UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges
Marshall E. Miller, Chairman
Gustave A. Linenberger, Jr.
Dr. Cadet H. Hand, Jr.

In the Matter of	Docket No. 50-537 CP
UNITED STATES DEPARTMENT OF ENERGY PROJECT MANAGEMENT CORPORATION TENNESSEE VALLEY AUTHORITY (Clinch River Breeder Reactor Plant)	March 31, 1983

MEMORANDUM IDENTIFYING TOPICS OF BOARD INTEREST

Certain topics have been identified for which there will be Board interest during the CP phase of evidentiary hearings. It is believed that all of these fall within the scope of planned evidentiary presentations; but their early identification may assist in the selection of witnesses and the formulation of evidentiary material. No special topical presentations are requested, but only amplifications of proposed evidentiary material where needed to include the topics indicated. These topics are now discussed.

1. In its safety Goal Development Program announcement (48 Fed. Reg. 10772, March 14, 1983) the Commission stated that during the 90-day period (ending June 8, 1983) for public comment on the proposed evaluation plan "it is expected that preliminary information on new

radiological source terms will become available..." (Id., at 10778). The Staff is requested to advise whether that information will be evaluated for any impact on this proceeding, and the reason for its answer.

2. As regards fuel performance, to date the use of the term "failed fuel" has not consistently permitted delineation of the various failure modes that might have been alluded to (e.g., clad perforation, fission product leakage, clad bulging or rupture, melting of fuel pellets, etc.). The Applicants are requested to summarize the anticipated performance of the CRBR fuel associated with normal operation and accidental transients, describe various failure modes that must be dealt with, identify any operational limits (e.g., maximum linear heat generation rates, maximum cladding hot spot temperatures, etc.) to be imposed, and to review the basis for confidence (e.g., supportive evidence) that the proposed fuel behavior characteristics will be realized.

3. Avoidance of primary coolant pipe rupture seems to depend in part upon the fact that coolant temperature is well below its boiling temperature and that coolant pressure is near atmospheric pressure ($\leq$ 10 atmos.). Applicants are requested to present a technical summary of how these coolant characteristics will result in a reduced likelihood of pipe rupture in piping designed for CRBR use.

4. Applicants are requested to explain how the CRBR will be configured to assure that convective circulation of the sodium coolant

will be available to prevent fuel damage, if needed. This explanation should reference any supportive experimental or operational evidence. The Staff is requested to advise the Board whether it accepts convective circulation as a viable mechanism for fuel protective, and the reason for its answer.

5. In the area of quality, the Applicants are requested to explain whether (and/or how) differing functional levels of effort will be applied, depending upon whether a component or system is necessary for safety, important to safety, or not safety related. The divisions of authority and functional responsibilities for quality assurance and quality control amongst the various contractors and the Applicants should be discussed with emphasis on how the management of the various CRBR contractor fabrication and construction efforts will be coordinated to assure the minimizing of QA and QC oversights, especially where interfacing is involved. Applicants are also requested to describe what efforts will be undertaken to insure that accurate as-built plans and specifications will be available when needed, if the CRBR is constructed.

6. The SER discussion of quality seems to emphasize quality assurance and the various separate contractor organizations that will implement it. Does the Staff consider that QC responsibilities and activities are separate from QA or an integral part thereof? The Staff is rquested to discuss its answer to this question and to explain briefly how it will monitor QA and QC efforts for adequacy.

7. Aplicants are requested to discuss commercial and recreational river traffic (if any) from two points of interest:

a) Practical methods of controlling same during off-normal plant conditions, and

b) The potential for hazardous cargo posing a threat to the CRBR.

8. Applicants are requested to discuss the design characteristics of the containment/confinement structures and the steam generator, with respect to challenges to those structures arising from transient (or accident) induced overpressure and overtemperature conditions. This discussion should address any engineered safety systems or components that will be relied upon for protection (e.g., containment shell cooling), and should reference supportive test or operatinal experience.

9. The Staff's attention is directed to the discussion of protective action guidelines (PAGs) at pages 29-30 of the Partial Decision of February 28, 1983. The Staff is requested to address the question of whether a PAG revision for the CRBR should be made, and to explain its answer.

10. The Staff's testimony at Tr. 3694 anticipates the need for further research and development on measurement capabilities to achieve DOE's goals for material control and accountability at the DRP. The Staff is requested to explain whether this additional effort is currently underway or definitively planned for the future, and the

extent to which it is critical to the effectiveness of CRBR fuel safeguards measures.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD

Marshall E. Miller

Marshall E. Miller, Chairman
ADMINISTRATIVE JUDGE

Dated at Bethesda, Maryland
this 31st day of March, 1983.