AUDIT REPORT

Audit of NRC's Oversight of Licensees' Nuclear Security Officers

OIG-08-A-07 March 18, 2008

March 18, 2008

MEMORANDUM TO: Luis A. Reyes
Executive Director for Operations

FROM: Stephen D. Dingbaum **/RA/**
Assistant Inspector General for Audits

SUBJECT: AUDIT OF NRC'S OVERSIGHT OF LICENSEES' NUCLEAR SECURITY OFFICERS (OIG-08-A-07)

Attached is the Office of the Inspector General's (OIG) audit report titled, *Audit of NRC's Oversight of Licensees' Nuclear Security Officers.*

The report presents the results of the subject audit. Agency comments provided at the exit conference on February 21, 2008, have been incorporated, as appropriate, into this report.

Please provide information on actions taken or planned on each of the recommendations within 30 days of the date of this memorandum. Actions taken or planned are subject to OIG follow up as stated in Management Directive 6.1.

We appreciate the cooperation extended to us by members of your staff during the audit. If you have any questions or comments about our report, please contact me at 415-5915 or Beth Serepca, Team Leader, Security and Information Management Team, at 415-5911.

Attachment: As stated

Electronic Distribution

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EXECUTIVE SUMMARY

BACKGROUND

Licensee Actions to Ensure Fitness and Competence of Security Officers

Licensees' take various measures to ensure that their security officers are mentally and physically fit, professionally competent, and sufficiently trustworthy to carry out their duties at nuclear power plants. These measures are designed to comply with various NRC regulations governing employee conduct, health, and work requirements.

NRC exercises oversight of licensees' security officers primarily through the Reactor Oversight Process's physical protection cornerstone. Managed by the Office of Nuclear Security and Incident Response (NSIR), this program includes baseline security and safeguards inspections. Regional staff also conduct oversight activities, such as special inspections initiated in response to specific problems or extraordinary events. Additionally, NRC also evaluates licensee security programs through force-on-force exercises which are designed to assess the capability of security personnel to execute security plans while protecting the facility against sabotage.

PURPOSE

The audit objective was to assess NRC's oversight of security officers employed by licensees to protect nuclear power plants. OIG's work considered fitness-for-duty regulations in 10 CFR 26, as well as pertinent regulations in 10 CFR 73.

RESULTS IN BRIEF

NRC staff conduct security oversight activities in accordance with agency standards; however:

- Regulations for licensees' behavioral observation programs lack detailed implementation guidance and are not integrated with guidance for related security programs.

- Advance notification of all baseline security inspections could compromise the accuracy of NRC's assessments of licensee fitness-for-duty performance.

Behavioral Observation Programs Lack Detailed Guidance and Are Not Integrated with Related Security Programs

NRC requires licensees to implement behavioral observation programs at nuclear power plants, but lacks an integrated regulatory framework for overseeing these programs. This occurs because behavioral observation program standards and implementation guidance exist in several forms of guidance that are not fully integrated. This compromises NRC's oversight of licensee behavioral observation programs, thereby increasing security risks to nuclear power plants.

Advance Notification of All Baseline Security Inspections Could Compromise NRC Assessments

NRC routinely provides licensees advance notification of security inspections, even though agency policy does not preclude no-notice or short-notice inspections. This occurs because agency guidance directs staff to pre-announce inspections at operating power reactor sites to minimize the regulatory burden on licensees. As a result, inspections might not accurately capture the day-to-day operating conditions of licensee security programs, thereby increasing the risk that NRC might overlook evidence of systemic problems in these programs

RECOMMENDATIONS

This report makes three recommendations. A consolidated list of these recommendations appears in Section V of this report.

AGENCY COMMENTS

At an exit conference held on February 21, 2008, agency managers provided comments concerning the draft report. We modified this report in response to their comments, as we deemed appropriate. NRC reviewed these modifications and opted not to submit formal comments.

ABBREVIATIONS AND ACRONYMS

BOP	Behavioral Observation Program
NRC	U.S. Nuclear Regulatory Commission
NSIR	Office of Nuclear Security and Incident Response
OGC	Office of the General Counsel
OIG	Office of the Inspector General (NRC)

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I. BACKGROUND

Licensee Actions to Ensure Fitness and Competence of Security Officers

Licensees take various measures to ensure that their security officers are mentally and physically fit, professionally competent, and sufficiently trustworthy to carry out their duties at nuclear power plants. These measures are designed to comply with various NRC regulations governing employee conduct, health, and work requirements. For instance, licensees must review the backgrounds of prospective employees before granting them unescorted access to nuclear power plants.[1] Employees are subject to for-cause and random testing for alcohol and drug use.[2] In addition, licensees are required to implement behavioral observation programs to detect or prevent malicious conduct.[3] These programs include mandatory awareness programs that train employees on identification and management of workplace behavior problems. Lastly, security personnel at nuclear power plants must pass routine medical exams and physical fitness tests[4], and undergo regular training in job-specific knowledge and skills such as rules for use of lethal force and weapons proficiency.[5]

NRC Oversight of Licensee Security Officers

NRC exercises oversight of licensees' security officers through the Reactor Oversight Process physical protection cornerstone. Managed by the Office of Nuclear Security and Incident Response (NSIR), this program includes baseline security and safeguards inspections. Through these inspections, NRC evaluates licensees' implementation of agency security regulations at nuclear power plants. Security specialists assigned to NRC Regional Offices conduct inspections at nuclear power plants in accordance with agency guidance that prescribes the scope and frequency of inspections.[6] NRC inspectors carry out most baseline security inspections at each plant on a biennial basis.[7] Regional staff conduct other oversight activities, such as special inspections initiated in response to specific problems or extraordinary events. In

[1] 10 Code of Federal Regulations (CFR) 73.56 (b) (1) and (2) (I).
[2] 10 CFR 26.24.
[3] 10 CFR 73.56 (b)(2) ((iii).
[4] 10 CFR 73-- Appendix B, I (B) and (C).
[5] 10 CFR 73-- Appendix B, II and III.
[6] Inspection Procedure (IP) 71130.
[7] Three inspection procedures in IP 71130 are performed annually, and one is performed triennially.

addition, NRC resident inspectors assigned to power plants routinely observe licensee security personnel, and will assume additional duties as the agency implements new plans for expanding the role of resident inspectors in security oversight.

Figure 1: Security personnel participating in weapons training.

NRC further evaluates licensee security programs through triennial force-on-force exercises. These exercises test the ability of security personnel at each nuclear power plant to execute security plans and protect facilities against sabotage.[8] Force-on-force exercises are part of the baseline security inspection program.[9]

II. PURPOSE

The objective of this audit was to assess NRC's oversight of security officers employed by licensees to protect nuclear power plants. OIG's work considered fitness-for-duty regulations in 10 CFR 26, as well as pertinent regulations in 10 CFR 73. Due to an ongoing OIG investigation, this audit does not address the agency's allegations program. Appendix A contains information on the audit scope and methodology.

[8] In 2006, OIG conducted a Special Inquiry examining NRC's efforts to ensure that force-on-force exercises adequately test nuclear power plant defensive capabilities. OIG determined that advance distribution of exercise schedules to individuals without a need to know can compromise the security of this information. "NRC's Oversight of the Force-on-Force Program," Case No. 05-01S, May 1, 2006.

[9] Force-on-force inspection procedures are listed in IP 71130.03, "Contingency Response—Force-on-Force Testing."

III. FINDINGS

In 2007, NRC concluded a rulemaking for 10 CFR 26 that introduced new work hour controls for personnel at nuclear power plants, aligned agency drug testing protocols with those used throughout the federal government, and integrated special guidance for security personnel with agency regulations applicable to all personnel employed at nuclear power plants.[10] In addition, a rulemaking that would amend security regulations in 10 CFR 73, was ongoing at the time of this audit. According to agency officials, these rulemaking efforts address behavioral observation program regulations and align them with regulations for licensee access authorization and fitness-for-duty programs. OIG auditors found that NRC staff conducted security oversight activities in accordance with agency standards. However, auditors found two issues that NRC management should address to improve agency performance, specifically:

- Regulations for licensees' behavioral observation programs lack detailed implementation guidance and are not integrated with guidance for related security programs.

- Advance notification of all baseline security inspections could compromise the accuracy of NRC's assessments of licensee fitness-for-duty performance.

By enhancing behavioral observation program oversight and incorporating limited-scope, short-notice inspections into the baseline security inspection program, NRC can improve its oversight of licensees' security officers.

[10] On April 17, 2007, the Commission approved new fitness-for-duty rules amending 10 CFR 26, and instructed staff to develop accompanying implementation guidance for licensees.

A. Oversight of Licensee Behavioral Observation Programs

Behavioral Observation Programs Lack Detailed Guidance and Are Not Integrated with Related Security Programs

NRC requires licensees to implement behavioral observation programs at nuclear power plants, but lacks an integrated regulatory framework for overseeing these programs. This occurs because behavioral observation program standards and implementation guidance exist in several forms of guidance that are not fully integrated. This compromises NRC's oversight of licensee behavioral observation programs, thereby increasing security risks to nuclear power plants.

Key Features of Behavioral Observational Programs

NRC staff consulted with U.S. Department of Defense subject matter experts to identify features of effective behavioral observation programs. Through this work, agency staff have determined that licensees' programs should have the following elements:[11]

- *Professional management*. Behavioral observation programs require licensee personnel to make judgments about an individual's mental health and potential for malicious behavior. However, only mental health specialists are professionally qualified to make such judgments and recommend measures for dealing with psychologically unfit employees.

- *Standardized procedural guidance*. Behavioral observation programs should have clear standards for determining whether an employee's trustworthiness and reliability are compromised. These standards should further prescribe actions to be taken by licensees if employees are deemed unfit for duty.

- *Integration with plant security*. Behavioral observation programs must be integrated with other programs, such as access authorization, that are designed to mitigate threats posed by psychologically unfit employees.

[11] Agency officials told OIG that the ongoing 10 CFR 73 rulemaking addresses these issues.

Behavioral Observation Program Regulations

NRC lacks an integrated regulatory framework for overseeing licensees' behavioral observation programs. In particular, NRC needs to strengthen its regulations for professional qualification and implementation standards, and integrate behavioral observation program regulations with related security regulations.

Professional Qualifications

NRC's regulations regarding licensee behavioral observation programs are not prescriptive. The regulations do not prescribe mental health qualification standards for program staff, nor does the agency define staff roles and responsibilities. For example, a behavioral observation program manager could lack experience or formal training in mental health, and could also be responsible for other programs. In contrast, agency regulations governing drug and alcohol testing prescribe professional requirements for licensee personnel and contractors responsible for administering tests.

Procedural Guidance

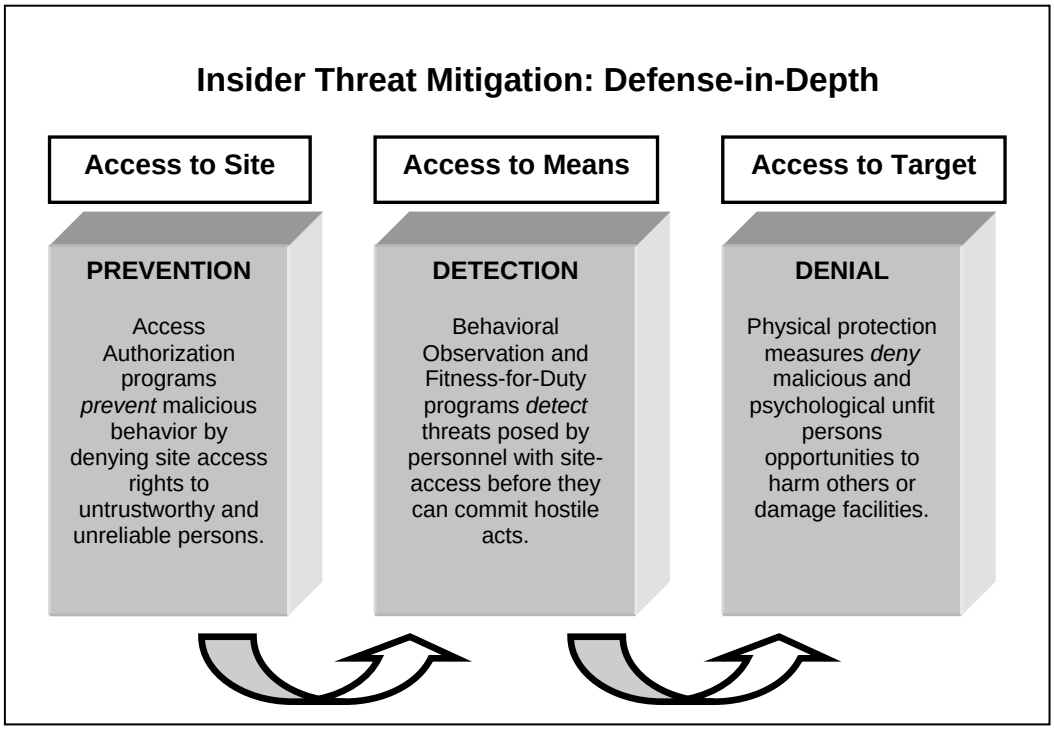
Agency regulations also do not specify how licensees should manage employees whose behavior raises trustworthiness or reliability concerns.[12] NRC security guidance issued in 2004 advises licensees on "for-cause" psychological evaluations in response to aberrant behavior. Nevertheless, this guidance does not define conditions that would warrant an evaluation and, as advisory guidance, lacks the regulatory force of CFR rules. In contrast, CFR sections governing drug and alcohol use explicitly require for-cause testing of employees who appear to be impaired, and require that such employees be relieved from duty with suspended site access pending test results. Further, licensees must develop Employee Assistance Program action plans for employees who test positive for first-time drug and alcohol offenses; repeat violations can automatically trigger revocation of employees' site access clearance.[13]

Program Integration

Behavioral observation program regulations are not explicitly linked to other CFR sections governing fitness-for-duty and access authorization. These programs are inherently related, and thus, must be implemented in tandem to assure plant security. If

[12] 10 CFR 73.56.
[13] 10 CFR 26.27.

integrated, these programs provide a comprehensive framework for identifying personnel who might pose a security threat and preventing or mitigating harm these personnel might cause. Figure 2 illustrates how behavioral observation programs fit into a comprehensive framework for safeguarding nuclear power plants.



Source: OIG analysis.

Figure 2: Behavioral observation programs work in tandem with other security programs as part of a defense-in-depth approach to safeguarding nuclear power plants.

Inconsistent Regulations

NRC lacks assurance that its behavioral observation program regulations ensure nuclear power plant security because these regulations lack detailed programmatic criteria and are insufficiently integrated with related CFR sections. Specifically, agency regulations do not explicitly state NRC's expectations of licensees in the development and implementation of behavioral observation programs for security personnel. Moreover, the language of current regulations does not explicitly explain how behavioral observation programs fit into the broader context of licensee programs and agency regulations designed to ensure that licensee security personnel are fit for duty, such as access authorization.

Security Implications

Without clear and well-integrated behavioral observation program regulations, NRC and its licensees might not identify program deficiencies that could jeopardize nuclear power plant security and public safety. During 2007, for example, a plant security manager reportedly noticed that an officer seemed too distressed to work, and relieved the officer from duty. Additionally, according to NRC analysis of an incident occurring at a different plant in early 2007, a licensee medical officer relieved an employee on the basis of aberrant behavior but, in accordance with plant procedures, did not suspend the employee's site access rights.[14] In both cases, the expelled employees later committed murder and/or suicide. NRC staff familiar with these cases commented that licensees' behavioral observation programs functioned properly to the extent that unfit employees did not harm their respective plants. However, the staff remarked that these outcomes could have been incidental. In both cases, psychologically unfit employees retained some level of access to their respective plants after being relieved from duty, and thus, could have damaged plant facilities or harmed co-workers.

Without regulations specifying how licensees should manage unfit personnel in the broader context of plant security, NRC risks diminished ability to identify deficiencies in licensees' programs and pursue corrective actions. Such deficiencies could undermine licensees' efforts to protect their facilities in accordance with site security plans.

Recommendations

OIG recommends that the Executive Director for Operations:

1. Revise regulations governing licensee behavioral observation programs to include specific criteria, such as program staff qualifications and procedures for managing unfit personnel.

2. Integrate behavioral observation program regulations with access authorization regulations in ongoing Part 73 rulemaking.

[14] The medical officer was not a mental health professional, but referred the employee to his personal doctor for care. OIG does not question this decision. Rather, OIG cites this incident to illustrate that medical officers without mental health care qualifications can find themselves in situations requiring them to make critical judgments about an employee's mental health, and that actions taken to help an employee with mental health problems do not automatically "trigger" suspension of site access.

B. Advance Notification of Security Inspections

NRC routinely provides licensees advance notification of security inspections, even though agency policy does not preclude no-notice or short-notice inspections. This occurs because agency guidance directs staff to pre-announce inspections at operating power reactor sites to minimize the regulatory burden on licensees. As a result, inspections might not accurately capture the day-to-day operating conditions of licensee security programs, thereby increasing the risk that NRC might overlook evidence of systemic problems in these programs.

Inspection Guidance

NRC guidance advises staff to provide licensees advance notification of upcoming inspections, but does not preclude short notice inspections. Advance notification may be made by a written communication, telephone call, or other communication as long as the information is communicated to the appropriate level of management in the licensee's organization. Additionally, the advance notice should include the approximate date, broad subject area, and type of inspection planned. Depending on the type of inspection (routine, reactive or major activity) NRC staff are expected to provide this information 1-9 months before the inspection occurs. Nevertheless, Inspection Manual Chapter (IMC) 0300, *Announced and Unannounced Inspections,* [15] states that "…each inspection shall be announced (with the exception of those performed by the resident inspectors) *except when announcing the inspection could reasonably compromise the objectives of the inspectors*." [16]

Security Inspection Notification

In accordance with agency guidance, NRC notifies licensees of upcoming security inspections to facilitate the work of inspectors and plant personnel. These notifications do not provide detailed inspection plans. Nevertheless, NRC staff inspect physical protection program areas in regular one-, two-, or three-year cycles, which lends itself to licensees sharing information about how NRC teams conduct inspections. Several inspectors commented that NRC could mitigate the predictability inherent in its inspection policy through limited-scope, short notice inspections. This approach could be used without adversely impacting licensees because NRC can evaluate some security program areas with minimal licensee

[15] Inspection Manual Chapter (IMC) 0300, p. 1.
[16] Italics added for emphasis.

support. For instance, NRC inspectors could observe security personnel controlling access to plants and protected areas within plants. Inspectors could also "spot check" plant security personnel to ensure that they are alert and adequately trained to carry out their duties, which include searching vehicles and personnel for weapons and other contraband.

Limited-scope, short-notice inspections could positively affect management culture at nuclear power plants by fostering accountability for employee fitness and workplace behavior. NRC has attributed some recent cases of security officer misconduct at nuclear power plants, in part, to deficient management cultures that overlooked or failed to deal with misconduct. Knowing that NRC might detect such problems through short-notice inspections, licensee managers would have considerable incentive to ensure that their personnel are fit for duty at all times.

Agency Emphasis

NRC does not use the policy flexibility to conduct ad hoc inspections because of agency emphasis on minimizing the regulatory burden on licensees. Agency guidance explicitly states that advance notification helps NRC and the licensee coordinate inspection activities and site operations, particularly through planning that considers licensee operations schedules and personnel availability.[17] Additionally, NRC's FY 2000-2005 performance goal to reduce unnecessary regulatory burden on licensees[18] underpins the agency's policy for providing advance notification of activities at nuclear power reactor sites.

Benefits of Short-Notice Security Inspections

By routinely providing advance notice of inspections, the agency may not accurately capture the day-to-day security conditions at nuclear power plants. Advance notification enables licensees to share information about NRC inspection activities such as the inspection agenda and inspectors' information requirements. This, in turn increases the risk that inspectors might not detect security problems, or that licensees might fix problems superficially for inspection purposes without solving the underlying causes of those problems.

[17] IMC 0300.
[18] SECY-02-0081.

In contrast, limited-scope, short-notice security inspections would reduce the predictability of cyclical inspections and increase NRC's visibility over day-to-day operations at licensees' facilities. The agency administers random drug tests to its own employees to achieve similar objectives, as well as for the inherent deterrent effect of random, short-notice testing. Likewise, special inspections launched in response to allegations of security breaches and officer misconduct at nuclear power plants have revealed management problems that baseline security inspections did not detect. While limited scope, short-notice inspections would not eliminate licensee negligence or malfeasance, they would discourage it by increasing the likelihood of detection and sanction. This, in turn, would give NRC greater assurance that licensees are adequately securing their facilities between baseline inspections.

Recommendation

OIG recommends that the Executive Director for Operations:

3. Incorporate short-notice, limited-scope inspections to the baseline security inspection program.

IV. AGENCY COMMENTS

At an exit conference held on February 21, 2008, agency managers provided comments concerning the draft report. We modified the report in response to the comments, as we deemed appropriate. NRC reviewed these modifications and opted not to submit formal comments.

V. CONSOLIDATED LIST OF RECOMMENDATIONS

OIG recommends that the Executive Director for Operations:

1. Revise regulations governing licensee behavioral observation programs to include specific criteria, such as program staff qualifications and procedures for managing unfit personnel.

2. Integrate behavioral observation program regulations with access authorization regulations in ongoing Part 73 rulemaking.

3. Incorporate short-notice, limited-scope inspections to the baseline security inspection program.

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Appendix A

SCOPE AND METHODOLOGY

The OIG audit team reviewed relevant federal regulations, including fitness-for-duty provisions under 10 CFR 26, and pertinent regulations under 10 CFR 73. In addition, OIG reviewed internal agency criteria such as NRC inspection and training procedures, and Commission guidance.

Auditors interviewed headquarters staff in the Office of Nuclear Security and Incident Response; the Office of the General Counsel; the Office of Enforcement; and the Office of Nuclear Reactor Regulation to learn about their roles and responsibilities with respect to oversight of licensee security personnel. Auditors also interviewed security inspectors and allegations coordinators in Regions I, II, III, and IV to assess their views on relevant oversight processes, and to determine if their activities are conducted in accordance with program requirements.

Auditors observed a force-on-force exercise at Diablo Canyon Power Plant, and a relevant portion of a baseline security inspection at Millstone Power Station. Auditors interviewed security officers and licensee staff to obtain their insights on NRC's oversight of security programs at these locations.

This work was conducted from June 2007 through November 2007, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. The work was conducted by: Beth Serepca, Team Leader; Judy Gordon, Audit Manager; Paul Rades, Senior Analyst; and Jaclyn Storch, Management Analyst.