

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-193/88-03
Docket No. 50-193
License No. R-95
Licensee: Rhode Island Atomic Energy Commission
Facility: Nuclear Science Center
Location: Narragansett Bay Campus, Rhode Island
University of Rhode Island
Narragansett, Rhode Island

Inspection Conducted: August 26, 1988

Inspector: *C. G. Amato* 9/27/88
C. G. Amato, Emergency Preparedness
Specialist, EPS, FRSSB, DRSS date

Approved by: *W. J. Lazarus* 9/27/88
W. J. Lazarus, Chief,
Emergency Preparedness Section,
FRSSB, DRSS date

Inspection Summary: Inspection on August 26, 1988 (Report No. 50-193/88-03)

Areas Inspected: Routine, announced, safety inspection in the area of emergency preparedness.

Results: No emergency preparedness violations were identified. Nine unresolved items were identified, two in emergency preparedness and seven in non-emergency preparedness areas.

DETAILS

1.0 Persons Contacted

The following personnel attended the entrance and exit meeting.

A. DiMeglio, Director
M. Doyle, Assistant Director
D. Johnson, Health Physicist

2.0 The Facility

2.1 The Rhode Island Atomic Energy Commission Nuclear Science Centers Reactor is a 2 MW open pool reactor fueled with highly enriched uranium and housed within a concrete building. While it is located on the Narragansett Bay Campus of the University of Rhode Island, it is not a component of the University, it does not support academic programs and is dedicated to research. The Licensee is an agency of the State Government of Rhode Island. The reactor operates on a one shift per per day basis. The staff numbers 12; this number includes clerical and custodial members. The Health Physicist serves the University and gives about half time to reactor activities. The Assistant Director is a licensed Senior Reactor Operator and a Health Physicist. Irradiation facilities include two beam tubes, a thermal column, and a pneumatic, sample dispatch system called a rabbit.

3.0 The Emergency Plan and Procedure

3.1 The Emergency Plan and Implementing Procedures were un-dated April, 1987. They are well written and meet the guidance of Regulatory Guide 2.6 and ANSI 15.16. Each of the items in the Regulatory Guide is addressd. Seven Implementing Procedures have been developed; Table 1.1 of Procedure 1 is a detailed Emergency Event Classification Matrix which encompasses both events and symptoms. Both operating and after operation hour conditions are considered. A detailed decontamination procedure protocol is included as is a Security Plan. Section 8.5 of the plan describes emergency notifications but does not specify the time sequence or priority. The Licensee agreed to review and correct this item. (50-193/88-13-01)

4.0 Emergency Facilities and Equipment

4.1 Emergency facilities and equipment when checked by the inspector were found to be in accordance with the Plan description. However, the following items were noted which require correction by the Licensee.

- a.) The emergency phone list in the control room was outdated and not readily visible. The Licensee agreed to update the list, place it under quarterly surveillance and within a transparent envelope secured in a position clearly visible to the operator. Additional copies of the list would be distributed on an as need basis.
- b.) The emergency equipment locker is located in the assembly area which is adjacent to the Campus Security office in the Horn building. The locker, marked "radioactive materials", was located in a non-controlled area and it did not contain radioactive materials. The Licensee undertook immediate corrective action.
- c.) The battery operated air sampler was not maintained on battery charge and did not function. There was no proximate AC outlet to which the battery could be connected. The Licensee will arrange to run an AC line to this cabinet.

These items will be subject to a future inspection.
(50-193/88-03-02)

5.0 Plan Review

- 5.1 The reactor Utilization Committee is a reactor safety committee which meets annually. The last meeting took place November 23, 1987. The Committee reviewed the Plan and Procedures and reported favorably. Per Section 10.4 of the Plan, the Director also reviews the Plan and Procedures.

6.0 Training

- 6.1 Training is conducted in accordance with Section 10 of the Plan. Training includes exercises and exercise critique. Six exercises have been held since 1986. Formal documentation of training is in order.

7.0 Off-Site Activities

Letters of Agreement are in place. Fire, Police, ambulance and hospital support arrangements are in place.

8.0 Licensee Response to Emergency Appraisal Items

- 8.1 The NRC identified fifteen items during a 1984 Emergency Appraisal. The Licensee responded to these positively in letter to the Director, Division of Radiation Safety and Safeguards, NRC Region 1 dated February 7, 1985. Based on a review and follow up of this letter, the inspector concluded that with the exception of item 50-193/84-02-07, the licensee's actions have closed all items except item 07 which remains open pending review of data demonstrating sampling is isokinetic in region of laminar flow.

9.0 Non-Emergency Preparedness Observations

During a tour of the facility the following items were observed.

- 9.1 There is evidence of rain seepage into the containment (which is operated at negative pressure.) This may be indicative of unacceptable containment leakage. (50-193/88-03-03)
- 9.2 A wooden plank had been placed across the top of the pool in front of the reactor. Operators walk out on the plank to manipulate fuel. This is apparently an on-going practice and is done to facilitate fuel manipulation but may be indicative of a need to modify hardware or procedures. (50-193/88-03-04).
- 9.3 The reactor bridge railing facing the pool is not in place. (50-193/88-03-05)
- 9.4 An electrical element within the reactor control console over-heated and smoked on the night of August 25, 1988. There may have been an unwanted, small upward displacement of a control blade adding reactivity. Discussion with operators indicated that this may have happened on more than one occasion. (50-193/88-03-06)
- 9.5 Both personnel containment doors are allowed to be simultaneously open during reactor operation. A Licensee staff member indicated that this was acceptable as long as another person was present. (50-193/88-03-07)
- 9.6 One Senior Reactor Operator License posted was dated 1985. The inspector was told the individual had been examined in 1985 and passed but this license had not been received from this NRC. (50-193/88-03-08)
- 9.7 Another operator left the employ of the RI AEC but apparently neither he nor the employer advised the NRC of this to allow cancellation of this license. (50-193/88-03-09)

These items are unresolved and will be further evaluated in an upcoming inspection.

10.0 Exit Meeting

- 10.1 The inspector met with the personnel identified in Section 1 of this of this report and advised them no violations were identified. The unresolved items were not noted. At no time during the course of this inspection, did the inspector give the Licensee written material.