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NRC: Region I
 (ORGANIZATION) 12-22-89
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U.S. NUCLEAR REGULATORY COMMISSION
 REGION I

Report Nos. 50-354/89-19
50-272/89-22
50-311/89-24

Docket Nos. 50-354
50-272
50-311

License Nos. NPF-57
DPR-70
DPR-75

Licensee: Public Service Electric & Gas Company

Facility Name: Artificial Island Nuclear Generating Station

Inspection At: Hancocks Bridge, New Jersey

Inspection Conducted: November 13-17, 1989

Type of Inspection: Routine, Unannounced Physical Security

Inspectors: [Signature] 12/19/89
 T. W. Dexter, Physical Security Inspector date

[Signature] 12/19/89
 W. K. Lancaster, Physical Security Inspector date

Approved by: [Signature] 12-20-89
 R. R. Keimig, Chief, Safeguards Section date
 Division of Radiation Safety and Safeguards

Inspection Summary: Routine, Unannounced Physical Security Inspection
(Combined Inspection Report Nos. 50-354/89-19, 50-272/89-22, 50-311/89-24)

Areas Inspected: License action on previously identified items and follow-up on actions taken in response to the findings of the Regulatory Effectiveness Review (RER) conducted on April 10-14, 1989; Management Support, Security Program Plans and Audits; Protected and Vital Area Physical Barriers,

Detection and Assessment Aids; Protected and Vital Area Access Control of Personnel, Packages, and Vehicles; Alarm Stations and Communications; Power Supply; Testing, Maintenance and Compensatory Measures; Security Training and Qualifications.

Results: The licensee was found in noncompliance with the NRC-approved Guard Training and Qualification Plan. Potential weaknesses were also identified in the areas of Protected Area Detection and Assessment Aids and Protected Area Lighting.

Details

1. Key Personnel Contacted

Licensee and Contractor Personnel

- *P. A. Moeller, General Manager, Nuclear Services
- *D. W. Renwick, Manager, Nuclear Security
- *B. C. Weiser, Security Engineering and Planning Staff
- *M. Ivanick, Senior Security Regulatory Coordinator
- *R. Mathews, Project Manager, Wackenhut
- R. Maichle, Security Shift Supervisor
- *J. Lark, NQA Audits Group Team Leader

U.S. Nuclear Regulatory Commission (NRC)

- *T. Johnson, Senior Resident Inspector, Hope Creek
- *K. Gibson, Senior Resident Inspector, Salem

*indicates those present at the Exit Interview

The inspectors also interviewed other licensee employees and members of the Wackenhut contract security force.

2. Licensee Action on Previously Identified Items

(Closed) UNR 50-272/89-11-02: On May 24, 1989, a loss of all electrical power (AC and DC) to the Salem security system occurred. The licensee implemented compensatory measures, made a one-hour report to the NRC and submitted a security event report. Because a similar event had previously occurred, the NRC was concerned about the reliability of the system. The licensee has implemented short term corrective actions and submitted a schedule detailing the long term corrective actions. The inspectors verified that the short term corrective actions were accomplished and long term corrective actions were on schedule. The long term actions require engineering/design changes and hardware modification, and will not be accomplished until July 31, 1992. The short term corrective actions were found acceptable by the inspectors pending implementation of the long term actions.

3. Follow-up on Regulatory Effectiveness Review Findings

On April 10-14, 1989, the NRC conducted a Regulatory Effectiveness Review (RER) at the Hope Creek Nuclear Station. The report of the RER findings was transmitted to the licensee on April 26, 1989. On June 19, 1989, the licensee responded to the RER findings by letter and outlined those

actions already taken and proposed actions to correct potential weaknesses that were identified. During this inspection, the inspectors reviewed the licensee's corrective actions completed to date and discussed the remaining findings and proposed actions with representatives of the licensee.

The following are the results of the inspectors' review of the licensee's actions that remained open at the conclusion of Combined Inspection Report Nos. 50-354/89-15, 50-272/89-19, 50-311/89-17, conducted on July 10-14, 1989.

- a. Section 2.2.1-Finding 5:

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In summary, the following RER findings remain open for further review and action by the licensee, and subsequent inspections by the NRC: Section 2.2.1 Finding 5; Section 2.2.1 Locations 1 and 2; and Sections 2.2.2,

2.2.3, 2.2.4, 2.2.5, and 2.3.2. Where necessary, appropriate compensatory measures are in effect. The inspectors determined that the licensee has budgeted appropriate funding to accomplish both the 1990 engineering evaluations and the 1991 hardware modifications and system upgrades to correct all of the potential weaknesses identified except for 2.2.2, 2.2.3 and 2.2.4. The licensee has not yet determined effective resolution for these three potential weaknesses.

4. Management Effectiveness - Security Program

The inspectors determined that management attention to the Artificial Island security program remains strong and aggressive.

The following actions have been taken by the the licensee since the last NRC physical security inspection to enhance the existing security program:

- The licensee completed and activated the Station Processing Center in August 1989. All activities relating to protected and vital area (PA and VA) access (e.g., background investigations, photo-ID badging, physicals, fitness-for-duty testing, general employee training, health physics testing) are accomplished at this one central location.
- The licensee is in the process of reducing the station's PA by removing the Salem transformer yard from inside the PA.
- The licensee is continuing to analyze the security event logs to identify trends and is implementing corrective and preventive actions as appropriate.
- The licensee has developed more aggressive and effective testing methods and is evaluating PA intrusion detection systems (IDSs) and assessment systems in an effort to upgrade their capabilities.
- The licensee has begun upgrading one of the station's PA IDS. This upgrade is scheduled for completion in 1991.
- The licensee continues to provide dedicated I&C technicians for maintenance and repair of the station's security systems and equipment.
- The licensee upgraded the X-ray machine capabilities at the main access control center.
- The licensee has removed all non-security related activities from the main access control center (Security Center Building). Areas within this building, which previously were utilized by other station groups, were turned over to security and have been converted into the security force gym, break room, shift briefing area, etc.

- The licensee has recently established a quality improvement program (QIP) within the nuclear security organization. The QIP identifies problems to management for resolution.

The following actions were taken by the licensee's security force contractor since the last NRC physical security inspection to enhance the security program.

- Established shift committees to identify security force concerns to management for resolution.
- Established a safety communication program for the security force.
- Established a guardmount planning program for the security force.
- Expanded special award and recognition programs.
- Enhanced the security force firearms training program by providing additional practice ammunition and firearms range time.

The following items were also observed by the inspectors:

- On November 17, 1989, the station had a nuclear security force consisting of 143 members.
- A review of the security force contractor's records revealed that the contractor experienced an attrition rate of about 24 percent since January 1, 1989.
- Security Force Members (SFMs) are being paid overtime for shift briefings prior to assuming duties.
- SFMs have been working 12 hour shifts since June 1989.
- Excellent communications exists between licensee and the security force contractor.
- The station's security program is actively supported by other plant groups and effective communication channels exist among security (both licensee and contractor) and the other plant groups.

In summary, both the licensee and the security force contractor appear to be working together to implement a highly effective nuclear security program.

5. Management Support, Security Program Plans and Audits

- a. Management Support - Management support for the licensee's physical security program was determined to be active and effective by the inspectors. This determination was based upon the inspector's review

of various aspects of the licensee's program as documented in this report.

The inspectors considered the types of upgrades discussed in Section 4. of this inspection report to be indicative of a high quality, effective and performance-based security program.

The inspectors noted that SFMs are, in general, very knowledgeable of their post duties, contents of procedures and their other responsibilities, and exhibit a professional demeanor. The morale of the security force appeared good and did not appear to be adversely impacted by 12 hour shifts, which are the result of corporate budget cuts. On-site security managers and supervisors appeared to be effectively implementing a quality program and corporate support is highly evident. Minor potential security weaknesses identified by the inspectors during the inspection were discussed with on-site security management and prompt corrective actions were taken where applicable. The inspectors noted, as did the RER Team, that some of the licensee's security systems (primarily, detection and assessment aids) are showing signs of aging. SFMs are compensating for these systems and equipment deficiencies, as required, but the practice of using SFMs to compensate for deficiencies in systems and equipment has inherent weaknesses. The licensee's management is aware of these deficiencies and weaknesses and long term corrective actions have been initiated. In summary, the inspectors determined that the licensee has a strong security program that is generally very effective, however, the effectiveness of the program could be further enhanced by expediting the replacement of the aging systems and equipment. Also, security force morale must be closely monitored for any signs of deterioration as a result of long periods of mandatory overtime.

- b. Security Program Plans - The inspectors verified that changes to the licensee's Security, Contingency, and Guard Training and Qualification Plans, as implemented, did not decrease the effectiveness of the respective plans, and had been submitted in accordance with NRC requirements. No discrepancies were noted.
- c. Audits - The inspectors did not review the 1989 annual security program audit or report in during this inspection due to time constraints. This review will be conducted during a subsequent inspection.

6. Protected and Vital Area Physical Barriers, Detection and Assessment Aids

- a. Protected Area Barriers - The inspectors conducted a physical inspection of the PA barriers on November 14, 1989. The inspectors determined, by observation, that the barriers were installed and maintained as described in the Plan. No discrepancies were noted.

- b. Protected Area Detection Aids - The inspectors observed the PA perimeter detection aids on November 14-15, 1989, and determined that they were installed, maintained and operated as committed to in the Plan.

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The licensee committed to review the matter in an effort to enhance the effectiveness of the systems. This is an Inspector Follow-up Item (IFI 50-354/89-19-01, 50-311/89-22-01 and 50-272/89-24-01).

- c. Isolation Zones - The inspectors verified that isolation zones were adequately maintained to permit observation of activities on both sides of the PA barrier. No discrepancies were noted.
- d. Protected Area and Isolation Zone Lighting - The inspectors conducted a lighting survey of the PA and isolation zones on November 13 and 16, 1989. The inspectors determined, by observations, that the lighting was adequate, however, several marginal areas were identified.

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The inspectors determined from reviewing the SFM lighting surveys and interviewing security personnel (both contractor and licensee) that the majority of these areas had been previously identified. However, during a review of the licensee's security plan implementing procedures, the inspectors determined that compensatory measures for minor lighting deficiencies were not specifically addressed; therefore, the adequacy and prompt initiation of compensatory measures were questioned by the inspectors. The licensee committed to revise the procedures to address that concern. The procedures will be reviewed during subsequent inspections and this matter is considered an Unresolved Item (UNR 50-354/89-19-02, 50-272/89-22-02 and 50-311/89-24-02).

- e. Assessment Aids - The inspectors observed the PA perimeter assessment aids and determined that they were generally installed, maintained, and operated as committed to in the Plan (except as noted in Section 3.e. of this report).
 - f. Vital Area Barriers - The inspectors conducted a physical inspection of several VA barriers on November 15 and 16, 1989. The inspectors determined, by observation, that the barriers were installed and maintained as described in the plan. No discrepancies were noted.
 - g. Vital Area Detection Aids - The inspectors observed the VA detection aids and determined that they were installed, maintained and operated as committed to in the Plan. No discrepancies were noted.
7. Protected and Vital Area Access Control of Personnel, Packages and Vehicles
- a. Personnel Access Control - The inspectors determined that the licensee was exercising positive control over personnel access to the PA and VAs. This determination was based on the following:
 - (1) The inspectors verified that personnel are properly identified and authorization is checked prior to issuance of badges and key-cards. No discrepancies were noted.
 - (2) The inspectors verified that the licensee has a program to confirm the trustworthiness and reliability of employees and contractor personnel. No discrepancies were noted.
 - (3) The inspectors verified that the licensee has a fitness-for-duty program in place. The licensee plans to fully implement the requirements of 10 CFR 26 by January 3, 1990. Random testing of all personnel will begin on November 20, 1989. The inspectors attended a class for briefing licensee employees on the new program on November 16, 1989. No discrepancies were noted.
 - (4) The inspectors verified that the licensee takes precautions to ensure that an unauthorized name cannot be added to the access list by having a member of management review the list every 31 days. No discrepancies were noted.
 - (5) The inspectors verified that the licensee has a search program, as committed to in the Plan, for firearms, explosives, incendiary devices and other unauthorized materials. The inspectors observed personnel access processing during shift changes, visitor access processing, and interviewed members of the security force and licensee's security staff about personnel access procedures. No discrepancies were noted.

- (6) The inspectors determined, by observation, that individuals in the PA and VAs display their access badges as required. No discrepancies were noted.
- (7) The inspectors verified that the licensee has escort procedures for visitors to the PA and VAs. No discrepancies were noted.
- (8) The inspectors verified that the licensee has a mechanism for expediting access to vital equipment during emergencies and that the mechanism is adequate for its purpose. No discrepancies were noted.
- (9) The inspectors verified that unescorted access to VAs is limited to authorized individuals. The access list is revalidated at least once every 31 days as committed to in the Plan. No discrepancies were noted.

b. Package and Material Access Control - The inspectors determined that the licensee was exercising positive control over packages and material that are brought into the PA at the main access portal. The inspectors reviewed the package and material control procedures and found that they were consistent with commitments in the Plan. The inspectors also observed package and material processing and interviewed members of the security force and the licensee's security staff about package and material control procedures. No discrepancies were noted.

c. Vehicle Access Control - The inspectors determined that the licensee properly controls vehicle access to and within the PA. The inspectors verified that vehicles are properly authorized prior to being allowed to enter the PA. Identification is verified by the SFM at the vehicle access portal. This procedure is consistent with the commitments in the Plan. The inspectors observed vehicle processing and search, inspection of vehicle logs, and interviewed members of the security force and licensee's security staff about vehicle search procedures. The inspectors also reviewed the vehicle search procedures and determined that they were consistent with commitments in the Plan. No discrepancies were noted.

8. Alarm Station and Communications

The inspectors observed the operation of the Central and Secondary Alarm Stations (CAS & SAS) and determined they were maintained and operated as committed to in the Plan. CAS and SAS operators were interviewed by the inspectors and found to be knowledgeable of their duties and responsibilities. The inspectors verified that the CAS and SAS did not contain any operational activities that would interfere with the assessment and response functions. No discrepancies were noted.

The inspectors also observed tests of communications capabilities in the alarm stations and reviewed the testing records for the communications

channels. All were found to be as committed to in the Plan. No discrepancies were noted.

9. Testing, Maintenance and Compensatory Measures

The inspectors reviewed the testing and maintenance records and confirmed that the records committed to in the Plan were on file and readily available for licensee and NRC review. The station provides dedicated instrumentation and controls (I&C) technicians to conduct preventive and corrective maintenance on security equipment. A check of repair records indicated that repairs, replacements and testing is being accomplished in a timely manner. No discrepancies were noted.

The inspectors also reviewed the licensee's use of compensatory measures and determined them to be as committed to in the Plan. No discrepancies were noted except as discussed in Section 6.d. of this inspection report.

10. Security Training and Qualification

The inspectors randomly selected and reviewed the training and qualification records for six SFMs. The physical and firearms qualification records for those SFMs were also inspected. The SFMs selected were armed guards and supervisory personnel.

On November 15, 1989, the inspectors determined, by reviewing individual SFM training records and by interviewing security personnel (both licensee and contractor), that SFMs had exceeded their annual requalification for some security tasks for periods of up to three months. After a review of the inspectors' findings, the licensee agreed and stated that the cause was apparently an administrative oversight in tracking the requalification due dates. The licensee initiated prompt action to requalify SFMs on an annual basis.

The Artificial Island Nuclear Generating Station Guard Training and Qualification Plan, dated August 19, 1987, Revision 0, Section 1.8, states, in part, that individual qualification records will contain annual certification by a licensee Security Supervisor, that all performance objectives associated with the examinee's assigned duties have been successfully demonstrated in initial qualification and subsequent requalification.

The inspectors also found that SFMs were not being trained in the use of all of the response force equipment as committed to in the licensee's Training and Qualification Plan. The licensee admitted that this training had not been administered because its need and usefulness had been questioned due to changing conditions. However, the matter had not been discussed with the NRC.

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In addition, the inspectors determined by reviewing physical examination results and by interviewing medical personnel that one armed SFM was not able to distinguish the colors of red, green and yellow (by standard testing) during his 1989 security force physical and had not been administered an on-the-job evaluation for a mild color blindness defect as permitted by NRC requirements. The SFM was immediately disarmed and was administered the on-the-job-evaluation, which he subsequently passed. The licensee committed to review all SFM Training and Qualification Plan records to ensure that all SFMs meet the commitments stated in the Plan.

The Licensee's Guard Training and Qualification Plan, Section 1.3 (a) requires security force personnel to successfully pass a physical examination, administered by a licensed physician, every twelve months with the following eyesight requirement: "The ability to distinguish red, green and yellow is required."

The inspectors determined that the licensee's failure to comply with the above requirements in the NRC-approved Artificial Island Guard Training and Qualification Plan represent an apparent Violation. (VIO 50-354/89-19-03, 50-272/89-22-03 and 50-311/89-24-03). Due to the nature of this violation, the inspectors also questioned the depth and thoroughness of the licensee's QA audit program, since it should have identified these discrepancies.

Several SFMs were interviewed to determine if they possess the requisite knowledge and ability to carry out their assigned duties. The interviews results indicated that they were knowledgeable of their job requirements. No discrepancies were noted.

The security force contractor administers the training program with three full-time professionals (one coordinator and two instructors/off-shift) and five part-time instructors/on-shift. Newly hired SFMs receive a minimum of two weeks of basic training.

At the time of the inspection, the licensee's security force consisted of 143 contract personnel (20 supervisory personnel, 61 security officers, 50 watchmen, and 12 administrative personnel) and 9 licensee personnel (1 manager, 1 coordinator, 1 engineer and 5 shift supervisors). The inspectors verified that the armed response force meets the commitments in the Plan and that there is always one full-time member of the security organization on-site who has the authority to direct security activities.

11. Exit Interview

The inspectors met with the licensee representatives indicated in paragraph 1 at the conclusion of the inspection on November 17, 1989. At that time, the purpose and scope for the inspection were reviewed and the findings were presented. The licensee's commitments, as documented in this report, were reviewed and confirmed with the licensee.