U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-456; 50-457
License Nos:	NPF-72; NPF-77
Report Nos:	50-456/98017(DRS); 50-457/98017(DRS)
Licensee:	Commonwealth Edison Company
Facility:	Braidwood Nuclear Generating Plant, Units 1 and 2
Location:	RR #1, Box 84 Braceville, IL 60407
Dates:	October 13-19,1998
Inspector:	G. Pirtle, Physical Security Inspector
Approved by:	James R. Creed, Chief, Plant Support Branch 1 Division of Reactor Safety

EXECUTIVE SUMMARY

Braidwood Nuclear Generation Plant
NRC Inspection Reports 50-456/98017; 50-457/98017

This inspection included a review of the security measures implemented to support the Steam Generator Replacement Project. It was an announced inspection conducted by a regional physical security specialist.

General security support for the Steam Generator Replacement Project was very good. Overtime demands for the security force were challenging but effectively monitored by the security staff. Compensatory measures, except as noted below, were properly implemented. Loggable security events were not excessive, and the general workforce demonstrated a good understanding and compliance with security responsibilities.

A violation was identified for three occasions between August 26 and October 2, 1998, when security officers were determined to be inattentive to duty (asleep) (Section S4.b.1).

An unresolved item was identified pertaining to the adequacy of compensatory measures implemented for a section of the vehicle barrier system (Section S3.b.1).

An Inspection Followup Item was identified pertaining to possible altering of fitness-for-duty test specimens by some individuals (Section S8).

Security equipment observed during the inspection functioned as designed (Section S2).

Security procedures reviewed were generally well written. Records reviewed were accurate and complete(Section S3).

Security force members observed on post were knowledgeable of post requirements and performed their duties in an adequate manner. Security force support was well managed, and the plant population demonstrated a high level of awareness and compliance with security requirements (Section S4).

Report Details

IV. Plant Support

S2 Status of Security Facilities and Equipment

a. Inspection Scope (81700)

The inspector reviewed the condition of security equipment and facilities required by the security plan. The equipment observed included, but was not limited to, search equipment, intrusion alarm equipment, alarm assessment equipment, and equipment within the secondary alarm station (SAS) and Main Access Facility (MAF).

b. Observations and Findings

Search equipment at the MAF and equipment at the SAS functioned as designed. Security force personnel evaluated had the required communication equipment and weapons, if necessary.

c. Conclusions

Security equipment observed during the inspection functioned as designed.

S3 Security and Safeguards Procedures and Documentation

a. Inspection Scope (50001 and 81064)

The inspector reviewed selected procedures pertaining to the areas inspected and also reviewed appropriate logs, records, and other documents pertaining to security support for the Steam Generator Replacement Project. Emphasis was on security considerations associated with vital and protected area barriers that may be affected during the steam generator replacement project.

b. Observations and Findings

Procedures reviewed were generally well written. Records reviewed were complete and accurate. An unresolved item was identified while reviewing security procedures and documentation.

b.1 Section 5.2.1.1 of the Braidwood Station Security Plan states that the vehicle barrier system (VBS) meets the requirements of 10 CFR 73.55(c)(7) and (8), and also commits to compensatory measures for degraded portions of the VBS equivalent to those identified in Nuclear Energy Institute (NEI) Document 96-01 "Guidelines For Operational Planning and Maintaining Integrity of Vehicle Barrier Systems (VBS)", dated February 1996.

The inspector's review of documentation of compensatory measures and interviews disclosed that adequate compensatory measures may not have been implemented

when a portion of the VBS was degraded to allow protected area entry and exit of the steam generators. In both cases, the jersey barriers that make up part of the VBS were unpinned and left in that condition for periods up to four days. The licensee's Corporate Security Procedure (CNSG No. 4, Revision 1, "Operational Planning and Maintaining Integrity of Vehicle Barrier Systems", dated August 1996), allowed unpinned jersey barriers to be used for compensatory measures.

The jersey barriers in question were initially anchored (and an adequate VBS) and then unanchored for up to four days (which may have caused an inadequate VBS) solely because of the licensee's actions (removing the anchor pins). The licensee's initial analysis of the VBS when installed concluded that the jersey barriers had to be anchored to be an effective VBS. While the jersey barriers were unanchored, the two fences and alarm system were in place and operational. Additionally, adequate security measures were implemented for the short period of time when the two perimeter gates were opened. Our concern is only the period of time there were no security officers present at the degraded portions of the VBS. The licensee's security staff believed the unpinned jersey barriers met compensatory measure guidance provided in NEI Document 96-01 as well as their own procedures.

We are unsure if the compensatory measures implemented are adequate, although they did comply with the licensee's procedure. It appears that adequate compensatory measures would have required more substantial barriers. Section 73.55(g)(1) of 10 CFR Part 73 requires that compensatory measures not reduce the effectiveness of the security system. Unanchored jersey barriers may reduce the effectiveness of the VBS below the standard required by 10 CFR 73.55(c)(7).

The unresolved item is whether compensatory measures were required if the VBS degradation was the result of licensee preplanned actions which resulted in the VBS not meeting the criteria of 10 CFR 73.55(c)(7), and an analysis showed that the barriers had to be anchored to be effective. This issue will be forwarded to NRC Headquarters for review, and resolution of the issue will be addressed by separate correspondence (URI 50-456/ 98017-01(DRS); 50-457/98017-01(DRS)). This issue is of safety significance because if inadequate compensatory measures were implemented, the VBS would have been ineffective in countering the design basis vehicle threat described in 10 CFR 73.1(a)(1)(iii).

c. Conclusions

Security procedures reviewed were generally well written. Records reviewed were accurate and complete. An unresolved item was noted relating to the adequacy of compensatory measures implemented for a section of the VBS.

S4 Security and Safeguards Staff Knowledge and Performance

a. Inspection Scope (50001 and 81700)

The inspector toured various security posts, including the secondary alarm station and Main Access Facility, and the compensatory post for the Steam Generator Replacement

Project. The inspector also observed performance of duties to determine if the security officers were knowledgeable of post requirements. Security event logs and other records pertaining to security force performance were also reviewed.

b. Observations and Findings

The overall security support for the steam generator replacement project was very good. Compensatory measures, except as noted earlier, were properly implemented. Four compensatory measures (three for containment access and one for outage related duties) were routinely used to support the SGRP. The support was provided without having to change shift schedules, or cancel scheduled vacations. The overtime (approximately 15%) for the security force was demanding, but managed well. There were only two occasions when a security officer exceeded 72 hours in a seven day period, and both occasions were for only one hour. Five overtime deviations were approved for working more that 24 hours in a 48 hour period (maximum period was 28 in 48 hours). Overtime deviations were documented. Security personnel interviewed stated that they were not normally called in on scheduled days off for overtime. In spite of the demands, the security training section was able to fulfill training requirements for nine newly hired security officers and annual Appendix B (job task related) requalification training for security personnel was able to be continued.

Loggable security events were not excessive, considering the number of contractors processed for the outage (2,300), which was indicative of a workforce aware of their security responsibilities. Inspector review of security events between September 5 and October 10, 1998, showed approximately 26 unsecured door incidents, and 29 uncontrolled or lost security badge incidents.

During observation of site ingress practices on October 15-16, 1998, it was very evident that personnel entering the site were thoroughly familiar with ingress procedures, and security personnel adequately controlled the ingress process. Required physical searches of personnel were completed in an adequate manner. Hand carried items were searched when appropriate. Vehicle authorizations, escorts, and searches upon entering the protected area were completed in a controlled and thorough manner.

Interviews with the Station Security Administrator and contract security force manager disclosed that approximately 2,300 personnel were processed for unescorted access in preparation for the SGRP, and well over a hundred vehicle entries and exits were completed. During the week of the inspection approximately 1,600 personnel a day processed through the entry search equipment for protected area entry. All of these functions were completed in a relatively error-free manner. Security staffing levels for support of the SGRP were reviewed and determined to be adequate. The turnover rate for the past three months averaged about five security officer losses per month. Security officers checked on post had proper post orders and were knowledgeable of post responsibilities. Documentation reviewed was complete and accurate.

b.1 A violation was identified pertaining to three occasion between August 26 and October 2, 1998, when security officers were determined by the licensee to be inattentive to duty (asleep) as described below:

Section 7.3.3 of the Braidwood Station Security Plan describes the compensatory measures to be implemented for an unlocked or unalarmed vital area door (Details are Safeguards Information).

Section 11.1 of the Braidwood Station Security Plan describes the number of guards that must be immediately available at all times for immediate response to security contingencies (Details are Safeguards Information).

Contrary to the above, the licensee security staff discovered that on three occasions between August 26 and October 2, 1998, security officers were found asleep on their post. On August 26, 1998, compensatory measures required by Section 7.3.3 of the security plan for a vital area door were not effective because the security officer used for the compensatory measures was found asleep. On September 17, 1998, the minimum number of guards required by Section 11.1 of the security plan to be available for immediate response for security contingencies was not available because a member of the armed response force was found asleep. On October 2, 1998, compensatory measures for an opening in the reactor containment liner was not effective because the security officer posted to control access was found asleep (VIO 50-456/98017-02(DRS); 50-457/98017-02(DRS)). The security officers involved in the incidents had their employment terminated.

The inspector's review of the circumstances of the incidents concluded that excessive hours worked preceding the sleeping incidents was not a common factor. Interviews with the contract security force manager who conducted the followup investigations indicated that all of the personnel involved knew they were tired and thought if they could just set down and rest they would be able to continue their shift. The common thread between the three incidents was the individuals failure to use the assistance that they knew was available.

As a result of a similar violation cited in Inspection Reports 50-456/97020; 50-457/97020, dated January 7, 1998, the licensee implemented a program called the "Stand and Call" program. The program in essence consisted of encouraging security officers to "stand" and "call" their supervisors if they felt fatigued. Once advised, the supervisor assumed the responsibility to assist the individual, in whatever way possible and necessary, to be able to finish the tour of duty, or be relieved from the security post or tour of duty. All of the personnel involved in the three sleeping incidents had signed an attendance sheet that they had been trained on the "Stand and Call" program. Interviews with the contract security force manager also disclosed that on 21 occasions in 1998, security officers had used the program and assistance was provided to personnel to include relieving them from duty in some cases and allowing them to sleep, providing transportation to their off site residence, supervisors remaining on post with the person, changing post assignment, and other actions the supervisors felt were necessary. Penalties or discipline were not imposed for actions taken under the "Stand and Call" program. The "Stand and Call" program was publicized on some bulletin boards in the security area. Every security officer questioned about the program by the inspector knew the elements of the program and believed that they would get assistance if they used the program. The officers also stated that they would use the program if

they felt the need for assistance to remain awake, particularly since the three security officers employment was terminated for sleeping on post.

After the second incident of inattentive duty (sleeping) by a security officer, the licensee security staff and contract security force manager conducted meetings on September 17 and 18, 1998, to re-emphasize the elements of the "Stand and Call" program and commit their support to the program to eliminate incidents of inattentiveness.

The "Stand and Call" program implemented by security management can prevent further occurrence of sleeping on duty if the security personnel use the assistance available. . In the inspector's judgement, the licensee security staff and contract security manager are committed to the program and the program has been used 21 times by security force members. Therefore, additional corrective actions for this violation do not appear necessary.

c. Conclusions

A violation was identified for three occasions when security officers were determined by the licensee security staff to be inattentive to duty (asleep). Security force members observed on post were knowledgeable of post requirements and performed their duties in an adequate manner. Security force support was well managed and, based upon the number of security reportable events, the plant population demonstrated a high level of awareness and compliance with security requirements.

S8 Miscellaneous Security and Safeguards Issues

The Nuclear Generation Group Corporate Security (NGGCS) Fitness-For-Duty (FFD) staff advised NRC Region III that they suspected that some contractor personnel were adulterating their FFD test specimens to mask the presence of prohibited substances. This suspicion was based on an analysis of presumptive positive tests that subsequently were reported to be negative by the laboratory that completed followup testing. The NGGCS staff was continuing their inquiry into the matter. Because of the sensitive nature of the issue, and the fact that an ongoing investigation is in progress, other information such as the method of adulteration, and methods of detection and actions will not be addressed in detail in this report. NRC Region III will monitor the licensee's investigation conclusions and corrective actions implemented as a result of the investigation (IFI 50-456/98017-03(DRS); 50-457/98017-03(DRS)).

X1 Exit Meeting Summary

The inspector presented the onsite inspection results to members of the licensee management on October 19,1998. The licensee management representatives acknowledged the findings presented. The inspector asked the licensee if any inspection findings discussed during the exit meeting should be considered as proprietary or safeguards information. No proprietary or safeguards information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee:

T. Tulon, Site Vice President
G. Baker, Station Security Administrator
M. Cassidy, NRC Coordinator
D. Cecchett, Lead Licensing Engineer
R. Davis, Training Coordinator, Burns International Security Services, Ins (BISSI)
G. Groth, SGRP Project Manager
T. Hakey, Security Shift Supervisor, BISSI
J. Lamb, Trainer, BISSI
R. Lane, Nuclear Generation Group Security Director
J. Nalewajka, Assessment Manager
M. Riegel, Nuclear Oversight Manager
D. Turner, Assistant Station Security Administrator
D. Walker, Security Force Manager, BISSI
H. Walker, Administration coordinator, BISSI
K. Zohner, Administration Assistant, BISSI

NRC

C. Phillips, Senior Resident Inspector

INSPECTION PROCEDURES USED

IP 50001	Steam Generator Replacement Inspection
IP 81064	Compensatory Measures
IP 81700	Physical Security Program For Power Reactors

ITEMS OPENED AND CLOSED

Opened

50-456/98017-01	URI	Compensatory Measures For a Degraded Portion of The Vehicle Barrier System
50-457/98017-01	URI	Compensatory Measures For a Degraded Portion of The Vehicle Barrier System
50-456/98017-02	VIO	Security Officers Were Determined to Be Asleep on Three Occasions Between August 26 and October 2, 1998
50-457/98017-02	VIO	Security Officers Were Determined to Be Asleep on Three Occasions Between August 26 and October 2, 1998
50-456/98017-03	IFI	Fitness-For-Duty Test Specimens May Have Been Altered

50-457/98017-03	IFI	Fitness-For-Duty Test Specimens May Have Been Altered

Closed

50-456/98017-02	VIO	Security Officers Were Determined to Be Asleep on Three Occasions Between August 26 and October 2, 1998
50-457/98017-02	VIO	Security Officers Were Determined to Be Asleep on Three Occasions Between August 26 and October 2, 1998

LIST OF ACRONYMS USED

BISSI	Burns International Security Services, Inc.
CNSG	Corporate Nuclear Security Guidelines
FFD	Fitness For Duty
IFI	Inspection Followup Item
MAF	Main Access Facility
URI	Unresolved Item
SAS	Secondary Alarm Station
SGRP	Steam Generator Replacement Project
VIO	Violation
VBS	Vehicle Barrier System

PARTIAL LISTING OF DOCUMENTS REVIEWED

Procedure CNSG 100, "X-Ray Searches" Revision 3, October 1997

Procedure CNSG 102, " Personnel Search/Ingress", Revision 4, October 1998

Procedure CNSG 107, "Maintaining Search Integrity Between Stations", Revision 1, March 1998

Procedure CNSG 4, "Operational Planning and Maintaining Integrity of Vehicle Barrier Systems (VBS)", Revision 2, November 1997.

Training Files for Nine Recently Hired Security Officers

Braidwood Security Investigation Report No. SEP/98/02 (Security Officer Inattentive Issue)

Braidwood Security Investigation Report No. AUG/98/02 (Security Officer Inattentive Issue)

Contractor Security Reports From July 1998 to September 1998

ComEd Nuclear Generating Group Contract Security Turnover Ratio For Braidwood From January Through September 1998

Problem Identification Form A1998-0551, "Alleged Inattentiveness to Duty", dated October 2, 1998

"Attention to Duty- Stand and Call" Handout, dated December 1997

BISSI Incident Report No. 036498, "Inattentive Concern", dated October 2, 1998

BISSI "Weekly Hours" From September 3, 1998 through October 8, 1998

Procedure BwAP 100-7, "Overtime Guidelines For Station Personnel", Revision 7

"Overtime Deviation Authorizations" For Security Between September 1 and October 2, 1998

Four "Security Special Area Posting" for Four SGRP Security Posts

Braidwood Station Security Event Log For Period Between July 1 and September 30, 1998

Self Assessment Report, "Security's Ingress Search Process", July 6-14, 1998

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