

April 16, 1982

Docket No.: 50-537

MEMORANDUM FOR: Paul S. Check, Director, CRBR Program Office,  
Office of Nuclear Reactor Regulation

FROM: Richard M. Stark, Project Manager, CRBR Program Office,  
Office of Nuclear Reactor Regulation

SUBJECT: CLINCH RIVER BREEDER REACTOR CHAPTER 4 REVIEW MEETING

DATE & LOCATION: May 11 and 12 1982, Air Rights Building, Room 2242,  
Bethesda, Md., at 8:30 a.m.

PURPOSE: To review CRBR PSAR Chapter 4 (See agenda).

PARTICIPANTS: Department of Energy, TVA and PMC  
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NRC  
T. Wehner, R. Stark, et. al.

ORIGINAL SIGNED BY

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Enclosure:  
As stated

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PRELIMINARY AGENDA

MEETING TO REVIEW REACTOR DESIGN  
IN CRBR PSAR CHAPTER 4

- I. Mechanical Design of Fuel, Blanket and Control Assemblies (excluding control rod drivelines and control rod drive mechanisms).
  - A. Design Description
  - B. Design Criteria
  - C. Design Bases and Limits
    - 1. Experimental Bases
    - 2. Plans for Developing Experimental Bases
  - D. Fuel and Blanket Rod Evaluation Models (including Ductility - Limited Strain Model, CDF, LIFE, FRST, FURFAN)
    - 1. Model Verification
    - 2. Plans for Obtaining Verification
  - E. Requirements for Control System Speed of Response
- II. Nuclear Design of Fuel, Blanket and Control Assemblies
  - A. Design Description
  - B. Design Criteria
  - C. Design Bases and Limits
  - D. Reactivity
    - 1. Reactivity Feedback Coefficients
    - 2. Control Requirements
    - 3. Control Rod Speed of Response Requirements
  - E. Criticality
    - 1. Calculational Models
    - 2. Critical Experiments
    - 3. Uncertainties
  - F. Nuclear Instrumentation
    - 1. Calibration
    - 2. Incore (including flux and power levels)
    - 3. Excore (including SRFM)

- G. Calculations of Power Shapes
    - 1. Methods
    - 2. Treatment of Uncertainties
  - H. Comparisons with FFTF Computational Methods
  - I. Control Material Burnup
- III. Thermal and Hydraulic Design of Fuel, Blanket and Control Assemblies
- A. Design Description
  - B. Design Criteria
  - C. Design Bases and Limits
  - D. Subchannel and Assembly Flow Models
    - 1. Treatment of Uncertainties (Hot Spot Factors)
    - 2. Verification
  - E. Assembly Rod Heat Transfer
  - F. Natural Circulation and Low Flow
    - 1. Orificing
  - G. Pressure Drops
    - 1. Flows During Normal Operation
    - 2. Low Flows
  - H. Thermal - and Radiation - Induced Distortions
  - I. Flow and Temperature Instrumentation

Distribution

✓ Docket File  
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CRBRPC File  
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