September 8, 2006

MEMORANDUM TO: Luis A. Reyes
Executive Director for Operations

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

SUBJECT: AUDIT OF NRC'S BASELINE SECURITY AND SAFEGUARDS INSPECTION PROGRAM (OIG-06-A-21)

This report presents the results of the subject audit. Agency comments provided at the exit conference on August 15, 2006, have been incorporated, as appropriate, into this report. The agency did not provide formal comments.

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 followup as stated in Management Directive 6.1.

We appreciate the courtesies and 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 301-415-5915, or Beth Serepca at 415-5911.

Attachment: As stated

Electronic Distribution

John T. Larkins, Executive Director, Advisory Committee on Reactor Safeguards/Advisory Committee on Nuclear Waste
E. Roy Hawkens, Chief Administrative Judge, Atomic Safety and Licensing Board Panel
Karen D. Cyr, General Counsel
John F. Cordes, Jr., Director, Office of Commission Appellate Adjudication
Jesse L. Funches, Chief Financial Officer
Janice Dunn Lee, Director, Office of International Programs
Rebecca L. Schmidt, Director, Office of Congressional Affairs
Eliot B. Brenner, Director, Office of Public Affairs
Annette Vietti-Cook, Secretary of the Commission
William F. Kane, Deputy Executive Director for Reactor and Preparedness Programs, OEDO
Martin J. Virgilio, Deputy Executive Director for Materials, Research, State and Compliance Programs, OEDO
Jacqueline E. Silber, Deputy Executive Director for Information Services and Administration, and Chief Information Officer, OEDO
Michael R. Johnson, Assistant for Operations, OEDO
Timothy F. Hagan, Director, Office of Administration
Cynthia A. Carpenter, Director, Office of Enforcement
Guy P. Caputo, Director, Office of Investigations
Edward T. Baker, Director, Office of Information Services
James F. McDermott, Director, Office of Human Resources
Jack R. Strosnider, Director, Office of Nuclear Material Safety and Safeguards
James E. Dyer, Director, Office of Nuclear Reactor Regulation
Brian W. Sheron, Director, Office of Nuclear Regulatory Research
Corenthis B. Kelley, Director, Office of Small Business and Civil Rights
Janet R. Schlueter, Director, Office of State and Tribal Programs
Roy P. Zimmerman, Director, Office of Nuclear Security and Incident Response
Samuel J. Collins, Regional Administrator, Region I
William D. Travers, Regional Administrator, Region II
James L. Caldwell, Regional Administrator, Region III
Bruce S. Mallett, Regional Administrator, Region IV

AUDIT REPORT

Audit of NRC's Baseline Security
and Safeguards Inspection Program

OIG-06-A-21 September 8, 2006

EXECUTIVE SUMMARY

BACKGROUND

The Nuclear Regulatory Commission's (NRC) Operating Reactor Security Assessment Program addresses the Reactor Oversight Process's physical protection cornerstone. The Office of Nuclear Security and Incident Response (NSIR) implements the requirements of this program, develops its policies and procedures, and ensures the uniform implementation of the program. Regional administrators are responsible for conducting the assessment reviews and allocating security inspection resources. The program evaluates the performance of operating commercial nuclear power reactor licensees in implementing their security programs and communicating the results to licensee managers, NRC managers, and other stakeholders.

A primary feature of the security assessment program is the baseline security and safeguards inspection program. NSIR provides overall program direction for the security and safeguards inspection program and provides each region with full time equivalents for the performance of the inspection program. Regional administrators direct the implementation of the program through supervision of the regional security inspection resources. The baseline security and safeguards inspection program was revamped after the events of September 11, 2001. In calendar years 2004 and 2005, the inspection program was modified to focus on new security order requirements. In calendar year 2006, the baseline program was implemented in accordance with Inspection Manual Chapter 2201 without modification for the first time.

The baseline security and safeguards inspection addresses 12 "inspectable areas" at nuclear power plants. NRC security inspectors from the regional offices review seven of the inspectable areas. NSIR staff review two of the areas. Inspections of the three remaining areas have not yet been performed. This audit report focuses specifically on the portion of the inspection that is conducted by the regional security inspectors.

There are currently 22 regional security inspectors. During calendar year 2005, on average, each of the regional security inspectors conducted or participated in five inspections and spent 186 hours per inspection on preparation, inspection, and report writing activities. Licensees are billed for the time spent on security inspections. The total cost billed to the licensees during calendar year 2005 for security inspections was $5,616,468.

PURPOSE

The objective of this audit was to assess the effectiveness of the baseline security and safeguards inspection program by examining the program's resources, training and qualification requirements, and the consistency of program implementation.

RESULTS IN BRIEF

The revised baseline security and safeguards inspection program is proceeding with its first year of full regional implementation. The Office of the Inspector General found that resource levels established for this program appear to be sufficient as regions have been able to complete the program requirements even while the program is more rigorous than the prior program; however, improvements are needed in:

- The security training program.
- The subjective approaches used by NRC inspectors in determining the depth and scope of review needed to assess plant security program elements.
- The historical information provided to the Security Findings Review Panel in the inspection finding worksheets.

Security Training Program Needs Improvement

NRC's security training program is in need of improvement to provide assurance that key personnel have the appropriate knowledge and information to complete the inspection program. Specifically, (1) regional security inspectors are not receiving relevant training or refresher training, (2) the qualification boards are inconsistent, (3) non-security staff with oversight responsibility are not receiving security training, and (4) the training program has not been updated.

This occurred because NRC management has not centralized the NRC security training program. Without an available, current, and effective training program, there is no assurance that the security program is running efficiently and that security personnel have a consistent level of security knowledge.

Depth-of-Review Guidance is Lacking

Within the baseline security and safeguards inspection program, regional security inspectors examine a prescribed number of specific security program requirements to assess each inspectable area. However, NRC regional security inspectors employ subjective approaches to examine each of these requirements. This occurs because NRC inspection procedures specify the number and type of requirements to review, but do not provide specific guidance on what constitutes an adequate review of each requirement. This can result in inspections that vary in scope and depth.

No Systematic Process for Compiling Historical Data

The Security Findings Review Panel needs to have complete historical information on security-related findings. This is so the voting panel members can perform their responsibilities of ensuring NRC is consistent in its regulatory response to findings across the nuclear industry. Yet, there is no guarantee that the historical information is complete because there is no systematic process for compiling the historical data and the existing process relies on the memory of the regional security inspectors. Furthermore, a centralized database of security findings maintained by NSIR, which could serve this purpose, has not been shared with the regions. As a result, the consistent handling of security findings is not well supported.

RECOMMENDATIONS

This report makes eight recommendations to assure the provision of adequate security training and the implementation of an effective baseline security and safeguards inspection program.

AGENCY COMMENTS

During an exit conference held August 15, 2006, the agency generally agreed with the audit findings and recommendations and provided comments concerning the draft audit report. We modified the report as we determined appropriate in response to these comments. NRC reviewed these modifications and opted not to submit formal written comments to this final version of the report.

[Page intentionally left blank.]

TABLE OF CONTENTS

[Page intentionally left blank.]

ABBREVIATIONS AND ACRONYMS

DBT	Design Basis Threat
IMC	Inspection Manual Chapter
NRC	Nuclear Regulatory Commission
NSIR	Office of Nuclear Security and Incident Response
OIG	Office of the Inspector General
ROP	Reactor Oversight Process

[Page intentionally left blank.]

I. BACKGROUND

In accordance with the Atomic Energy Act of 1954, as amended, the Nuclear Regulatory Commission (NRC) is authorized to inspect nuclear power plants to protect public health and safety. The NRC reactor inspection program assesses, through scrutiny of selected samples, whether activities are properly conducted and equipment is properly maintained to ensure safe operations. Inspectors monitor licensee performance, provide inspection findings to licensee management, and conduct followup inspections to ensure that the licensee has taken corrective action. NRC regularly assesses the overall effectiveness of its inspection program for operating reactors through its Reactor Oversight Process (ROP).

Reactor Oversight Process

The ROP integrates NRC's assessment, inspection, and enforcement programs to provide tools for inspecting and assessing licensee performance in a risk-informed, performance-based manner. There are seven "cornerstones" in the regulatory oversight framework, which serve as the fundamental building blocks for the ROP. Acceptable licensee performance in these cornerstones provides reasonable assurance that the overall mission of adequate protection of public health and safety is achieved.

One of the seven ROP cornerstones is intended to provide assurance that the physical protection systems at licensee sites can protect against NRC's design-basis threat for radiological sabotage.[1] Licensees are expected to maintain adequate protection against threats of sabotage based on an effective security program that relies on a defense-in-depth approach.

[1] Security programs at NRC-licensed nuclear power reactors are designed to protect against specified threats that are termed the Design Basis Threat (DBT). The DBT characterizes the adversary force composition and characteristics against which certain NRC licensees must design their physical protection systems and response strategies.

Secured entrance at a nuclear power plant

The Baseline Security and Safeguards Inspection Program

NRC's Operating Reactor Security Assessment Program addresses the ROP's physical protection cornerstone. The Office of Nuclear Security and Incident Response (NSIR) implements the requirements of this program, develops its policies and procedures, and ensures the uniform implementation of the program. Regional administrators are responsible for conducting the assessment reviews and allocating security inspection resources. The program evaluates the performance of operating commercial nuclear power reactor licensees in implementing their security programs and communicating the results to licensee managers, NRC managers, and other stakeholders.

Based on the information gathered, NRC determines the appropriate agency response, which varies. The response could include supplemental inspections, regulatory actions such as granting licenses and issuing orders, and followup to ensure the licensee's corrective actions are effective. Security assessments are not reported publicly (in contrast with reports on other ROP cornerstones, which are made public) to prevent adversaries from obtaining information that could be used to cause harm to the

United States. On April 4, 2006, the Commission approved the provision to make the cover letters for security inspection reports available to the public. The first cover letters were made available to the public in April 2006.

A primary feature of the security assessment program is the baseline security and safeguards inspection program. NSIR provides overall program direction for the security and safeguards inspection program and provides each region with full time equivalents for the performance of the inspection program. Regional administrators direct the implementation of the program through supervision of the regional security inspection resources. The baseline security and safeguards inspection program was revamped after the events of September 11, 2001. In calendars years 2004 and 2005, the inspection program was modified to focus on the new security order requirements. In calendar year 2006, the baseline security and safeguards inspection program was implemented in accordance with Inspection Manual Chapter (IMC) 2201 without modification for the first time.

Some of the procedures such as Fitness-for-Duty and Access Authorization are now more rigorous than before and the Owner-Controlled Area procedures are entirely new. Additionally, the procedures are now a mixture of compliance and performance-based requiring a demonstration of the requirements. NRC IMC 2201, Appendix A, "Security and Safeguards Baseline Inspection Program," outlines the specific requirements for the baseline security and safeguards inspection program.

The baseline security and safeguards inspection program addresses 12 "inspectable areas" at nuclear power plants. NRC security inspectors from the regional offices review seven of the inspectable areas. NSIR staff review two of the areas. Inspections of the three remaining areas have not yet been performed. This audit report focuses specifically on the portion of the inspection that is conducted by the regional security inspectors.

Table 1 lists the 12 baseline security and safeguards procedures developed to examine the 12 inspectable areas. The table also indicates which procedures have been implemented and, for those implemented, whether the review was performed by regional or NSIR staff.

Table 1

Baseline Security and Safeguards Inspection Program Procedures				
Procedure Number	**Procedure Title**	**Regional Inspection**	**NSIR Inspection**	**Not Yet Implemented**
71130.01	Access Authorization	✓		
71130.02	Access Control	✓		
71130.03	Contingency Response – Force-on-Force Testing		✓	
71130.04	Equipment Performance, Testing and Maintenance	✓		
71130.05	Protective Strategy Evaluation	✓		
71130.06	Security Plan Changes		✓	
71130.07	Security Training	✓		
71130.08	Fitness-for-Duty Program	✓		
71130.09	Owner-Controlled Area Controls	✓		
71130.10	Information Technology Security			✓
71130.11	Materials Control and Accountability			✓[2]
71130.12	Physical Protection of Shipments of Irradiated Fuel			✓

[2] While NSIR has initiated inspections of Materials Control and Accountability at each power plant in accordance with inspection instructions which will be translated into permanent inspection procedures, the program has not been fully implemented.

At the conclusion of each security inspection, inspectors present their findings to NSIR's Security Findings Review Panel. The Security Findings Review Panel is a multidisciplinary group chaired by NSIR and made up of headquarters and regional representation that reviews the security inspection findings for accuracy, consistency, and relevance to requirements. The findings are presented on worksheets used to support the Security Findings Review Panel process. After the Security Findings Review Panel performs its review, the inspectors prepare inspection reports listing significant security and safeguards inspection findings. Such findings are then entered into a plant issues matrix so they can be monitored and tracked during followup inspections.

There are currently 22 regional security inspectors.[3] During calendar year 2005, on average, each of the then 21 regional security inspectors conducted or participated in five inspections and spent 186 hours per inspection on preparation, inspection, and report writing activities. Licensees are billed for the time spent on security inspections. The total cost billed to the licensees during calendar year 2005 for security inspections was $5,616,468. Table 2 presents information on resources expended to perform regional baseline security and safeguards inspections during calendar year 2005.

Table 2

Regional Resource Expenditures for Baseline Security and Safeguards Inspections, Calendar Year 2005			
Region	**Total Inspectors**	**Number of Inspection Hours[4]**	**Cost Billed per Region**
I	5	5,268	$1,085,710
II	5	4,482	$711,265
III	6	3,992	$921,843
IV	5	5,992	$1,267,535
Totals	21	19,734	$3,986,353

[3] Region II added a sixth regional security inspector after calendar year 2005; therefore, the current number of inspectors is not reflected in Table 2.
[4] Figures are rounded to the nearest hour.

II. PURPOSE

This audit focused on the portion of the baseline security and safeguards inspection program conducted by the regional security inspectors. Its objective was to assess the effectiveness of the baseline security and safeguards inspection program by examining the program's resources, training and qualification requirements, and the consistency of program implementation.

III. FINDINGS

The revised baseline security and safeguards inspection program is proceeding with its first year of full regional implementation. The Office of the Inspector General (OIG) found that resource levels established for this program appear sufficient as regions have been able to complete the program requirements even while the program is more rigorous than its predecessor program; however improvements are needed in:

- The security training program.
- The subjective approaches used by NRC inspectors in determining the depth and scope of review needed to assess plant security program elements.
- The historical information provided to the Security Findings Review Panel in the inspection finding worksheets.

A. Security Training Program Needs Improvement

NRC's security training program is in need of improvement to provide assurance that key personnel have the appropriate knowledge and information to complete the inspection program. Specifically, (1) regional security inspectors are not receiving relevant training or refresher training, (2) the qualification boards are inconsistent, (3) non-security staff with oversight responsibility are not receiving security training, and (4) the training program has not been updated.

This occurred because NRC management has not centralized the NRC security training program. Without an available, current, and effective training program, there is no assurance that the security program is running efficiently and that security personnel have a consistent level of security knowledge.

Security Inspector Training

NRC requires all of its inspectors to be trained and qualified to conduct inspections in accordance with NRC inspection procedures. Training requirements for reactor inspectors are contained in IMC 1245, "Qualification Program for the Office of Nuclear Reactor Regulation Programs." One of the main objectives

of this manual chapter is to ensure that NRC staff has the necessary knowledge and skills to successfully implement the Office of Nuclear Reactor Regulation programs, which include the baseline security and safeguards inspection program.

IMC 1245 contains several appendices that detail inspector training and knowledge requirements. Appendix C-4, Safeguards Inspector Technical Proficiency Training and Qualification Journal, lists the specifics for regional security inspectors. These specifics, outlined in Table 3, include requirements for inspectors to receive (1) seven initial training courses and (2) refresher training on safeguards technology every 2 years. Appendix C-4 also provides independent self-study objectives and on-the-job training requirements.

Table 3

Required Security Inspector Training		
Course Title	**Course Provider**	**Course Location**
Power Plant Engineering	NRC	Self-Study and Classroom Format
GE Technology	NRC	Technical Training Center
Westinghouse Technology	NRC	Technical Training Center
Physical Security Fundamentals Course	NRC	Technical Training Center
Advanced Physical Security	Other	Federal Law Enforcement Training Center
Defense Industrial Security Course	Other	Federal Law Enforcement Training Center
Introduction to Physical Security Systems Course	NRC	Technical Training Center
Safeguards Technology (refresher course)	NRC	Technical Training Center

While IMC 1245 requires all inspectors, including the regional security inspectors, to meet the training and qualification program requirements, it also allows for course waivers and deferrals. With regard to waivers, IMC 1245 states that previous work experience and training may be accepted as evidence that an individual already possesses the required knowledge or skills. In such cases, the division director may grant the individual a waiver that exempts the individual from certain Appendix C-4 requirements. In addition, if a course is not available, an individual may request to have the course deferred. With an approved deferral, an individual may

become qualified as a regional security inspector and perform security inspections. However, the inspector is still required to take the required course when it becomes available.

Security Inspectors are Not Receiving Necessary Training

A majority of NRC regional security inspectors have not received all seven of the specific training courses that are required by Appendix C-4. Three of the four regional branch chiefs stated that if a required security course is unavailable, and the regional security inspector has previous training or knowledge in the area, the regional security inspector will receive a waiver for this course. If the regional security inspector does not have previous training or knowledge in the area, the branch chief will find alternative training for the inspector to take to receive the waiver. OIG reviewed training records of all the training courses provided by NRC. OIG found that, of the five non-refresher courses offered by the NRC Technical Training Center, only two courses focusing on nuclear technology were offered on a regular basis. The Physical Security Fundamentals course has not been offered since 2000, while the Introduction to Physical Security Systems course has been offered only once since 2000. OIG determined that none of the 13 regional security inspectors who became qualified after September 11, 2001, had received all 5 of the required non-refresher NRC-provided courses.[5]

OIG interviewed each of the 22 regional security inspectors and more than half commented on the lack of NRC training. Eight of the regional security inspectors stated that Appendix C-4 courses were not offered at NRC when they were trying to qualify as regional security inspectors. Some inspectors stated that they received waivers based on their past security experience. Others stated that they had to find alternative methods to receive training such as on-the-job training, self-study, or training from outside sources. One regional manager said the lack of training classes makes succession planning difficult. There is no assurance that entry-level hires, who lack experience to qualify them for waivers, will be able to get the necessary NRC training to qualify as a regional security inspector.

[5] The current Appendix C-4 became effective on April 5, 2002; therefore six of the regional security inspectors who qualified prior to this date are not required to meet these requirements. Three of the regional security inspectors are not yet qualified.

Furthermore, despite the requirement for regional security inspectors to receive refresher training on safeguards technology every 2 years, none of the regional security inspectors have received this training in the last 2 years. Twelve of the 22 regional security inspectors have been fully qualified[6] for more than 2 years and therefore are overdue for this refresher course.

In the absence of the refresher course required by Appendix C-4, NSIR has provided annual training activities that are similar to refresher training for the last 3 years at the annual security counterpart meetings. However, OIG does not believe these activities rise to the level of the formalized refresher training stipulated by the inspection manual.

Recommendation

OIG recommends that the Executive Director for Operations:

1. Provide the required initial and refresher security training courses for regional security inspectors at the frequency needed to support qualification requirements.

Inspector Qualification Boards

After an individual fulfills or has been granted waivers for the Appendix C-4 training requirements, he or she must take an oral exam administered by a regional security inspector qualification board. The purpose of this board is to confirm the individual has the necessary knowledge, skills, and attitudes to independently conduct the prescribed NRC inspections. Once an inspector has passed the qualification exam, the regional administrator certifies that the inspector is fully qualified based on a recommendation from the Inspector Qualification Board. After becoming qualified, the inspector may conduct full scope inspections independently. IMC 1245 requires that inspectors be qualified within 24 months[7] of being hired into the position.

[6] Achieving Full Inspector Qualification allows an individual to independently perform the full scope of inspection related activities with routine oversight and supervision.

[7] IMC 1245 allows for a 3-month extension to fulfill course requirements for individuals in the Nuclear Safety Professional Development Program.

Regional Security Inspector Qualification Boards are Inconsistent

While all of NRC's regions conduct qualification board exams for regional security inspectors, each of these boards is unique with regard to composition and the method used to develop and manage questions used during exams. For example, 1) one region allows the inspector seeking qualification to choose who will sit on the board, 2) in another region the security branch chief makes this determination, 3) in another it is the responsibility of the training coordinator, and 4) in the fourth region, the security branch chief and the regional security inspector work together to find people to sit on the qualification board. Another variation is that in one region, the training coordinator is the chair of the qualification board while, in another region, a senior manager performs this role.

Regional offices also use different methods to manage the questions asked during the qualification exams. While each board member is responsible for creating his/her own questions (based on IMC 1245, Attachment 2 guidelines), only two regions conduct a purposeful review to ensure that multiple board members are not asking the same questions. Furthermore, not all of the regions track the questions to ensure that the questions asked are consistent for all regional security inspectors within that region, or among other regions. Although two regions keep their own databases of questions, there is no central database of questions for use by qualification boards; instead, the questions can be developed specifically for each inspector.

Recommendation

OIG recommends that the Executive Director for Operations:

2. Establish rules and standards supporting a consistent qualification board process across all regions.

Training for Others With Security Oversight Responsibilities

In addition to providing training requirements for inspectors, IMC 1245 also requires that NRC staff have the necessary knowledge and skills to successfully implement the baseline security and safeguards inspection program. While the regional security inspectors are primarily responsible for conducting security inspections at the plants, there are other NRC employees who play a significant role in the baseline security and safeguards inspection program. These are the regional branch chiefs who supervise the

regional security inspectors (referred to as security branch chiefs in this report), voting members of the Security Findings Review Panel, and resident inspectors assigned to nuclear power plants. While these employees have security inspection responsibilities they are not required to have security training.

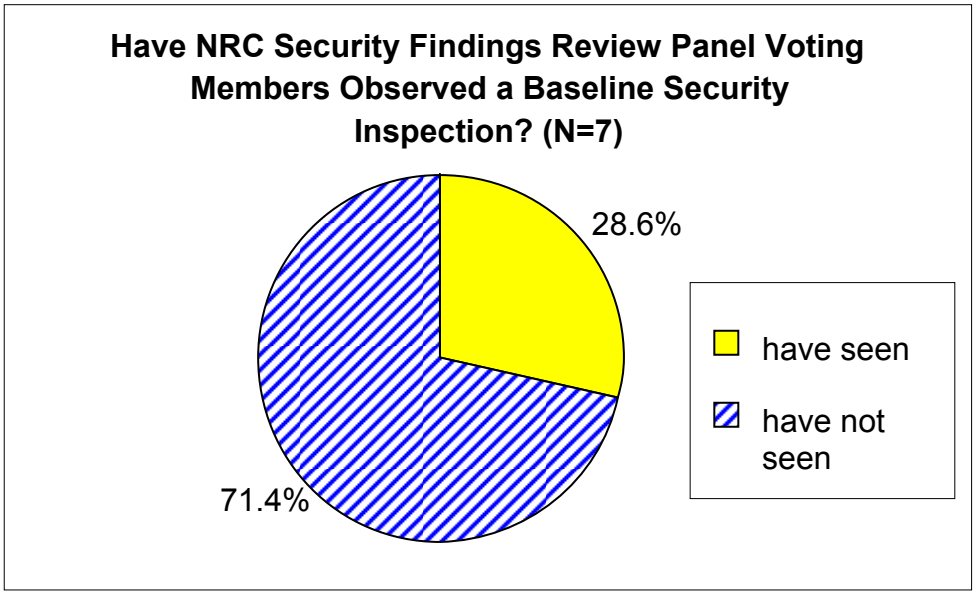
In supervising the regional security inspectors, security branch chiefs are responsible for ensuring the baseline security and safeguards inspection program is implemented and for reviewing inspection findings prior to the issuance of the reports. IMC 0320, "Operating Reactor Security Assessment Program" and IMC 0102, "Oversight and Objectivity of Inspectors and Examiners at Reactor Facilities," provide guidance on the security branch chief's role in the inspection program. These inspection manual chapters state that branch chiefs should take an active role in understanding the licensee security requirements, inspection activities, and inspection findings.

Security Findings Review Panel voting members are responsible for reviewing and formulating a disposition on security inspection findings. The Security Findings Review Panel charter states that voting members will review all inspection findings and determine if errors have been made in the interpretation of the inspection procedures, validate consistency of the findings, and apply their security knowledge on the requirements to ensure the findings are presented correctly. Security Findings Review Panel voting members are senior level staff within NSIR, the Office of Nuclear Reactor Regulation, the Office of Nuclear Material Safety and Safeguards, the Office of the General Counsel, the Office of Enforcement, the Office of State and Tribal Programs, and regional Divisions of Reactor Safety and Nuclear Materials Safety.

Resident inspectors play a significant role in security at nuclear power plants because they provide the front-line presence for NRC at the sites and observe plant security on a daily basis. IMC 2515, "Light-Water Reactor Inspection Program – Operations Phase," Appendix D, "Plant Status," states that resident inspectors have a specific responsibility, outside of inspection activities, to be aware of plant conditions on a routine basis.

Security Oversight Personnel Not Trained

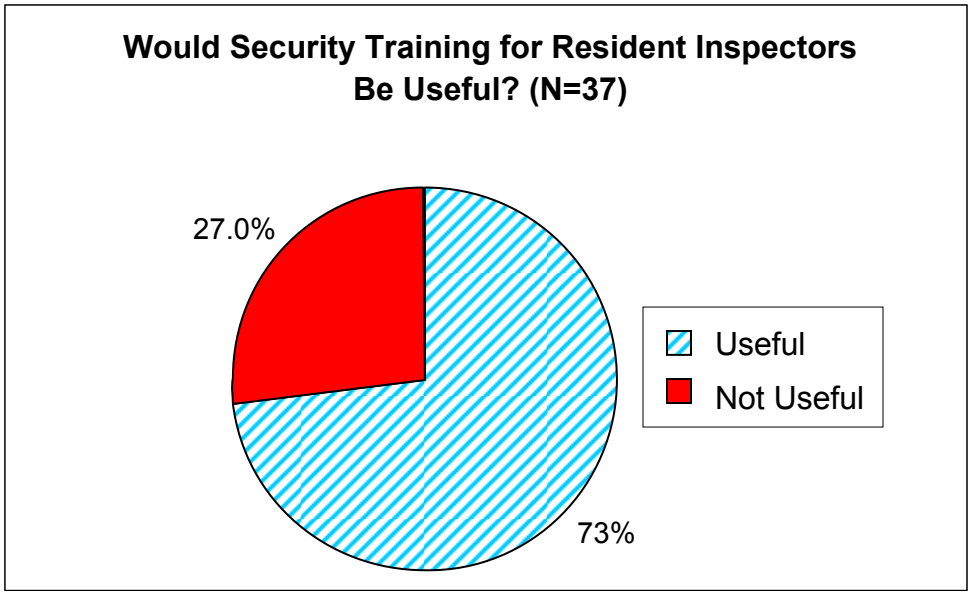
Certain non-security personnel with security oversight responsibilities are not receiving security training. Although all of the security branch chiefs have a background in engineering, nuclear power plant inspections, and some prior security experience, none have worked as regional security inspectors. These branch chiefs have not been required to take any security courses after being appointed to the security branch chief position. Furthermore, while Security Findings Review Panel voting members are responsible for deciding if inspection findings are adequate, most of these individuals lack a security background. Specifically, of the seven Security Findings Review Panel voting members[8] who attend the meetings on a regular basis, only one has professional security experience. Furthermore, none have received NRC security training courses and only two have observed a security inspection to understand how it works. Five of these seven regular Security Findings Review Panel voting members stated having a basic security training course for Security Findings Review Panel voting members would be helpful.



[8] The seven members who regularly attend the Security Findings Review Panel meetings are from NSIR, the Office of the General Counsel, the Office of Enforcement, the Office of Nuclear Reactor Regulation, the Office of Nuclear Material Safety and Safeguards, the Office of State and Tribal Programs, and Region II.

Finally, there are no formal security training requirements that resident inspectors must take to become qualified. Thirty-seven people were interviewed by OIG to include resident inspectors (8), regional security inspectors (22), security branch chiefs (4), and other training relating staff (3). Twenty-seven said it would be useful for the resident inspectors to be provided with basic security training. Three regional security inspectors stated that security training for resident inspectors would be helpful in giving resident inspectors a greater ability to identify security related issues at their sites. Two resident inspectors said that basic security training would put them in a better position to identify security issues at the plant. A third resident inspector said that training for resident inspectors is important because resident inspectors are the eyes and ears on site.

After the exit conference, officials provided comments that the resident inspector qualification records include an On-the-Job Activity to familiarize themselves with the security plan and its implementation for their assigned facility. Additionally, NSIR is developing a 4-hour course for resident inspectors and NRC managers on security design basics and an overview of the security requirements. However this is not an equivalent for the training discussed in this section.



Recommendation

OIG recommends that the Executive Director for Operations:

3. Develop and provide a security training program for non-security personnel with security oversight responsibilities.

Security Training Program Updates

The second objective of IMC 1245 states that the inspector training and qualification program should remain effective in preparing inspectors (including regional security inspectors) to implement the inspection program. As such, the baseline security and safeguards inspection program must reflect any changes in the security environment to ensure that inspectors are receiving appropriate training. This is accomplished through periodic updates to the program.

After the terrorist attacks of September 11, 2001, NRC identified that improvements are needed in the overall security training program to address 1) the changing threat environment, 2) advancements in security technologies, and 3) adversary capabilities. Based on OIG's review of the training records, the agency has not implemented any improvements and the training program remains unchanged since April 2002.

Pursuant to its responsibility for nuclear security programs, NSIR in 2005 created the Integrated Training Development Working Group to determine how to create a training program for NSIR staff. NSIR identified this training need because staff have varied security backgrounds. According to an NSIR manager, it is important that staff have a shared basis of knowledge on security. The working group has been developing a manual chapter for training NSIR staff. An NSIR manager stated that as of June 2006, about 80 percent of this new manual chapter was drafted.

While NSIR managers had envisioned that the new manual chapter would replace Appendix C-4, there has been no formal movement to facilitate this.

Development of the Training Program Delayed

According to an NSIR manager, progress on the development of the security training program has continued at a much slower pace

than first anticipated because resources have been diverted to complete emergent work assignments. In addition, while senior NSIR officials state that they have overall responsibility for the security inspection training program, no one has responsibility at the operational level.

Consistent Level of Knowledge is not Assured

Without an available, current, and effective training and qualification program there is no assurance that the security program is running efficiently and that security personnel have a consistent level of security knowledge. Most regional security inspectors have an extensive background in the security field. However, without a consistent qualification process there is no assurance that regional security inspectors have received the appropriate training to conduct security inspections in accordance with the expectation of NRC program management. Furthermore, key non-security personnel need exposure to security topics to make better informed decisions and to be able to identify security issues.

Recommendations

OIG recommends that the Executive Director for Operations:

4. Update the security inspector training program to ensure course material is current and relevant.

5. Identify a training coordinator for all security related training to ensure a centralized program effort.

B. Depth-of-Review Guidance is Lacking

Within the baseline security and safeguards inspection program, regional security inspectors examine a prescribed number of specific security program requirements to assess each inspectable area. However, NRC regional security inspectors employ subjective approaches to examine each of these requirements. This occurs because NRC inspection procedures specify the number and type of requirements to review, but do not provide specific guidance on what constitutes an adequate review of each requirement. This can result in inspections that vary in scope and depth.

Inspection Requirements

NRC uses the term "sample" to refer to specific inspection requirements within each inspectable area and the term "sample size" to refer to the number of inspection requirements reviewed by the inspector in assessing the inspectable area. Neither term is used to describe the number of items reviewed within each "sample"; this determination is left to the inspector's discretion. For example, one "sample" within the security inspection procedures for the inspectable area, Access Control, relative to search activities, asks the inspectors to:

Observe in-processing searches of personnel, packages and vehicles at access locations during peak ingress times to ensure compliance with established procedures. Performing this observation would constitute completion of one sample associated with the Access Control inspectable area, and it would be up to the regional security inspector to determine how many searches to observe.

Nuclear power plant security checkpoint

In accordance with the policy for the operating reactor inspection program found in IMC 2515, "*Light-Water Reactor Inspection Program – Operations Phase,*" Appendix A, the inspection activities and minimum sample sizes must be completed to provide an adequate assessment for each cornerstone under review. IMC 2515 further stipulates that sample sizes specified in the inspection procedures are based on the relative importance of the area covered by the procedure because the underlying concept of the risk-informed inspection program is that it intends to examine samples which have a greater probability of impacting safe and secure plant operations.

As stated in the Background section of this report, regional security inspectors perform inspections for 7 of the 12 inspectable areas addressed in the baseline security and safeguards inspection. Table 4, shown below as contained in IMC 2201 Appendix A, lists the seven inspectable areas and the respective sample sizes listed in the procedure.

Table 4

BASELINE SECURITY AND SAFEGUARDS INSPECTABLE AREAS AND ASSOCIATED SAMPLE SIZES		
Attachment Number	**Inspectable Area**	**Sample Size**
71130.01	Access Authorization	48
71130.02	Access Control	16
71130.04	Equipment Performance, Testing, and Maintenance	47
71130.05	Protective Strategy Evaluation	30
71130.07	Security Training	41
71130.08	Fitness-For-Duty Program	22
71130.09	Owner-Controlled Area Controls	12

Subjective Approach is Used

NRC regional security inspectors employ subjective approaches to decide how many items to review for each inspection requirement "sample," which can result in inspections that vary in scope and depth. OIG spoke with 22 regional security inspectors, 13 of whom reported they independently determine the scope and depth of the examination afforded to each sample. For example, relative to the Access Control area "search activities" inspection requirement, an inspector may choose to observe any number of processing searches he/she deems appropriate.

Auditors were unable to review records to illustrate this point because such records are not maintained by NRC. However, auditors observed the following example of how variances could exist in the scope and depth of the inspector's handling of the samples. In fulfilling an inspection procedure designed to verify and assess a licensee's protective strategy, a regional security inspector attempted to examine all of the licensee's defensive positions, but was advised by the branch chief to examine only a sample of the defensive positions. Because the procedures are silent with respect to the number of items to review, the procedure was being performed in the manner the inspector believed was best. Yet, in this case, the inspector's supervisor, the branch chief, disagreed and the inspector subsequently modified his approach. Based on OIG interviews with several branch chiefs, however, the inspector would not normally receive this type of guidance from his or her branch chief as they typically rely on the inspectors to

determine how many items to review per sample. One branch chief said he would use trips to observe the inspectors as an opportunity to discuss how the inspectors arrive at the number of items reviewed. Another said each line item must be completed and the inspector decides what will satisfy this requirement.

The regional security inspectors verified their latitude to independently determine the number of items to review in the completion of the inspection procedures. When asked how sample sizes are determined, more than half of the regional security inspectors provided the following responses:

- Each inspector needs to be comfortable with the amount of work they did and be able to justify why they did it.

- There is no correlation between the sample sizes designated in the procedures and the amount of work done.

- The amount of inspecting that needs to be performed depends on the inspector's assessment of the line item from the procedures.

- Determination of the number of items within a sample to review is left up to the inspector.

No Guidance on What Constitutes Adequate Review

While NRC inspection procedures specify the number and type of program elements to review, they do not provide specific guidance on what constitutes an adequate review of each element.

NSIR staff has not provided necessary guidance on the scope and depth of the examinations because they believe the inspectors should determine what constitutes an appropriate examination. Furthermore, NSIR staff explained that there are other opportunities for inspectors to communicate with each other on their methods of inspecting and thereby gain consistency. NSIR staff said that such cross-pollination occurs regularly during bimonthly secure teleconferences ("counterpart calls") held for regional and NSIR security inspectors to discuss inspection issues and during weekly Security Findings Review Panel meetings, which always include regional and NSIR representation.

Although NSIR staff told OIG that guidance on the number of examples to review was not needed, OIG contends that such guidance is necessary to ensure a reliable review across the

regions. For example, another sample that can be reviewed as part of the Access Control inspection procedure asks the inspector to:

Verify that the licensee has a program in place for controlling and accounting for hard keys to protected and vital areas and the replacement or changing the core of locks if a key is lost or compromised.

The scope of work to complete this sample could be interpreted in various ways depending on 1) the amount of time an inspector has to perform the inspection procedure, 2) the inspector's experience with the licensee under review, and 3) the inspector's comfort level with the inspection procedure. An inspector might:

- Examine all (100 percent) of the keys and key changes ensuring they are located as identified in the control journal and that changes were all performed in accordance with the procedures.

- Review the applicable control journals, randomly selecting a few keys from each page for a complete review.

- Review the procedures, interview licensee employees about the implementation of the procedures, and observe how the keys are stored.

Any of these methods would constitute completion of the sample; yet, the depth of the review and the assurance gained that procedures are followed would vary greatly. Guidance is needed to ensure that a consistent standard of review is achieved.

Inadequate Review Could Result

The lack of guidance on the number of items to review and the subjectivity of the inspection procedures could prevent the licensees from receiving an adequate review by the regional security inspectors because of the varied interpretations that could be applied to the performance of the procedures. The adequacy of assessing licensee performance through the baseline inspection program depends on the quality (scope and depth of the inspector's examination) of the samples chosen for inspection.

Recommendations

OIG recommends that the Executive Director for Operations:

6. Include guidance in the baseline security and safeguards inspection procedures to ensure inspectors review an adequate number of sample items to assess the effectiveness of the licensee's security program.

7. Implement training on how to select an adequate number of sample items.

C. No Systematic Process for Compiling Historical Data

The Security Findings Review Panel needs to have complete historical information on security-related findings. This is so the voting panel members can perform their responsibilities of ensuring NRC is consistent in its regulatory response to findings across the nuclear industry. Yet, there is no guarantee that the historical information is complete because there is no systematic process for compiling the historical data and the existing process relies on the memory of the regional security inspectors. Furthermore, a centralized database of security findings, which is maintained by NSIR, could serve this purpose but has not been shared with the regions. As a result, the consistent handling of security findings is not well supported.

Security Findings Review Panel Charter

The Security Findings Review Panel charter requires the use of complete historical information on security-related findings. The panel meets its objective through a review of the security findings, unresolved items, and potential findings resulting from the security inspections and then approves the approach to disposition them. The panel consists of designated senior level staff within NSIR, the Office of Nuclear Reactor Regulation, the Office of Nuclear Material Safety and Safeguards, the Office of the General Counsel, the Office of Enforcement, the Office of State and Tribal Programs, and regional Divisions of Reactor Safety and Nuclear Materials Safety.

The panel meets on a weekly basis and, in preparation for the meeting, members are provided with Security Findings Review Panel worksheets on each inspection finding. The worksheets, which are prepared and submitted by the regional security inspectors, include a brief summary of the issues and a description of the requirement that was violated, as well as the region's recommendation for adjudicating the issue. When a common or programmatic weakness has affected multiple physical protection attributes, plants, sites, or functions, this information must also be included on the Security Findings Review Panel worksheet. To fulfill this information need, the regional security inspectors must provide the following historical information to inform the panel about the handling of prior issues:

- Related historical findings from this licensee.

- Related historical findings from other licensees within the region.

- Historical precedent – if this finding has been through the Security Findings Review Panel previously.

Process Relies on Memory

There is no guarantee that the historical information the panel receives from the Security Findings Review Panel worksheets is complete because the process for compiling the historical information is not systematic and relies on the memory of the regional security inspectors.

Regional security inspectors and their branch chiefs said considerable time and effort is invested in preparing the Security Findings Review Panel worksheets for the panel meetings and that they rely mostly on memory to complete this portion of the worksheet. Inspectors reported keeping "mental notes" of the issues they have seen. Two inspectors said they have on occasion had to ask the Security Findings Review Panel coordinator, from NSIR, to provide them with information on past findings because they could not remember and needed clarification.

Regional security inspectors characterized the process of documenting historical security findings information as relying on the information they know and excluding the universe of information that might be available.

Database Not Shared With Regions

Security Findings Review Panel worksheets are compiled primarily based on regional security inspectors' memory because the regions have not been provided access to the database of security findings. NSIR maintains a centralized database compiled from data contained on the Security Findings Review Panel worksheets; however, it is not always up to date and has not been shared with the regions. NSIR staff explained that the database is not up to date because there is a lack of staff to complete and maintain the database. They also said that they have been unable to share the database with the regions because of the logistics associated with storing and sharing safeguards information**.** Despite this concern,

NRC has overcome the logistical issues at various times and used the database to provide statistics quickly to senior NRC managers, Congress, and others.

Consistent Handling of Security Findings is Not Well Facilitated

Because the database of security findings is not shared with the regions, the handling of security findings is not well facilitated as the Security Findings Review Panel must rely on the memory of the regional security inspectors.

A systematic approach to maintaining security findings would benefit regional security inspectors, who said they spend considerable time and effort preparing the Security Findings Review Panel worksheets. It would also ensure that the Security Findings Review Panel has access to reliable and complete historical information and efficiently meets its objective of performing a thorough review of the security findings.

Recommendation

OIG recommends that the Executive Director for Operations:

8. Maintain and share the NSIR database of security findings with the regions.

IV. AGENCY COMMENTS

During an exit conference held August 15, 2006, the agency generally agreed with the audit findings and recommendations and provided comments concerning the draft audit report. We modified the report as we determined appropriate in response to these comments. NRC reviewed these modifications and opted not to submit formal written comments to this final version of the report.

V. CONSOLIDATED LIST OF RECOMMENDATIONS

OIG recommends that the Executive Director for Operations:

1. Provide the required initial and refresher security training courses for regional security inspectors at the frequency needed to support qualification requirements.

2. Establish rules and standards supporting a consistent qualification board process across all regions.

3. Develop and provide a security training program for non-security personnel with security oversight responsibilities.

4. Update the security inspector training program to ensure course material is current and relevant.

5. Identify a training coordinator for all security related training to ensure a centralized program effort.

6. Include guidance in the baseline security and safeguards inspection procedures to ensure inspectors review an adequate number of sample items to assess the effectiveness of the licensee's security program.

7. Implement training on how to select an adequate number of sample items.

8. Maintain and share the NSIR database of security findings with the regions.

[Page intentionally left blank.]

Appendix A

SCOPE AND METHODOLOGY

Auditors reviewed the effectiveness of the baseline security and safeguards inspection program by examining the program's resources, training and qualification requirements, and the consistency of program implementation.

The OIG audit team reviewed relevant criteria, including NRC IMC 1245, "Qualification Program for the Office of Nuclear Reactor Regulation Program"; and Inspection Procedure 71130, "Physical Protection." The audit team also reviewed the Security Findings Review Panel charter.

Auditors interviewed NSIR and regional staff to better understand the development, implementation, and management of the inspection program. Auditors interviewed regional security inspectors in all four regional offices and observed a baseline security and safeguards inspection at one site in each of the NRC regions to understand how the inspection program is applied. Auditors interviewed licensee security staff at four reactor sites to obtain their comments concerning the baseline security and safeguards inspection program.

Auditors compared training records of the regional security inspectors with the courses that are required by IMC 1245 Appendix C-4, "Safeguards Inspector Technical Proficiency Training and Qualification Journal," to determine what training the inspectors were receiving. In addition, auditors reviewed Human Resources Management System records for calendar year 2005 to determine how regional inspectors spend their time.

This work was conducted from December 2005 through April 2006, in accordance with generally accepted Government auditing standards and included a review of management controls related to audit objectives. The work was conducted by Beth Serepca, Team Leader; Shyrl Coker, Audit Manager; David Ditto, Senior Management Analyst; and Rebecca Underhill, Management Analyst.