

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

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Report Nos.: 50-324/97-10, 50-325/97-10
Licensee: Carolina Power & Light Company
Facility: Brunswick Steam Electric Plant
Location: P.O. Box 10429
Southport, NC 28461
Dates: July 28-30, 1997
Inspector: D. H. Thompson, Safeguards Specialist
Accompanying Personnel: R. Albert, Safeguards Branch, NRR
R. Hsu, Safeguards Branch, NRR
D. Orrik, Safeguards Branch, NRR
B. Sevario, Safeguards Branch, NRR
D. Spear, Contractor, NRR
A. Qualantone, Safeguards Branch, NRR
F. Vangel, Contractor, NRR
Approved by: C. Julian, Acting Chief, Special Inspection Branch
Division of Reactor Safety

EXECUTIVE SUMMARY

Brunswick Nuclear Plant, Units 1 & 2
NRC Inspection Report 50-324/97-10, 50-325/97-10

This safeguards inspection included aspects of licensee plant support. The report covers a three day period of an announced special inspection by a regional safeguards specialist and selected personnel from the Office of Nuclear Reactor Regulation. The specific areas evaluated were the Physical Security Program for Power Reactors.

Plant Support

- Performance testing of the licensee's access control, personnel entry, intrusion detection, alarm station and alarm assessment equipment verified that the licensee had developed and employed a very good day to day security system that was well within the licensee's Physical Security Plan and Procedures requirements. The installation and operation of the intrusion detection equipment were excellent. The alarm station equipment was state-of-art and was found to be very capable of supporting the security system. Alarm station and access control operators were well trained and responded to all alarms and assessments as required.
- The licensee's response strategy for protection of the vital equipment was well planned and executed as demonstrated during three table-top drills and two actual drills. The use of Local Law Enforcement as drill participants, acting in an adversarial role, was considered a very good training aid for both site personnel and Local Law Enforcement.

Report Details

IV. Plant Support

S2.9 Performance Assessment of Site Security

a. Inspection Scope (81700)

The inspector conducted performance test, with the assistance of the Office of Nuclear Reactor Regulation (NRR) and NRC contractors, to determine the capability of the licensee's access control personnel to detect unauthorized items, using the x-ray, metal and explosive detection equipment. Additionally, the licensee's Central and Secondary Alarms Station operations were reviewed. Verification of the licensee's strategy for interdicting external threats was also performed.

b. Observations and Findings

(1) Access Control - Personnel and Packages

The inspector observed operation of the access control officers and equipment to determine if the officers and equipment were performing in accordance with the Physical Security Plan (PSP) and implementing procedures. Tests of the protected area access control equipment were conducted utilizing the licensee's test equipment. On July, 29, 1997, the inspector observed a test conducted by the contractors in which they dismantled a 9MM handgun into small parts and attempted to surreptitiously introduce the weapon into the protected area. The x-ray operator immediately detected the weapon and took the proper actions to control the individual and the weapon. Thirty-six additional tests of the x-ray, metal and explosive detection equipment were conducted. There were no weaknesses identified.

(2) Perimeter Intrusion Detection

While reviewing the currently installed protected area detection aids, the inspector conducted 39 performance test. The tests were crawling, walking, shuffling, rolling and leaping. The intrusion detection system consisted of several different detection aids, some in tandem. Detection equipment employed by the licensee were Southwest microwave 13,000 and 16,000 series, in varying configurations utilizing both bi-static and mono-static radar and Steller 4-wire E-Field.

Of all the zones tested the licensee was capable of detecting an individual climbing, jumping, running, or crawling through, over, or under the system. The team considered the installation and operation of the intrusion detection one of the best observed to date.

(3) Closed Circuit Television (CCTV) Assessment

The licensee currently has 27 cameras (both fixed and pan/tilt/zoom) in place to provide alarm assessment. As an enhancement for the CCTV the licensee has installed a Mark 4, video capture system. A performance test of the CCTV and video capture systems was accomplished by observing operations in the central/secondary alarm stations as the NRC contractors walked and ran through the isolation zones. The evaluation determined that positive assessment could be made throughout the isolation zones using CCTV.

(4) Alarm Stations

Discussion with Security Management and observation of alarm station activities confirmed that the alarm stations were operating as required by the PSP. Both alarm stations are equipped with alarm, surveillance, and communication equipment. The inspector verified that both alarm stations are independent and provide redundancy and diversity so that both alarm stations are independent. The licensee's computer is state-of-the-art and capable of providing continuous support well into the future.

The inspector noted that the Central Alarm Station during day shift had an unusually heavy workload, which may, under some circumstances, interfere with the operator's ability to assess alarms or direct responding forces. The licensee will evaluate this concern.

(5) Response Capabilities

The inspector conducted three time line drills using previously identified safety related target sets as defined by the licensee and the NRC. A licensee response team leader participated in the table-top drills. He was responsible for directing the security force to counter the adversaries whose tactics and movements were controlled by the contractors. The benchmark for these drills was the NRC Design Basis Threat. Time line drills indicated a consistency in site protective strategies. The table-top drills and two actual drills which were conducted on July 29, 1997, validated that the licensee was capable of interdicting the adversary, with a sufficient number of personnel, appropriately armed, from protected positions. The defense in depth and weapons employment were considered excellent to prevent the adversary from attaining their targets.

c. Conclusion

Through performance testing and observation of activities in progress, the inspector determined that the licensee's access control equipment, intrusion detection equipment, CCTV assessment, and alarm station operations met the requirements of the licensee's PSP. The licensee's response strategy and weapons employment to

meet the NRC Design Basis Threat were outstanding. The use of Local Law Enforcement as a response team and their participation as the adversary was considered a strength for the security program.

Management Meetings

X1 Exit Meeting Summary

The inspector presented the inspection results on July 30, 1997 to licensee management. The licensee acknowledged the findings presented. Although reviewed during the inspection, proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

A. Brittain, Supervisor Security
J. Corcetti, Security Engineer
M. Fielding, Security Specialist
C. Hinnant, Vice President, Brunswick Nuclear Plant
K. Jury, Manager, Regulatory Affairs
B. Lindgren, Manager, Plant Support
R. Liseno, Nuclear Assurance Section
S. Holth-Nguyen, Security Specialist
J. Ross, Performance Evaluation Section
M. Turkal, Project Engineering - Licensing

NRC

E. Brown, Resident Inspector
C. Patterson, Senior Resident Inspector

INSPECTION PROCEDURES USED

IP 81700: Physical Security Program for Power Reactors