U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-29/87-08

Docket No. 50-29 License No. DPR-3

Licensee: Yankee Atomic Electric Company
1671 Worcester Road
Framingham, Massachusetts 01701

Facility Name: Yankee Nuclear Power Station

Inspection At: Rowe, Massachusetts

Inspection Conducted: February 18 - May 22, 1987

Type of Inspection: Special Physical Security

Inspectors: G. C. Smith, Safeguards Specialist — 6/12/87 date

H. Eichenholz, Senior Resident Inspector — 6.12.87 date

Approved by: R. R. Keimig, Chief, Safeguards Section — 6.12.87 date

Inspection Summary: Special Physical Security Inspection February 18 - May 22, 1987 (Report No. 50-20/87-08).

Areas Inspected: Implementation of compensatory measures for a degraded security system; control of access to vital areas and reporting to the NRC a major loss of physical security effectiveness.

Results: The following apparent violations of NRC requirements were identified:

1. Failure to implement compensatory measures for a degraded security system;

2. Failure to have prior approval for and escort a visitor entering a vital area;

3. Failure to report a major loss of physical security effectiveness in accordance with 10 CFR 73.71.

4. Failure to search a vital area after an unauthorized entry.

Report Details

1. Key Persons Contacted

Yankee Atomic Electric Company

**L. Heider, Vice President
**N. St. Laurent, Plant Superintendent
**B. Drawbridge, Assistant Plant Superintendent
**T. Henderson, Technical Director
**B. Wood, Administrative Services Manager
*J. Kay, Technical Services Manager
**R. Sedgwick, Security Supervisor

Green Mountain Security

*T. LaFlam, Chief of Security
*G. Bruns, Assistant Chief of Security

*denotes attendance at May 7, 1987 Exit Meeting
**denotes attendance at May 7, and May 14, 1987 Exit Meeting

The inspectors also interviewed other licensee and contract personnel

2. Implementation of Compensatory Measures

a. Background

During NRC Region I Inspection 50-29/87-02, selected aspects of plant security were reviewed by the resident inspector, during regular and backshift hours, to determine whether the security plan and approved procedures were being properly implemented. That review of plant security included: guard staffing; random observations of the alarm stations; determination of physical barrier integrity in the protected and vital areas; verification that isolation zones were maintained; and implementation of access controls, including identification, authorization, badging, escorting, personnel and vehicle searches, and implementation of compensatory measures, when required. The findings of that review were acceptable, except as related to a security event that occurred on February 17, 1987.

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The inspector noted that from 3:04 p.m., until the CAS was fully functional at 3:56 p.m., all alarms generated were recorded in DPF-0460.2, the Alarm Response Action Log. The inspector also noted that it took almost one hour to determine whether a second operator was needed in the CAS as a compensatory measure. Furthermore, the inspector noted that DPF-0447.6, the Daily Security Activity log, did not indicate the alarm system failure in the SAS or that a second person was established as a compensatory measure in the CAS at about 3:04 p.m.. The inspector reviewed the licensee's files that contain Special Security Reports, DPF-044.2, and determined that no reports

relating to these alarm problems were filed by any member of the security organization. The SAS operator informed the Assistant Chief of Security, at 8:00 a.m. on February 18, 1987, about the problems on the previous day and that no action had been taken to prevent recurrence. Because of the high level of activity in the security office on that day and the unavailability of the Chief of Security, the Assistant Chief was unable to address the problem and initiate corrective measures to preclude recurrence. The licensee's security contractor did not inform the Security Supervisor of the days events that morning. Following identification of the problem by the resident inspector, the Security Supervisor directed the Chief of Security to issue a Recordable Event.

On February 19, 1987 Recordable Event Report No. 87-1 was issued. This report did not positively establish that alarms had occurred between 1:22 p.m. and 3:04 p.m. on February 17, 1987. Subsequent review of the events and report by the inspector resulted in identifying to the licensee security organization that there had been perimeter intrusion alarms that were not recorded. On March 12, 1987, a follow-up report on Recordable Event No. 87-1 was issued that documented this fact.

The inspector also noted that the preplanning for the maintenance activities involved in this event did not include personnel on the licensee's staff. The licensee used an outside maintenance contractor for maintenance that affected significant portions of the security system, and allowed the contract security organization to oversee the activity without the technical expertise to determine the resultant system degradation, and without establishing appropriate compensatory measures.

b. NRC Regulatory Requirements

Facility Operating License No. DPR-3, Paragraph 2.C.3, Physical Protection, requires the licensee to: 1) maintain in effect, and fully implement all provisions of the Commission-approved physical security plan, entitled "Modified Amended Security Plan for Yankee Atomic Electric Company" (originally approved by license Amendment No. 55, February 23, 1979); and, 2) fully implement and maintain in effect all provisions of the Commission-approved Safeguards Contingency Plan that is identified as Chapter 8 of the Modified Amended Security Plan for Yankee Atomic Electric Company.

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The following plant security procedural requirements have been established to implement the above commitment in the NRC-approved security plan:

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The licensee's security organization failed to: 1) identify the existence of a loss/degradation of a security system; 2) implement compensatory measures, as required; 3) maintain required records; and, 4) submit required reports associated with the identified equipment deficiency and the actions taken. These failures are an apparent violation of the licensee's security and contingency plans and procedures.

c. Licensee Corrective Action

The inspector noted that, as a result of this event, the following corrective measures were implemented or will be taken by the licensee:

-- Temporary/Special Procedure No. 87-2 to DP-0474, "Loss/Degradation of Security System and Compensatory Measures", was issued on February 18, 1987 that specifies the compensatory measures to be taken in the event of an alarm station failure of the type encountered.

-- A procedure will be developed to address preplanned maintenance that may require the need for compensatory measures. (Note: As of the end of the inspection (May 22, 1987) this procedure was not issued. However, Temporary/Special Procedure, No. 87-5 to DP-0474, that describes expected review actions by security management as part of any planned maintenance that might disable portions of the security system, was issued March 2, 1987.

-- Training will be provided to all security personnel on the reporting process, and to supervision on the proper method of evaluating potentially reportable issues.

3. Unauthorized Person in Vital Area

a. Background

On May 11, 1987, the licensee notified the NRC, via the Emergency Notification System (ENS), at 12:52 p.m., that an unauthorized person had been given access to a vital area. The licensee's review of the incident disclosed that, at about 12:05 a.m. on May 10, 1987, a contract dosimetry technician who had been granted access to the protected area on a visitor badge requiring an escort (because background screening was not complete), was escorted to a vital area entrance by another contract technician who was authorized unescorted access to the protected area. At the security checkpoint outside the entrance to the vital area, the escorted technician was logged in and granted access into the area without first determining whether access was authorized. A Health Physics Supervisor, who was already in the vital area, was logged as the escort by the security officer and the escorting technician left the security check point. The Health Physics Supervisor was not notified that he had been identified as the escort and station management had not authorized the technician to enter the vital area. At approximately 12:30 a.m. on May 10, 1987, the security officer who admitted the technician into the vital area was relieved. The oncoming security officer noted that a visitor was in the vital area without authorization. The security officer summoned the unauthorized technician to the entrance to the vital area and contacted the plant shift supervisor for access authorization. He did not inform the shift supervisor that the technician was already in the vital area. Station management authorized the access but the Health Physics Supervisor was still not informed of his designation as escort for the visitor. The technician with the visitor badge remained in the vital area without an escort until the end of her tour of duty at about 2:40 a.m. on May 10, 1987. At that time, the technician left the vital area with another technician who had unescorted access authorization. At about 4:45 a.m., a supervisor in the contract security force was made aware of the incident, but did not notify licensee management. The details of the unauthorized entry into the vital area were entered into the security log that morning.

The security log was reviewed by the licensee's security supervisor at about 8:00 a.m. on May 11, 1987. As previously stated, the NRC was notified of the event at 12:52 p.m. via the ENS. The NRC was again notified via the ENS at about 1:55 p.m. on May 11, 1987 that the technician was actually authorized to be in the vital area because the technician's name was on a radiation work permit (RWP) signed by a Plant Shift Supervisor.

b. NRC Regulatory Requirements

On May 13 and 14, 1987, a NRC Safeguards Specialist was on to the site to review the circumstances surrounding the incident. The inspector reviewed the Physical Security Plan, security procedures, interviewed members of the security organization, and reviewed reports of the incident.

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The inspector requested the special procedure that covered that location and condition. The licensee responded that there was no special procedure in effect for that location or condition. The inspector then questioned the licensee regarding how the RWP related to the NRC security requirements for authorized access to a vital area. The licensee stated that the RWP only provides the Plant Shift Supervisor with knowledge of who is entering a radiation control area and what activities they will be performing and does not provide any

information as to whether security requirements are met. Interviews with security personnel, conducted by the inspector, disclosed that, even after retraining conducted as a result of this incident, security personnel were still under the impression that RWP authorizations were acceptable for access to vital areas.

The inspector informed the licensee that this event constituted an apparent violation of Section 1.6.3 of the NRC-approved security plan.

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This was not done and is an apparent violation of the NRC-approved Contingency Plan.

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The Security Shift Supervisor became aware of the event, by chance, at about 6:45 a.m. on May 10. Shortly thereafter, he began making inquiries into the cause of the event and ultimately determined, without consulting higher management, that the event was not reportable to the NRC. However, it was recorded in the security event log. 10 CFR 73.71 provides, as an example of a major loss of physical security, "when security features break down without proper compensation allowing unauthorized or undetected access to vital areas." A major loss of physical security effectiveness requires notification to the NRC within 1 hour via ENS. The Chief of Security and the licensee's Security Supervisor became aware of the event when the security event log was reviewed at about 8:00 a.m. on May 11. The NRC was not notified of the event until 12:52 p.m. on May 11 and at 1:52 p.m. that notification of an event was rescinded. Failure to report the event to the NRC in accordance with 10 CFR 73.71 is an apparent violation of NRC requirements.

Also, no search of the vital area, to determine if the technician had engaged in any unauthorized or surreptitious activity, was made until May 12 when the Assistant Plant Superintendent reviewed the report of the event made by the Assistant Chief of Security. This is also an apparent violation of the NRC-approved Contingency Plan.