

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	:	
Georgia Power Company,	:	
et al.,	:	
	:	
(Vogtle Electric	:	DOCKET NO. 50-424-OLA
Generating Plant,	:	50-425-OLA
Units 1 and 2)	:	
	:	ASLBP NO. 90-617-03-OLA

AFFIDAVIT OF KENNETH C. STOKES
IN SUPPORT OF APPLICANTS' RESPONSE TO
THE BOARD'S MEMORANDUM AND ORDER OF JANUARY 22, 1991

I, Kenneth C. Stokes, having first been duly sworn, hereby depose and state as follows:

1. I am currently employed by the Georgia Power Company as a Senior Plant Engineer at the Vogtle Electric Generating Plant ("VEGP"), located near Augusta, Georgia. In my position I serve as a dedicated engineer responsible for the diesel generator systems and the fuel oil systems for the diesel generators. I have held the Senior Plant Engineer position since 1985.

2. I graduated from the University of South Carolina in 1981 with a Bachelor of Science degree in Electrical Engineering. In the summer of 1981 I was employed by Georgia

Power Company as a Plant Engineer at the VEGP. Initially, I was assigned various tasks associated with the eventual start-up of Unit 1, including development of construction acceptance tests ("CATS") and maintenance spare parts inventory lists. Then, in the fall of 1983, I was assigned to provide engineering assistance for the start-up of the Unit 1 diesel generators, including their fuel systems. Specific efforts involved the day-to-day supervision of the overhaul and inspection of the diesel generators as part of a design review/quality revalidation program for the diesel generators. My current responsibilities include providing assistance to the Maintenance Department when maintenance work involves the diesel generators and expertise to the Operations Department concerning the design and capabilities of the diesel generators.

3. This Licensing Board, in its January 22, 1991 Memorandum and Order, asked the question, "How is the capability for testing the status and operability of the bypass circuits maintained, as required by Reg. Guide 1.9, position 7?" Regulatory Guide 1.9, position 7 (Rev. 2), states, "The design of the bypass circuitry . . . should include the capability for (1) testing the status and operability of the bypass circuits, [and] (2) alarming in the control room abnormal values of all bypass parameters."

The short answer to this question is that the valves added to the pneumatic lines provide visual indication of the trip bypass status: if the valves are closed the trip is bypassed and, if open, the trip is operable.

An understanding of this brief answer, however, requires further explanation. First, all bypass circuits are tested locally and not from the control room. That is, the six non-essential trip features (high pressure crank case, low pressure turbo oil, high temperature engine bearing, low pressure jacket water, high vibration and high temperature lube oil), are verified by an operator at the diesel generator control panel. Local verification of the valves is consistent with the local testing at the diesel generators. Second, the "testing" required by the Reg. Guide verifies the bypass, not the functioning of the sensors. In other words, the testing does not verify that the actuation signal is sensed; the testing creates a false signal after the sensor and verifies only that the bypass occurs. Third, the Reg. Guide does not expressly require "automatic" testing of the bypass circuits. Fourth, the frequency of the testing of the bypass circuits is every eighteen (18) months pursuant to the Technical Specifications. Verification of the manually operated valves will occur at a frequency greater than every 18 months, thereby providing greater assurance of the

appropriate status and operability of the high jacket water temperature ("HJWT") trip bypass than the other non-essential trip features. As I view it, the testing is designed to verify that the non-essential trip features will not actuate in the event of an emergency start and the procedural verification of bypass valve closure is the functional equivalent to the testing of the other non-essential trip features.

4. Position 7 of Reg. Guide 1.9 requires alarming in the control room of "abnormal values of all bypass parameters," as quoted above. The "parameter" associated with the HJWT trip and the high jacket cooling water inlet and outlet alarms is jacket water temperature. Abnormal values of high jacket water temperature is retained, consistent with the Regulatory Guide, and will continue to be alarmed locally and in the control room (i.e., jacket water temperature over 190°F is considered an abnormal value of jacket water temperature).

5. It is my opinion that the HJWT trip bypass at the VEGP complies with Reg. Guide 1.9, position 7 (Rev. 2). A potential design change to automatically bypass the HJWT trip upon emergency start signal would result in a HJWT trip logic more analogous to the trip logic for other non-essential

diesel generator trip features but is not required to comply with position 7.

The foregoing is true and correct to the best of my knowledge and belief.

Kenneth C. Stokes
Kenneth C. Stokes

Sworn to and subscribed
before me this 15 day
of March, 1991.

Jewel W. Chandler
Notary Public

(SEAL)

Notary Public, Burke County, Georgia
My Commission Expires Oct. 26, 1992