APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-192/89-01 Operating Licenses: R-92
50-602/89-01 Construction Permit: CPRR-123

Dockets: 50-192
50-602

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

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

Inspection At: NETL Balcones Research Center, and Taylor Hall NETL (Main Campus)

Inspection Conducted: January 25, 1989

Inspectors: _____ 2/10/89
M. E. Murphy, Reactor Inspector, Test Programs Section, Division of Reactor Safety — Date

_____ 2-9-89
C. E. Johnson, Reactor Inspector, Plant Systems Section, Division of Reactor Safety — Date

Approved: _____ 2/10/89
W. C. Seidle, Chief, Test Programs Section
Division of Reactor Safety — Date

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Inspection Summary

Inspection Conducted January 25, 1989 (Report 50-192/89-01; 50-602/89-01)

Areas Inspected: Routine, announced inspection of surveillance requirements and general condition of the Mark I unit; construction status, schedule update, and reactor equipment preservation and protective storage for the Mark II unit.

Results: Within the areas inspected, no violations or deviations were identified. Construction has resumed following selection of a new contractor (R. L. Pender and Associates) by the licensee's bonding company. The reactor systems and components provided by General Atomic are adequately protected and stored. Technical Specifications (TS) requirements for the Mark I unit are being properly met.

DETAILS

1. Persons Contacted

*T. Bauer, Assistant Director, NETL
J. Green, Construction Inspector

*Denotes individual contacted for exit interview.

2. TRIGA Mark I Unit

The NRC inspectors reviewed the procedures manual and Technical Specifications for the Mark I unit. The University has discontinued operations of this unit but continues to maintain it until the fuel can be transferred to the new unit now under final construction. The review determined that the only surveillance requirements during this condition are periodic pool water level and conductivity checks. These are being accomplished as required. The licensee is also running the area radiation monitor and the continuous air monitoring system.

Except for the "F" ring, all fuel elements have been removed from the core and are temporarily suspended in the pool. Fuel transfer to the new unit is presently planned for June 1989. Procedures for handling, loading, shipping and unloading are in draft form at this time.

3. TRIGA Mark II Unit

The NRC inspectors toured the facility to review completion status and general area conditions. Some work has restarted in the office and laboratory area. The new contractor (R. L. Pender and Associates of Miami, Florida) will resume reactor building work when final insurance arrangements are completed.

During the tour, it was pointed out that the manufacturer (Patterson Kelley) had shipped the pool cooling heat exchanger without cleaning the unit's internals. The manufacturer has since completed one field cleaning with unsatisfactory results. The unit is to be recleaned before final pipe installation.

Some work had started on the pool water recirculation pipe but was presently held up because of a problem identified with some of the large size valves. These valves are made from epoxy coated cast iron with stainless steel internals. It was noted that the epoxy coating on the valves was chipping, raising concerns over the potential for long term corrosion. This is being resolved by the licensee.

The tour also included the storage and preservation of reactor equipment. The NRC inspectors found that the skid mounted pool water purification system, core support structure, beam port plug removal/storage container, and other miscellaneous structural material were being stored in a sealed

trailer shipping container. It was noted that the PVC piping for the purification system filter had sustained damage during shipment and required repair by General Atomic (GA) prior to installation.

The NRC inspectors observed that crated reactor control consoles, control equipment, radiation monitors, ion exchange resin, radiation control assemblies and other miscellaneous equipment were stored in a separate, environmentally controlled building. It was pointed out that the refurbished transient rod control system had not been received from GA. One other item that has not been received from GA is the argon-41 measurement system.

4. Schedule Milestones

Due to construction delays, the milestone schedule dates as published in NRC Inspection Report 50-602/88-05 have been revised and are as follows as of January 25, 1989:

Milestones	Completion Dates	Actual
Receive control room console and mechanical components	October 1, 1988	October 1, 1988
Complete HVAC balancing	February 15, 1989	
Complete physical security elements	May 1, 1989	
Complete pool water system (installation)	March 31, 1989	
Complete preoperational test procedures (including GA installation and test)	May 1, 1989	
Install control room console	April 15, 1989	
Install GA mechanical components (including purification system)	April 1, 1989	
Install radiation monitoring equipment (installation by GA)	April 15, 1989	
License two Senior Reactor Operators	May 15, 1989	
Complete all operating procedures	Complete as required by equipment installation 98% complete as of January 24, 1989	

Receive operating license	June 1, 1989
Load reactor fuel - achieve initial criticality	June 20, 1989

5. Exit Interview

The inspection scope and findings were discussed with the Assistant Director, NETL, at the conclusion of the inspection on January 25, 1989. The licensee did not identify as proprietary any of the material provided to, or reviewed, by the NRC inspectors.