

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-602/90-03

Construction Permit: CRR-123

Docket: 50-602

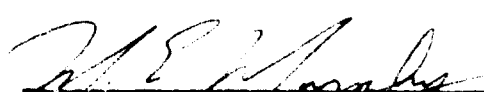
Licensee: University of Texas  
College of Engineering  
Department of Mechanical Engineering  
Nuclear Engineering Program  
Austin, Texas 78712

Facility Name: Nuclear Engineering Teaching Laboratory (NETL)  
(TRIGA Mark II)


Inspection At: NETL, Balcones Research Center

Inspection Conducted: July 18-19, 1990

Inspectors:


  
M. E. Murphy, Reactor Inspector, Test Programs  
Section, Division of Reactor Safety

7/27/90  
Date

  
W. C. Seidle, Chief, Test Programs Section  
Division of Reactor Safety

7/24/90  
Date

Approved:

  
W. C. Seidle, Chief, Test Programs Section  
Division of Reactor Safety

7/24/90  
Date

Inspection Summary

Inspection Conducted July 18-19, 1990 (Report 50-602/90-03)

Areas Inspected: Routine, announced inspection of facility completion status and status of open items.

Results: Within the areas inspected, no violations or deviations were identified. The six open items identified in NRC Inspection

Report 50-602/90-01 were closed. The NRC's construction phase inspection is complete with the exception of three errrdent equipment problems that are considered necessary for fuel loading and startup. The equipment affected is the HEPA filter, Argon-41 monitor, and a beam port shield plug.

DETAILS

1. PERSONS CONTACTED

UT

- \*T. L. Bauer, Assistant Director/Supervisor, NETL
- \*H. L. Marcus, Chairman, Nuclear Reactor Committee
- \*G. Masada, Associate Professor/Associate Chairman for Research
- \*J. G. Sanchez, Radiation Safety Inspector
- \*B. W. Wehring, Director, NETL
- \*R. E. Woodard, Health Physicist, NETL

NRC

- \*B. Murray, Chief, Facility Radiological Protection Section, Region IV

\*Denotes attendance at exit meeting.

2. OPERATIONAL READINESS REVIEW

This inspection was to determine the status of the preoperational test, checkout, and evaluation program. NRC Inspection Report 50-602/90-01 identified six items that required resolution and/or completion to complete the construction phase. The status of these items is discussed below.

2.1 "Repair of the joint seal between the reactor building foundation and the lift slab walls."

Initial repairs have been completed and the leakage was substantially reduced. Present occasional leaks are not considered significant; however, the licensee will continue to pursue a leak free seal with the contractor. This item is considered resolved.

2.2 "Correction of "MODE" terminology in the operating procedures to agree with the safety analysis report and Technical Specifications."

The inspector reviewed the following operating procedures: Main 1, "Calibration and Function Checks of the ICS System"; OPR 5, "Reactor Startup"; 8.0, "Operation Mode, Manual"; 8.1, "Operation Mode, Pulse"; 8.2, "Operation Mode, Auto"; 8.3, "Operation Mode, Square Wave." The reactor mode terminology matched the operating console modes. Modes in both the proposed Technical Specifications and the corrected Safety Analysis Report also match the operating console modes. This item is considered complete.

2.3 "Approval of the Test Program Manual"

The Test Program Manual was presented to the Nuclear Reactor Committee in October 1988. The committee approved submission of the documents and became

familiar with their contents. This was documented in the Committee Meeting Minutes dated October 12, 1988. This item is considered complete.

#### 2.4 "Issuance of the Nuclear Reactor Committee Charter"

The inspector reviewed the final version of the Nuclear Reactor Committee Charter, dated June 25, 1990. This charter has been reviewed and commented on by all committee members. All comments have been incorporated. This final version complies with Technical Specification requirements. The charter will be formally approved by the committee at the next meeting. This item is considered complete.

#### 2.5 "Completion of the Fuel Handling Evaluation Sheet"

The fuel handling tool checkout and evaluation checklist was reviewed by the inspector. The checklist was complete with no exceptions and the checkout acceptance was dated June 20, 1990. This item is complete.

#### 2.6 "Completion of the Instrumentation and Control System (ICS) - Installation Checks Checklist"

The ICS noise problem was isolated to a defective wire and has been corrected. The inspector reviewed the "ICS System - Installation Checks" checklist and found that all prefueling items had been satisfactorily completed. This item is complete.

### 3. LICENSING READINESS STATUS

This NRC inspection report documents the completion of the construction phase inspection and operational readiness review. Three items were identified that are considered open items that impact on operational readiness. These items are three emergent equipment problems, affecting the HEPA filter, the Argon-41 monitor and a beam port shield plug. Details of the HEPA filter and Argon-41 monitor are discussed in NRC Inspection Report 50-602/90-04.

A beam port shield plug was found to have an extensive crack in the graphite portion of the plug. This crack could cause separation of the graphite section from the steel and lead flange section. The licensee is working with General Atomics, supplier of the shield plug, to develop an acceptable resolution of the failure and a replacement shield plug. Pending delivery of a new shield plug, this is considered an open item. (Open Item 602/9003-01.)

### 4. EXIT MEETING

The inspection scope and findings were discussed with personnel designated in paragraph 1 at the conclusion of the inspection on July 19, 1990. The licensee did not identify as proprietary any of the material provided to, or reviewed by, the inspectors.