



Department of Energy  
Washington, D.C. 20545

Docket No. 50-537  
HQ:S:83:186

JAN 12 1983

Mr. Paul S. Check, Director  
CRBR Program Office  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Check:

CLINCH RIVER BREEDER REACTOR PLANT (CRBRP) PRELIMINARY SAFETY ANALYSIS  
REPORT (PSAR) SECTION 14.0, INITIAL TESTS AND OPERATION

Enclosed is a modification of PSAR Section 14.0 clarifying the application  
of operational and test experience from similar operating reactors to the  
CRBRP test program. This revision will be incorporated in a future PSAR  
amendment.

Sincerely,

John R. Longenecker  
Acting Director, Office of  
Breeder Demonstration Projects  
Office of Nuclear Energy

Enclosure

cc: Service List  
Standard Distribution  
Licensing Distribution

D001

CHAPTER 14.0 INITIAL TESTS AND OPERATION

This chapter provides information relating to the initial plant startup and operation program to show that the licensee plans to develop and conduct a comprehensive test program on this first-of-a-kind plant, and that necessary early planning has been done for successful achievement of these goals.

The need is recognized for development of a comprehensive preoperational and initial startup test program for the CRBRP plant, the preparation of adequate test instructions for carrying out the programs, the proper conduct of the test programs, and assuring the validity of the test results. The test programs will provide additional assurance that the plant has been properly designed and constructed and is ready to operate in a manner that will not endanger the health and safety of the public; that the operating instructions for operating the plant safely have been evaluated and demonstrated; and that the plant operations personnel are knowledgeable about the plant procedures and operating instructions and fully prepared to operate the plant in a safe manner.

The test programs will also include testing for interactions such as the performance of interlock circuits in the reactor protection systems. It will be determined that proper permissive and prohibit functions are performed and that circuits normally active and supposedly unaffected by the position of the mode switch perform their function in each mode. Care will be taken to ensure that redundant channels of equipment are tested independently.

14.1 DESCRIPTION OF TEST PROGRAMS

The initial test program for the plant is divided into two parts; preoperational testing, and the initial startup testing.

Phases 1 and 2 preoperational tests, are those conducted prior to fuel loading to demonstrate the capability of structures, systems, and components to meet performance requirements, including safety-related requirements. These tests are used to demonstrate that overall plant performance is acceptable and that the CRBRP is ready for initial installation of fuel. For scheduling purposes, the preoperational tests are divided into two phases. Phase 1 is defined as testing following plant turnover from the constructor to initial introduction of sodium into the Heat Transport System (HTS). Phase 2 testing is defined as the plant testing which requires sodium in the HTS prior to initial core load.

Startup testing consists of such activities as fuel loading, precritical tests, low power tests (including critical tests), and power ascension tests performed after fuel loading to completion of acceptance testing that confirm the design bases and demonstrate, where practical,

## 14.1-1

The test program development will utilize and incorporate preoperational and startup test experience from LWR's and FFTF. PSAK, Appendix H, paragraph I.C-5, "Procedures for Feedback of Operating, Design, and Construction Experience", provides additional information on the procedures for ensuring such experience utilization.

Enclosure

ITEM: More information is needed in the application of operational and test experience from similar operating reactors to the CRBRP test program.

RESOLUTION:

See attached PSAR Mark-up of Section 14.0.