

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

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Report No: 50-293/98-03

Licensee: Boston Edison Company (BECo)

Facility: Pilgrim Nuclear Power Station, Unit #1

Location: Plymouth, Massachusetts

Dates: March 2-5 and 11-12, 1998

Inspectors: Edward B. King, Physical Security Inspector
Paul R. Frechette, Physical Security Inspector

Approved by: Michael C. Modes, Chief
Emergency Preparedness & Safeguards Branch
Division of Reactor Safety

EXECUTIVE SUMMARY

Pilgrim Nuclear Power Station NRC Inspection Report No. 50-293/98-03

In general, the licensee maintained an effective security program. However, the inspectors determined that multiple examples of equipment failures associated with the protected area assessment system existed. Assessment aid concerns were identified in the licensee's 1996 and 1997 quality assurance (QA) audits as well as in the 1995-1997 NRC security inspection reports. The failure to address known programmatic weaknesses is a concern.

The 1996 and 1997 security, access authorization, and FFD audits were thorough and in-depth, alarm station operators were knowledgeable of their duties and responsibilities, and communication requirements were being performed in accordance with the NRC-approved physical security plan (the Plan). Personnel search equipment was being tested and maintained in accordance with licensee procedures and the Plan, personnel and packages were being properly searched prior to protected area (PA) access and controls were in place, which included a departmental self-assessment program, for identifying, resolving, and preventing programmatic problems.

Security training was being performed in accordance with the NRC-approved training and qualification (T&Q) plan. However, the inspectors noted that the licensee has not conducted drills associated with tactical response training for over 18 months. Based on discussions with security training staff, the licensee was in the process of re-evaluating target sets and time lines to enhance their tactical response capabilities. Additionally, the training department was in the process of re-evaluating the licensee's defensive strategy associated with protecting the facility against the design basis threat as described in 10CFR 73.1. The licensee planned to begin conducting tactical response drills using the new target sets and defensive strategies in the near future in preparation for the Operational Safeguards Response Evaluation (OSRE) scheduled for the week of June 1, 1998.

As an enhancement to the inspection, the UFSAR initiative, Section 4.5 of the Plan, titled "Keys, Locks, and Combinations" was reviewed. The inspectors determined, by physical verification, discussions with security supervision, and procedural reviews, that locks and keys were being maintained as required in the Plan.

Report Details

S1 Conduct of Security and Safeguards Activities

a. Inspection Scope (81700)

Determine whether the conduct of security and safeguards activities met the licensee's commitments in the NRC-approved security plan (the Plan) and NRC regulatory requirements. The security program was inspected during the period of March 2-5 and 11-12, 1998. Areas inspected included: access authorization program; alarm stations; communications; protected area access control of personnel and packages.

b. Observations and Findings

Access Authorization Program. The inspectors reviewed implementation of the Access Authorization (AA) program to verify implementation was in accordance with applicable regulatory requirements and Plan commitments. The review included an evaluation of the effectiveness of the AA procedures, as implemented, and an examination of AA records for 10 individuals. Records reviewed included both persons who had been granted and had been denied access. The AA program, as implemented, provided assurance that persons granted unescorted access did not constitute an unreasonable risk to the health and safety of the public. Additionally, the inspectors verified by reviewing access denial records and applicable procedures, that appropriate actions were taken when individuals were denied access or had their access terminated which included a formalized process that allowed the individuals the right to appeal the licensee's decision.

Alarm Stations. The inspectors observed operations of the Central Alarm Station (CAS) and the Secondary Alarm Station (SAS) and verified that the alarm stations were equipped with appropriate alarms and communications capabilities. However, as noted in Section S2 of this report, multiple examples of equipment failures associated with the assessment program existed which precluded the alarm station operators ability to assess the cause of an alarm. Interviews with the alarm station operators found them knowledgeable of their duties and responsibilities. The inspectors also verified, through observations and interviews, that the alarm stations were continuously manned, independent and diverse so that no single act could remove the plants capability for detecting a threat and calling for assistance and the alarm stations did not contain any operational activities that could interfere with the execution of the detection, assessment and response functions.

Communications. The inspectors verified, by document reviews and discussions with alarm station operators, that the alarm stations were capable of maintaining continuous intercommunications, communications with each security force member (SFM) on duty, and were exercising communication methods with the local law enforcement agencies as committed to in the Plan.

Protected Area (PA) Access Control of Personnel and Hand-Carried Packages.

On March 3 and 4, 1998, the inspectors observed personnel and package search activities at the personnel access portal. The inspectors determined, by observations, that positive controls were in place to ensure only authorized individuals were granted access to the PA and that all personnel and hand carried items entering the PA were properly searched. However, on March 4, 1998, at 0710 Hours, an individual gained access into the protected area with an incorrect identification badge. This occurred when a SFM enrolled an individual, that was having difficulty with their identification badge at the protected area turnstyle, into the hand geometry system without verifying that the individual had the correct identification badge. The inspectors discussed the event with security management and determined that the event occurred due to the SFM's inattention to detail. The inspectors reviewed the licensee's corrective actions and determined that the event was isolated and not indicative of a decline in programmatic performance.

c. Conclusions

The licensee was conducting its security and safeguards activities in a manner that protected public health and safety and that this portion of the program, as implemented, met the licensee's commitments and NRC requirements.

S2 Status of Security Facilities and Equipment

a. Inspection Scope (81700)

Areas inspected were: Testing, maintenance and compensatory measures; PA assessment aids; and personnel search equipment.

b. Observations and Findings

Testing, Maintenance and Compensatory Measures. The inspectors reviewed testing and maintenance records for security-related equipment and found that documentation was on file to demonstrate that the licensee was testing and, with the exception of the assessment aids, maintaining systems and equipment as committed to in the Plan. A priority status was being assigned to each maintenance request and repairs were normally being completed within the same day a maintenance request necessitating compensatory measures was generated. The inspectors reviewed security event logs and maintenance work requests generated over the past six months. These records indicated that the need for establishing compensatory measures due to equipment failures was minimal and when implemented, the compensatory measures did not reduce the effectiveness of the security systems as they existed prior to the failure.

However, the inspectors also noted that maintenance requests that were classified with a low priority status would remain open for an extended period of time. Specifically, requests associated with assessment aids, not requiring compensatory measures, would either remain open for extended periods or the requests were reissued under a new maintenance request number and placed back into the tracking system. This resulted in the assessment aids not receiving the necessary level of management attention due to the low priority status of the work requests and management's failure to redirect the work efforts of the maintenance and I&C groups.

Assessment Aids. On March 4, 1998, the inspectors evaluated the effectiveness of the assessment aids, by observing on closed circuit television (CCTV), a SFM conducting a walkdown of the PA. The inspectors determined that multiple examples of equipment failures associated with the assessment program existed.

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Assessment aid concerns were identified in the 1996 and 1997 licensee's quality assurance (QA) security audits as well as in the 1995-1997 NRC security inspection reports. The failure to address known programmatic weaknesses is a concern. The licensee took immediate action to implement compensatory measures for the degraded assessment system when it was identified during this inspection. The licensee failure to maintain the protected area assessment aids as required in the NRC-approved Plan is an apparent violation of NRC requirements. (EEI 50-293/98-03-01)

Personnel and Package Search Equipment. The inspectors observed both the routine use and the daily performance testing of the licensee's personnel and package search equipment. The inspectors determined, by observations and procedural reviews, that the search equipment performs in accordance with licensee procedures and Plan commitments.

c. Conclusions

The licensee's security facilities and equipment were determined, with the exception of the assessment aid concerns, to be well maintained and reliable and were able to meet the licensee's commitments and NRC requirements.

S3 Security and Safeguards Procedures and Documentation

a. Inspection Scope (81700)

Areas inspected were: implementing procedures and security event logs.

b. Observations and Findings

Security Program Procedures. The inspectors verified that the procedures were consistent with the Plan commitments, and were properly implemented. The verification was accomplished by reviewing selected implementing procedures associated with PA access control of personnel and packages and testing and maintenance of personnel search equipment.

Security Event Logs. The inspectors reviewed the Security Event Log for the previous eight months. Based on this review, and discussion with security management, it was determined that the licensee appropriately analyzed, tracked, resolved and documented safeguards events that the licensee determined did not require a report to the NRC within 1 hour.

c. Conclusions

Security and safeguards procedures and documentation were being properly implemented. Event Logs were being properly maintained and effectively used to analyze, track, and resolve safeguards events.

S4 Security and Safeguards Staff Knowledge and Performance

a. Inspection Scope (81700)

Area inspected was security staff requisite knowledge.

b. Observations and Findings

Security Force Requisite Knowledge. The inspectors observed a number of SFM's in the performance of their routine duties. These observations included alarm station operations, personnel and package searches, and performance testing of the personnel search equipment. Additionally, the inspectors interviewed SFMs and based on the responses to the inspectors' questioning, determined that the SFMs were knowledgeable of their responsibilities and duties, and could effectively carry out their assignments.

c. Conclusions

The SFMs adequately demonstrated that they have the requisite knowledge necessary to effectively implement the duties and responsibilities associated with their position.

S5 Security and Safeguards Staff Training and Qualifications (T&Q)**a. Inspection Scope (81700)**

Areas inspected were security training and qualifications and training records.

b. Observations and Findings

Security Training and Qualifications. On March 3, 1998, the inspectors randomly selected and reviewed T&Q records of 7 SFMs. Physical and requalification records were inspected for armed supervisory and non-supervisory personnel. The results of the review indicated that the security force was being trained in accordance with the approved T&Q plan. The inspectors held discussions with the security training staff, and was informed that the security training department has not conducted drills associated with tactical response training for over 18 months. However, security with the support of plant operations, was in the process of re-evaluating target sets and time lines to enhance their tactical response capabilities. The licensee planned to begin conducting tactical response drills using the new target sets and defensive strategies in the near future in preparation for the Operational Safeguards Response Evaluation (OSRE) scheduled for the week of June 1, 1998.

Training Records. The inspectors were able to verify, by reviewing training records, that the records were properly maintained, accurate and reflected the current qualifications of the SFMs.

c. Conclusions

Security force personnel were being trained in accordance with the requirements of the Plan. Training documentation was properly maintained and accurate and the training provided by the training staff was effective.

S6 Security Organization and Administration**a. Inspection Scope (81700)**

Areas inspected were management support, management effectiveness and staffing levels.

b. Observations and Findings

Management Support. The inspectors reviewed various program enhancements made since the last program inspection, which was conducted in August 1997. These enhancements included the procurement of new base station radios for enhanced communications in the alarm stations and new weapons and equipment to enhance tactical response capabilities and improve tactical training.

Management Effectiveness. The inspectors reviewed the management organizational structure and reporting chain. The Protective Services Department Manager's position in the organizational structure provides a means for making senior management aware of programmatic needs. However, the inspectors questioned the involvement of senior management concerning the actions taken to address long standing protected area assessment aid concerns.

Staffing Levels. The inspectors verified that the total number of trained SFMs immediately available on shift meets the requirements specified in the Plan.

- c. Conclusions. The level of management support, in general, was adequate to ensure effective implementation of the security program, and was evidenced by adequate staffing levels and the allocations of resources to support programmatic needs.

S7 Quality Assurance in Security and Safeguards Activities

a. Inspection Scope (81700)

Areas inspected were: audits, problem analyses, corrective actions and effectiveness of management controls.

b. Observations and Findings

Audits. The inspectors reviewed the 1996 QA audit of the access authorization (AA) program, conducted December 18 - 31, 1996, (Audit No. 96-12), the 1996 combined QA audit of the security and fitness-for-duty (FFD) programs, conducted February 26 - March 15, 1996, (Audit No. 96-02), the 1997 QA audit of the FFD program, conducted February 24 - 28, 1997, (Audit No. 97-01), and the 1997 QA audit of the security program, conducted March 3 - 14, 1997, (Audit 97-02). The audits were found to have been conducted in accordance with the Plan and FFD rule. To enhance the effectiveness of the audits, all of audit teams included an independent technical specialist.

The 1996 AA audit report identified no deficiency reports (DR) and one recommendation. The 1996 combined security and FFD audit report identified one DR and five recommendations associated with the security program and two DRs associated with the FFD program. The security DR was associated with I&C and maintenance's failure to meet procedural requirements for processing security related maintenance requests. The FFD DRs were associated with the software developed to randomly select individuals for FFD testing and for the failure to implement corrective actions (procedural guidance) in a timely manner for establishing a process to control non-safety related computer applications. The 1997 FFD audit report identified four DRs, one problem report, and two recommendations. The DRs were associated with the lack of procedural guidance for the use of the computerized random FFD selection process, failure to generate a FFD self-assessment plan, failure to submit the required number of blind specimens to the laboratory for the last quarter of 1996, and failure to perform an audit of the Health and Human Services (HHS) certified laboratory used by the licensee. The

1997 security audit report identified four DRs and four recommendations. The DRs were associated with long term record storage, opened security work orders associated with malfunctioning door keepers, inconsistent alarm response by SFMs in accordance with the Plan, and the licensee's failure to update the security procedure associated with the hand geometry units. The inspectors determined that the findings were not indicative of programmatic weaknesses, and the findings would enhance program effectiveness. Inspectors' discussions with security management and FFD staff revealed that the responses to the findings were completed, and the corrective actions were effective.

Problem Analyses. The inspectors reviewed data derived from the security department's self-assessment program. Potential weaknesses were being properly identified, tracked, and trended.

Corrective Actions. The inspectors reviewed corrective actions implemented by the licensee in response to the QA audit and self-assessment programs. The corrective actions were effective, evidence by a reduction in personnel performance issues and loggable safeguards events.

Effectiveness of Management Controls. The inspectors verified, by documentation reviews, that the licensee has programs in place for identifying, analyzing and resolving problems. They include the performance of annual QA audits, a departmental self-assessment program and the use of industry data such as violations of regulatory requirements identified by the NRC at other facilities, as a criterion for self-assessment.

c. Conclusions

The review of the licensee's Audit program indicated that the audits were comprehensive in scope and depth, that the audit findings were reported to the appropriate level of management, and that the program was being properly administered. In addition, a review of the documentation applicable to the self-assessment program indicated that the program was effectively implemented to identify and resolve potential weakness.

X1 Exit Meeting Summary

The inspector met with licensee representatives at the conclusion of the inspection on March 12, 1998. At that time, the purpose and scope of the inspection were reviewed, and the preliminary findings were presented. The licensee acknowledged the preliminary inspection findings.

X2 Review of Updated Final Safety Analysis Report (UFSAR)

A recent discovery of a licensee operating its facility in a manner contrary to the UFSAR description highlighted the need for a special focused review that compares plant practices, procedures, and parameters to the UFSAR description. Since the UFSAR does not specifically include security program requirements, the inspectors compared licensee activities to the NRC-approved physical security plan, which is the applicable document. While performing the inspection discussed in this report, the inspectors reviewed Section 4.5 of the Plan, titled "Keys, Locks, and Combinations". The inspectors determined, by interviews with security force members (SFMs), observations, and procedural reviews, that visitor access was being controlled and maintained as required in the Plan.

PARTIAL LIST OF PERSONNEL CONTACTED

Licensee

L.J. Olivier, Vice President Nuclear
C.S. Goodard, Plant Manager
C.H. Minott, Project Manager
J. Neal, Protection Services Department Manager
N. Desmond, Regulatory Relations Manager
M.T. Lenhart, Senior Regulatory Engineer
J.L. Taomina, Instrumentation and Control Department Manager
E. Neary, Security Operations Supervisor
W. Riggs, Nuclear Services Group Manager
T. Campbell, Security Services Supervisor
J. Keene, Regulatory Affairs Manager

Contractor

R. Wheat, Project Manager, Protection Technology Incorporated (PTI)
N. Metcalf, Operations Manager, PTI

Nuclear Regulatory Commission - Region I

R. Laura, Senior Resident Inspector
R. Arrighi, Resident Inspector

INSPECTION PROCEDURES USED

IP 81700: Physical Security Program for Power Reactors

LIST OF ACRONYMS USED

SFM	security force member
QA	quality assurance
the Plan	NRC-approved physical security plan
PA	protected area
T&Q	training and qualification
CAS	central alarm system
SAS	secondary alarm system
UFSAR	Updated Final Safety Analysis Report
DR	deficiency report
CCTV	closed circuit television
HHS	Health and Human Services