

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
DUKE POWER COMPANY) Docket Nos. 50-369
) 50-370
(William B. McGuire Nuclear)
Station, Units 1 and 2))

AFFIDAVIT OF JESSE L. RILEY

My name is Jesse L. Riley. I reside at 854 Henley Place in Charlotte, N. C. I am a retired research scientist, specializing in the chemistry and physics of manufacturing artificial fibers. I still act as a consultant to my former employer. I am, and for a number of years have been, acting as the representative of the Carolina Environmental Study Group in this and other proceedings.

At the suggestion of Edward Ketchen, NRC staff counsel in the instant proceeding, I met with him, Robert Tedesco, Assistant Director of Reactor Licensing, and Lawrence Chandler, also a Staff Counsel, in Charlotte on October 7, 1980. The object of the meeting was to see if there were a basis for CESG joining in a stipulation in which it would withdraw its opposition to the issuance of a license to load fuel, operate at low power, etc., for McGuire unit 1. On that day and in several subsequent phone conversations Staff communicated fully and responsively information relevant to the possible generation of hydrogen at this stage of operation.

Staff discussed computer models involving decay heat from a core operated briefly at 5% power; the rate of water boiloff in the event that only the passive components of the ECCS were operable; the time of first core exposure; the amount of core exposure at subsequent times; the temperature/time relationship of

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the zircalloy sheath; the time at which hydrogen generation would begin; and the time when the hydrogen reaction would have gone far enough to bring the level of hydrogen in the containment to 4 percent, the lower limit for self-propagating combustion.

The most relevant computer study finding was that the containment would be filled with hydrogen at the 4 percent level approximately 18 hours after the onset of the LOCA.

James E. Riley

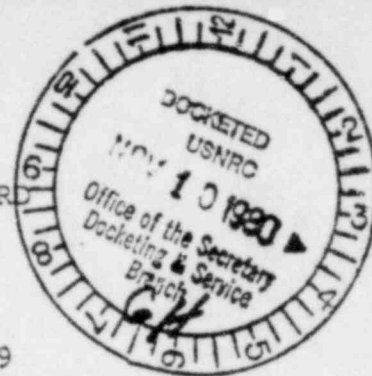
Subscribed to and sworn to before me
this 7 day of November, 1980

Mary J. Sanchez
Notary Public

My Commission Expires August 25, 1982

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AFFIRMATION OF SERVICE

I hereby affirm that copies of "CESG's Reply to Applicant's Motion for Summary Disposition Regarding Application for License Authorizing Fuel Loading, Etc.; Motion to Consolidate Near Term Operating License and Operating License Proceedings; and Further Contentions," date Nov. 7, 1980, have been served on the following by deposit in the United States mail this 7th day of November:

Robert M. Lazo, Esq.
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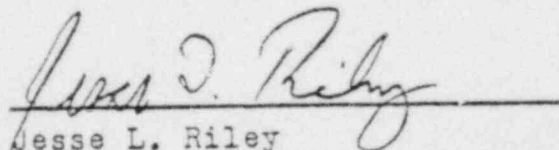
*Hand delivered.

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Jesse L. Riley