7, which concerns the environmental qualification of the electric hydrogen recombiner systems used at the Vogtle Electric Generating Plant ("VEGP"). In this affidavit, I will describe briefly the operation of the hydrogen recombiner system and hydrogen monitoring system at VEGP, in response to a Board question concerning the existence of any transducers or sensors important to proper functioning of the Vogtle hydrogen recombiner system.

3. The two hydrogen recombiners at each unit of the Vogtle Electric Generating Plant (VEGP) are the Model B electric hydrogen recombiners manufactured by Westinghouse. I agree with the conclusions in the affidavit of Richard B. Miller that the VEGP hydrogen recombiner system contains no transducers or sensors inside containment that are important to its functioning. The recombiner system consists of three main components, namely: a recombination unit containing the electric heater banks, a power supply panel, and a control panel. The power supply panel and control panel are located outside containment in the control building. Only the recombination unit is located inside containment and would be exposed to the harsh post-LOCA environment. The hydrogen recombiner system is manually actuated by the operator, in accordance with emergency operating procedures, in response to concentration measurements by the hydrogen monitoring system. Because no automatic signals are required to initiate or operate the hydrogen recombiner system, no sensors or transducers are required inside containment for its proper operation. The proper operation of the recombiner system is determined by observing the amount of electric power drawn by the heater bands. The power drawn is shown by instrumentation on the control panel outside containment.

4. The VEGP containment hydrogen monitoring system measures hydrogen concentration in the containment atmosphere and provides information to the operators for manual actuation of the hydrogen recombiner system. I agree with the conclusions in the affidavit of Glenn H. Stolz that the hydrogen monitoring system does not contain any transducers or sensors important to its proper functioning. This system

is located outside containment. It determines the hydrogen concentration in the containment atmosphere on a continual basis by testing a sample of the containment atmosphere. The sample is delivered to the hydrogen monitoring system from inside containment by means of a piping system through the wall of the containment building. Furthermore, this containment hydrogen monitoring system has been environmentally qualified in accordance with IEEE Standard 323-1974 and accepted by the Staff.

Based on the above discussion, the staff concurs with the applicants that the hydrogen recombiner system at Vogtle does not contain any transducers or sensors important to its proper functioning.

Chang-Yang Li
Chang-Yang Li

Subscribed and sworn to before me
this 29th day of August, 1985

Malinda L. McDonald
Notary Public

My commission expires: 7/1/86

DR. CHANG-YANG LI

STATEMENT OF PROFESSIONAL QUALIFICATIONS

I am a Containment Systems Engineer in the Containment Systems Branch of the U. S. Nuclear Regulatory Commission. In this position, I am responsible for the technical analysis and evaluation of containment systems.

I received a Ph.D (1978) in Fluid Mechanics and a M.S. (1971) in Nuclear Engineering from the Catholic University of America. I was awarded a B.S. (1968) in Nuclear Engineering from Tsinghua University, Taiwan. I am a registered Professional Engineer in Maryland.

I have had more than 12 years of experience in the nuclear engineering field associated with NRC, NUS Corporation, Bechtel Power Company, Martin-Marietta Laboratory, and Singer Simulation Products Inc.

I have authored or co-authored articles which were presented at the conferences of the American Nuclear Society, the American Meteorology Society, and the Idaho National Engineering Laboratory Code Users Workshop.