

- The licensee's staff were trained and knowledgeable of the emergency plan and emergency response implementing procedures. Support emergency response organizations participated in the licensee's annual emergency drills. A noncited violation was identified involving the failure to submit emergency plan changes to the NRC (Section 12).
- An approved physical security plan was being implemented. The reactor facility security system was installed and operated in accordance with the physical security plan and was well maintained. Testing of the reactor facility security system was properly conducted. A noncited violation was identified involving the failure to maintain copies of the physical security plan at specified locations (Section 13).
- Annual operating reports for the reactor facility were submitted in a timely manner and included the required information (Section 14).
- The licensee's gamma radiation survey results compared well with the NRC's radiation survey results. The NRC's beta-gamma analysis results of the smear survey showed no detectable removable contamination above background (Section 15).

Summary of Inspection Findings:

- A noncited violation was identified (Section 1).
- A noncited violation was identified (Section 2).
- A noncited violation was identified (Section 12.1).
- A noncited violation was identified (Section 13).
- Violation 326/9501-01 was identified (Section 13).
- Inspection Followup Item 326/9501-02 was identified (Section 12.3).
- Inspection Followup Item 326/9101-01 was closed (Section 16.1).
- Inspection Followup Item 326/9302-01 was closed (Section 16.2).

Attachments:

- Attachment 1 - Persons Contacted and Exit Meeting
- Attachment 2 - Physical Security Plan - PROPRIETARY INFORMATION

**DOCUMENT CONTAINS PROPRIETARY INFORMATION
DECONTROLLED WHEN SEPARATED FROM ATTACHMENT 2**

9601300114 960124
PDR ADOCK 05000326
G PDR

whole body dose for this period was 0 millirem. The highest measured individual dose was 30 millirem to the extremities. During the period May 1, 1994 through April 30, 1995, eleven persons were monitored on a continual basis. The highest measured individual dose was 5 millirem to the whole body and 630 millirem to the extremities. For the period May 1994 through April 1995, the total person-millirem for the reactor facility staff was 5 millirem to the whole-body and 660 millirem to the extremities. The high exposure results were from two researchers who were working primarily with chlorine-38 (38 minute half-life) and were performing rapid radiochemical operations. The individuals were counseled to review their isotope handling procedures in an attempt to reduce their hand exposures.

The inspector reviewed selected monthly radiation and contamination survey records for 1993, 1994, and 1995 performed by the environmental health and safety department's senior health physicist. The gamma radiation surveys and beta-gamma contamination surveys were thorough and did not indicate any unusual radiation levels. Several contamination surveys indicated minor localized removable contamination which was immediately cleaned.

The program for issuance of self-reading pocket dosimeters to visitors in the reactor facility was reviewed. The inspector reviewed the visitor's dosimetry issuance log. The issuance of self-reading pocket dosimeters to visitors was performed in accordance with an approved procedure. The licensee had several 0-200 millirem self-reading pocket dosimeters available at the entrance of the reactor facility.

The inspector reviewed the licensee's inventory and availability of portable radiation survey instruments. The licensee's inventory of portable radiation survey instruments was adequate. The licensee's portable radiation monitoring instrumentation calibration and quality control programs satisfied the recommendations of Regulatory Guide 8.21 and Industry Standard ANSI N323-1978. Semiannual calibrations of the portable radiation survey instruments were performed according to approved procedures, and the calibration records were up-to-date. The inspector noted that the licensee had positioned a portal monitor at the exit to the reactor room to identify possible contamination on personnel exiting the reactor room.

The area radiation monitors and continuous air monitor met Technical Specification requirements and provided adequate radiation detection capability in the reactor room. The area radiation monitors and continuous air monitor alarms and setpoints were checked and verified monthly and during each reactor startup by activating them with a check source. The continuous air monitor was calibrated monthly in accordance with an approved procedure. The inspector reviewed the continuous air monitor calibration records for the period January 1993 through November 1995 and found them to be satisfactory.

The radiation protection program was being effectively implemented.

**DOCUMENT CONTAINS PROPRIETARY INFORMATION
DECONTROLLED WHEN SEPARATED FROM ATTACHMENT 2**

located at the University of California - Irvine police department and that a current copy of the security response procedures was not located at the Office of Environmental Health and Safety as required by the physical security plan.

10 CFR 50.54(p) states, in part, that a licensee shall prepare and maintain safeguards contingency plan procedures in accordance with Appendix C of 10 CFR Part 73. Furthermore, Section 4 of the licensee's NRC-approved physical security plan, Revision 2, dated June 1990, required that the reactor facility maintain response procedures for dealing with security incidents that could indicate theft, potential theft or other unauthorized interference with special nuclear material of low strategic significance and copies of these procedures be located at the reactor facility, at the University of California - Irvine police department, and at the Office of Environmental Health and Safety. The failure to maintain a current copy of the reactor facility security response procedures at the University of California - Irvine police department, and at the Office of Environmental Health and Safety is a violation of 10 CFR 50.54(p) and the licensee's NRC-approved physical security plan. This failure constitutes a violation of minor significance and is being treated as a noncited violation consistent with Section IV of the NRC Enforcement Policy.

The NRC-approved physical security plan was being implemented. The reactor facility security system was installed and operated in accordance with the physical security plan and was well maintained. Testing of the reactor facility security system was being conducted as required.

14 REPORTS AND NOTIFICATIONS (40750)

The inspector reviewed the licensee's submittal of reports and notifications to the NRC to determine compliance with 10 CFR 73.71(c) and Technical Specification 6.7.

The inspector reviewed the licensee's annual reactor operating reports for the periods July 1, 1992 through June 30, 1993, July 1, 1993 through June 30, 1994, and July 1, 1994 through June 30, 1995. It was determined that the reactor operating reports contained all required information.

15 INDEPENDENT INSPECTION EFFORT (40750)

The inspector performed an independent radiation survey of the reactor room on November 30, 1995. The inspector's and the licensee's gamma radiation survey results were in excellent agreement. The inspector also took several contamination smears in the reactor room and adjacent laboratory for independent analysis. The NRC's beta-gamma analysis results of the smear survey showed no detectable removable contamination above background.

**DOCUMENT CONTAINS PROPRIETARY INFORMATION
DECONTROLLED WHEN SEPARATED FROM ATTACHMENT 2**

16 FOLLOWUP (92701)

16.1 (Closed) Inspection Followup Item 326/9101-01: Safeguards Procedure on Theft of Special Nuclear Material

Inspection Followup Item 326/9101-01 was discussed in NRC Inspection Report 50-326/91-01 and involved a review of the assumptions made in developing the Safeguards Procedure 7.4, "Theft of Special Nuclear Material," dated July 19, 1987, regarding the assessment of the potential for theft of special nuclear material. The review was to determine if the rationale used in 1987 still held true for the quantities of unirradiated special nuclear material held in inventory at the present time. On February 24, 1993, the Reactor Operations Committee reviewed the physical security plan and discussed and evaluated the assumptions made in developing Safeguards Procedure 7.4 with regard to the additional unirradiated special nuclear material received August 1, 1989, which included four instrumented fuel elements, one fuel follower control rod, and one standard fuel element, totalling 222 grams of uranium-235; and two fission counters which contained less than 2 grams of uranium-235. Except for the special nuclear material itemized above, all other special nuclear material at the reactor facility was contained in the reactor pool under a minimum of 10 feet of water and was either in the reactor core or in vertical storage racks. The Reactor Operations Committee concluded that the changes in the special nuclear material inventory did not change the original implied conclusion of the physical security plan that the unirradiated fuel represents no significant security concern at the reactor facility. They also concluded that no new security concern was raised by the change in unirradiated fuel quantity. However, it was determined that the additional unirradiated special nuclear material received August 1, 1989, as described above, would be locked in a security cabinet. The inspector verified that the unirradiated special nuclear material was locked in a security cabinet.

16.2 (Closed) Inspection Followup Item 326/9302-01: Key Accountability System for Secondary Security Keys

Inspection Followup Item 326/9302-01 was discussed in NRC Inspection Report 50-326/93-02 and involved the updating of the key accountability system for the secondary security keys which provided access to equipment storage areas and the "outer office" leading to the reactor control room. A major re-keying program for the physical sciences building 1 was not completed for these doors. The licensee agreed to have these doors re-keyed within 30 days of the NRC inspection exit held on February 18, 1993. The inspector verified at the university key shop that the doors to the equipment storage areas and the room leading to the reactor control room were re-keyed on February 24, 1993, and new keys were issued to the reactor supervisor.

**DOCUMENT CONTAINS PROPRIETARY INFORMATION
DECONTROLLED WHEN SEPARATED FROM ATTACHMENT 2**