

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED
USNRC

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD,

84 JUL 18 11:18

In the Matter of

CAROLINA POWER AND LIGHT COMPANY AND
NORTH CAROLINA EASTERN MUNICIPAL
POWER AGENCY

(Shearon Harris Nuclear Power Plant,
Units 1 and 2)

Docket Nos. 50-400 OL
50-401 OL

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

AFFIDAVIT OF NORMAN H. WAGNER IN SUPPORT OF
NRC STAFF RESPONSE TO APPLICANTS' MOTION FOR
SUMMARY DISPOSITION ON EDDLEMAN CONTENTION 45 (WATER HAMMER)

State of Maryland)
County of Prince Georges) SS

I, Norman H. Wagner, having first been duly sworn, thereby state
as follows:

1. I am employed as an engineer in the Auxiliary Systems Branch of the
Division of Systems Integration, Office of Nuclear Reactor Regula-
tion. My educational and professional qualifications are set forth
immediately below.

2. Education

B.S. - Chemical Engineering - C.C.N.Y., 1948

M.S. - Chemical Engineering, University of Cincinnati, 1952

I have had formal course work in heat transfer, fluid flow,
chemistry, chemical engineering and mathematics.

3. Experience

I have been with the U.S. Nuclear Regulatory Commission from its inception in 1975, with a short period (from January 1975) with the U.S. Atomic Energy Commission. In my career with the Nuclear Regulatory Commission I have been assigned to the Reactor Systems Branch, to the Systems Interaction Branch and to the Auxiliary Systems Branch at times and in the capacities show below:

From January 1975 to approximately September 1989, I served as an engineer in the Reactor Systems Branch, with the title of Reactor Engineer. In that capacity I performed licensing case reviews, checking adherence of reactor systems in nuclear power plants to the rules and regulations stipulated by the Nuclear Regulatory Commission. In September of 1980 I was transferred to the Systems Interaction Branch where I, with other members of the branch, was assigned to the task of developing a systematic methodology for reviewing nuclear power plants for adverse system interactions. I was subsequently transferred back to the Reactor Systems Branch in July 1981 where my main effort was directed toward reviewing reactor systems in nuclear power plants and assuring that these systems complied with the rules and regulations of the Nuclear Regulatory Systems. In December of 1981 I was transferred to the Auxiliary Systems Branch where my main task was reviewing plant systems to assure their adherence to the rules and regulations of the Nuclear Regulatory Commission.

4. The Contention

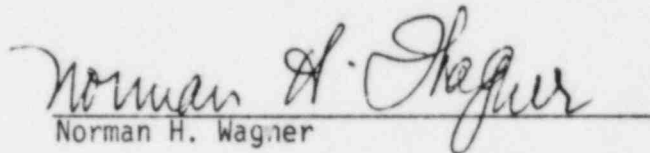
With regard to Eddleman Contention 45, "Water Hammer", the Auxiliary Systems Branch has the generic responsibility for reviewing two of the systems mentioned: the feedwater system (including the auxiliary feedwater system) and part of the main steam system, from the steam generators to the outermost isolation valve. These reviews are conducted in compliance with the guidance of sections of the Standard Review Plan (NUREG-0800) relating to these areas which are shown below. The Standard Review Plan sections are:

1. Section 10.3, "Main Steam Supply Systems"
2. Section 10.4.7, "Condensate and Feedwater System"
3. Section 10.4.9, "Auxiliary Feedwater System."


5. I reviewed those parts of the Shearon Harris Nuclear Power Plants in accordance with the guidance of the Standard Review Plan (SRP) sections noted above. I followed the guidance of the sections of the SRP discussed above, by specifically addressing the only concern with regard to water hammer set forth in these sections, Section 10.4.7 of the SRP. In addressing that concern and by following that guidance, I required the Applicants to commit to conduct a test to show that the preheater steam generators designed for the Shearon Harris Nuclear Power Plant were not susceptible to a condensation-induced water hammer during normal operation in agreement with the recommendation contained in Branch Technical Position ASB 10-2, "Design Guidelines for Avoiding Water Hammer in Steam Generators." The

Applicants have committed to conduct this test and have provided a test outline in Amendment 4 to the Final Safety Analysis Report (Test 14.2.12.2.31). The proposed test complies with the test requirement for condensation-induced water hammer specified in SRP Section 10.4.7. As stated previously, there are no further concerns relating to water hammer in these SRP sections.

6. Our review demonstrates that the Applicants' design conforms to the Staff requirements in Standard Review Plan Section 10.4.7 for mitigating water hammer in the feedwater system. The pre-operational and start up test programs are intended, in part, to demonstrate Applicants' feedwater system susceptibility to water hammer during normal operating conditions.


Norman H. Wagner

Subscribed and sworn to before
me this 2nd day of July, 1984


Notary Public

My commission expires: 7/1/86

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CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF RESPONSE IN SUPPORT OF APPLICANTS' MOTION FOR SUMMARY DISPOSITION OF WELLS EDDLEMAN'S CONTENTION 45 (WATER HAMMER)" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, or, as indicated by an asterisk, through deposit in the Nuclear Regulatory Commission's internal mail system, this 2nd day of July, 1984:

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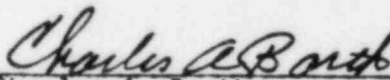
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