



NUREG-1885, Rev. 2

# **Report to Congress on the Security Inspection Program for Commercial Power Reactor and Category I Fuel Cycle Facilities: Results and Status Update**

Annual Report for Calendar Year 2008

Office of Nuclear Security and Incident Response

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## ABSTRACT

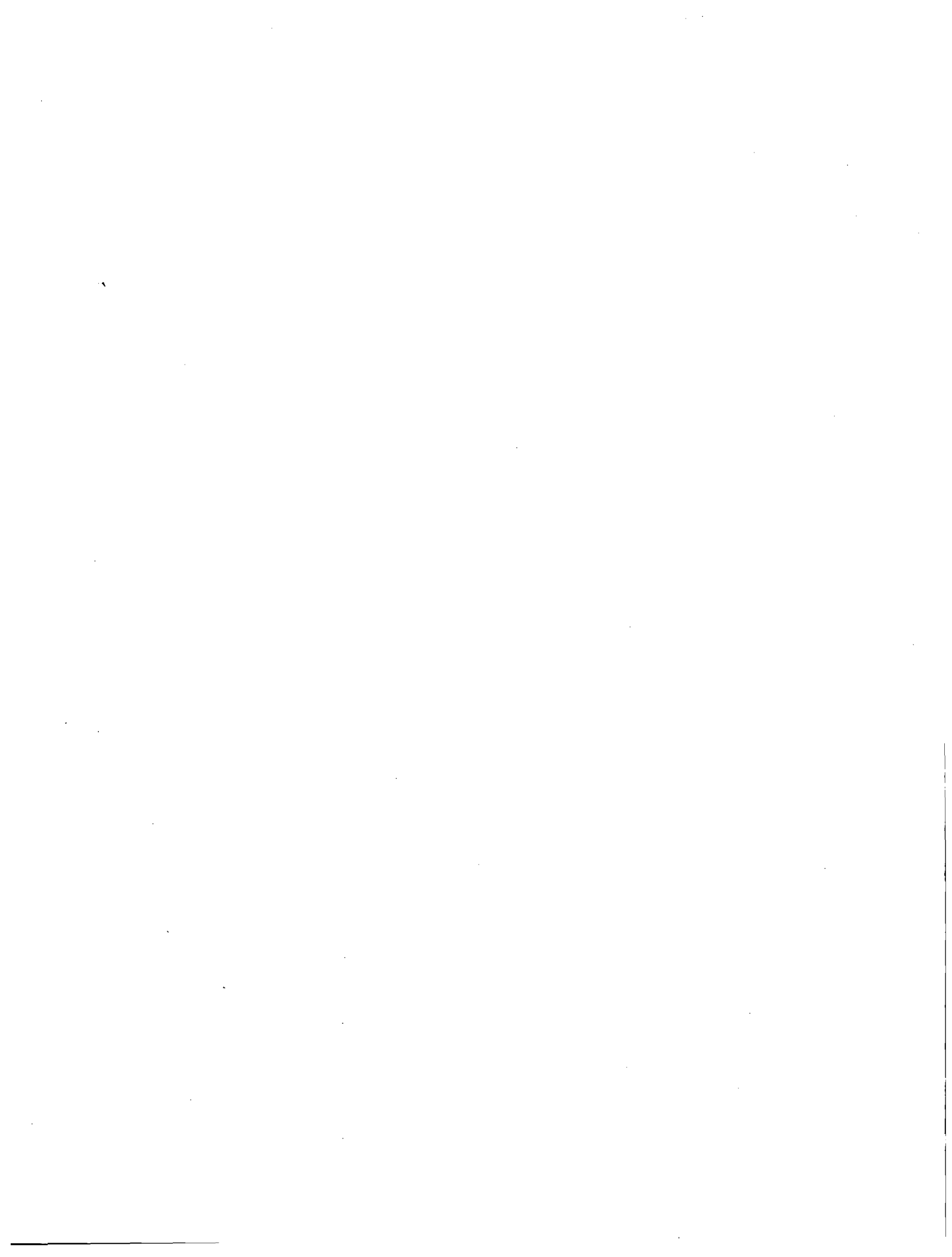
This report fulfills the requirements of Chapter 14, Section 170D, of the Atomic Energy Act of 1954 (42 U.S.C. 2201 et seq.), as amended by the Energy Policy Act of 2005, which states, "not less often than once each year, the Commission shall submit to the Committee on Environment and Public Works of the Senate and the Committee on Energy and Commerce of the House of Representatives, a report, in safeguards form and unclassified form, that describes the results of each security response evaluation conducted and any relevant corrective action taken by a licensee during the previous year." This is the fourth annual report, which covers calendar year (CY) 2008. In addition to information on the security response evaluation program (force-on-force (FOF) inspections), the U.S. Nuclear Regulatory Commission (NRC) is providing additional information regarding the overall security performance of the commercial nuclear power industry and Category I (CAT I) fuel cycle facilities to keep Congress and the public informed of the NRC's efforts to protect the public health and safety, the common defense and security, and the environment, through effective regulation of the Nation's electric power infrastructure and strategic special nuclear material (SSNM).

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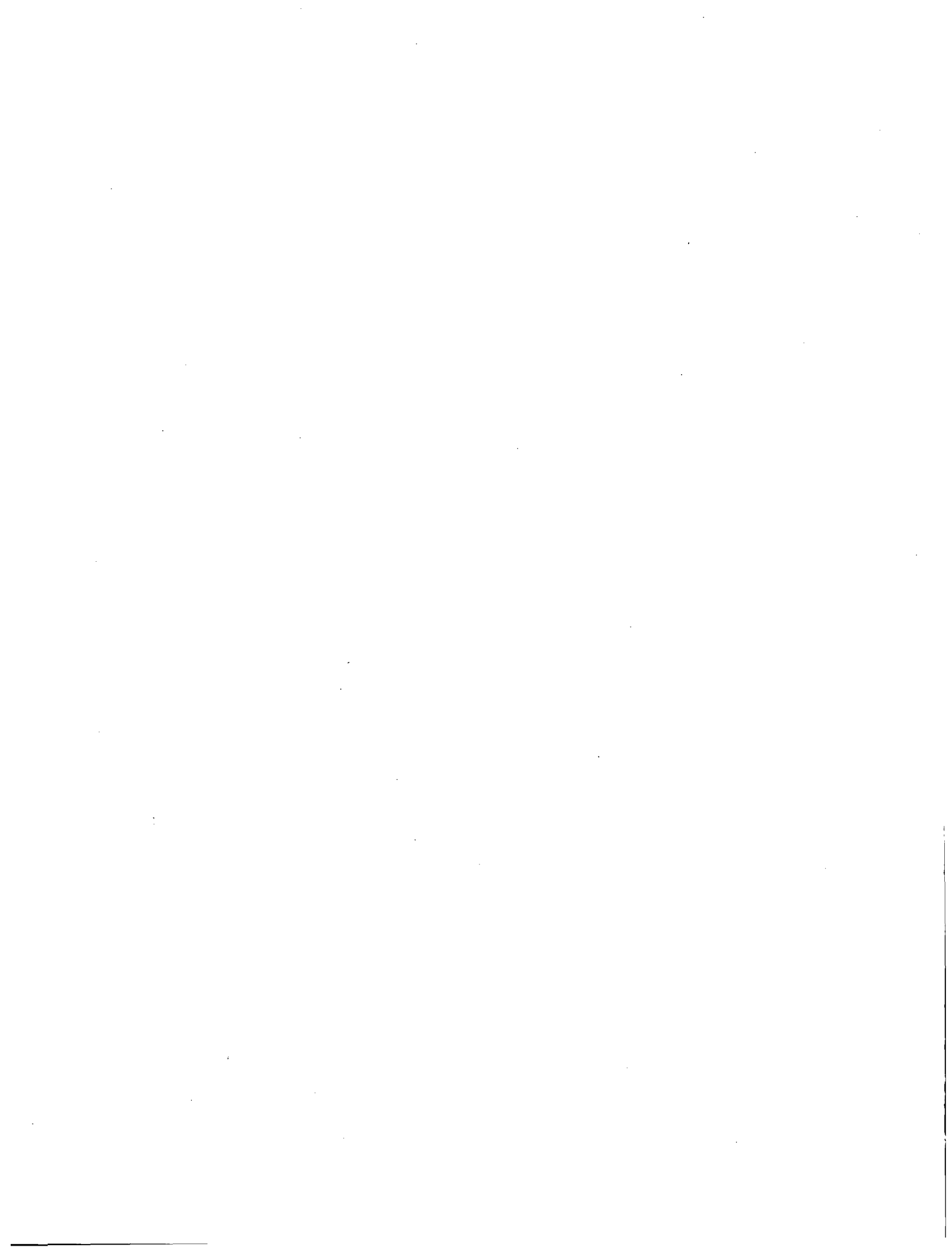
## EXECUTIVE SUMMARY

This report fulfills the requirements of Chapter 14, Section 170D, of the Atomic Energy Act of 1954 (42 U.S.C. 2201 et seq.), as amended by the Energy Policy Act of 2005, which states, "not less often than once each year, the Commission shall submit to the Committee on Environment and Public Works of the Senate and the Committee on Energy and Commerce of the House of Representatives, a report, in safeguards form and unclassified form, that describes the results of each security response evaluation conducted and any relevant corrective action taken by a licensee during the previous year." This fourth annual report covers calendar year (CY) 2008. In addition to providing information on the security response evaluation program (force-on-force (FOF) inspections), the U.S. Nuclear Regulatory Commission (NRC) is providing additional information regarding the overall security performance of the commercial nuclear power industry and Category I (CAT I) fuel cycle facilities to keep Congress and the public informed of the NRC's efforts to protect the public health and safety, the common defense and security, and the environment, through effective regulation of the Nation's electric power infrastructure and strategic special nuclear material (SSNM).

Conducting FOF exercises and implementing the security inspection program are just two of a number of regulatory oversight activities that the NRC performs to ensure the secure, safe use and management of radioactive and nuclear materials by the commercial nuclear industry. In support of these activities, the NRC employs relevant intelligence information and vulnerability analyses to determine realistic and practical security requirements and mitigative strategies. The NRC also takes a risk-informed, graded approach to establishing appropriate regulatory controls, enhancing its inspection efforts, assessing the significance of issues, and influencing timely and effective corrective action of identified deficiencies by licensees of commercial nuclear power plants (NPPs) and CAT I fuel facilities. These practices use interagency cooperation to develop an integrated approach to the security of nuclear facilities and contribute to the NRC's comprehensive evaluation of licensee security performance.

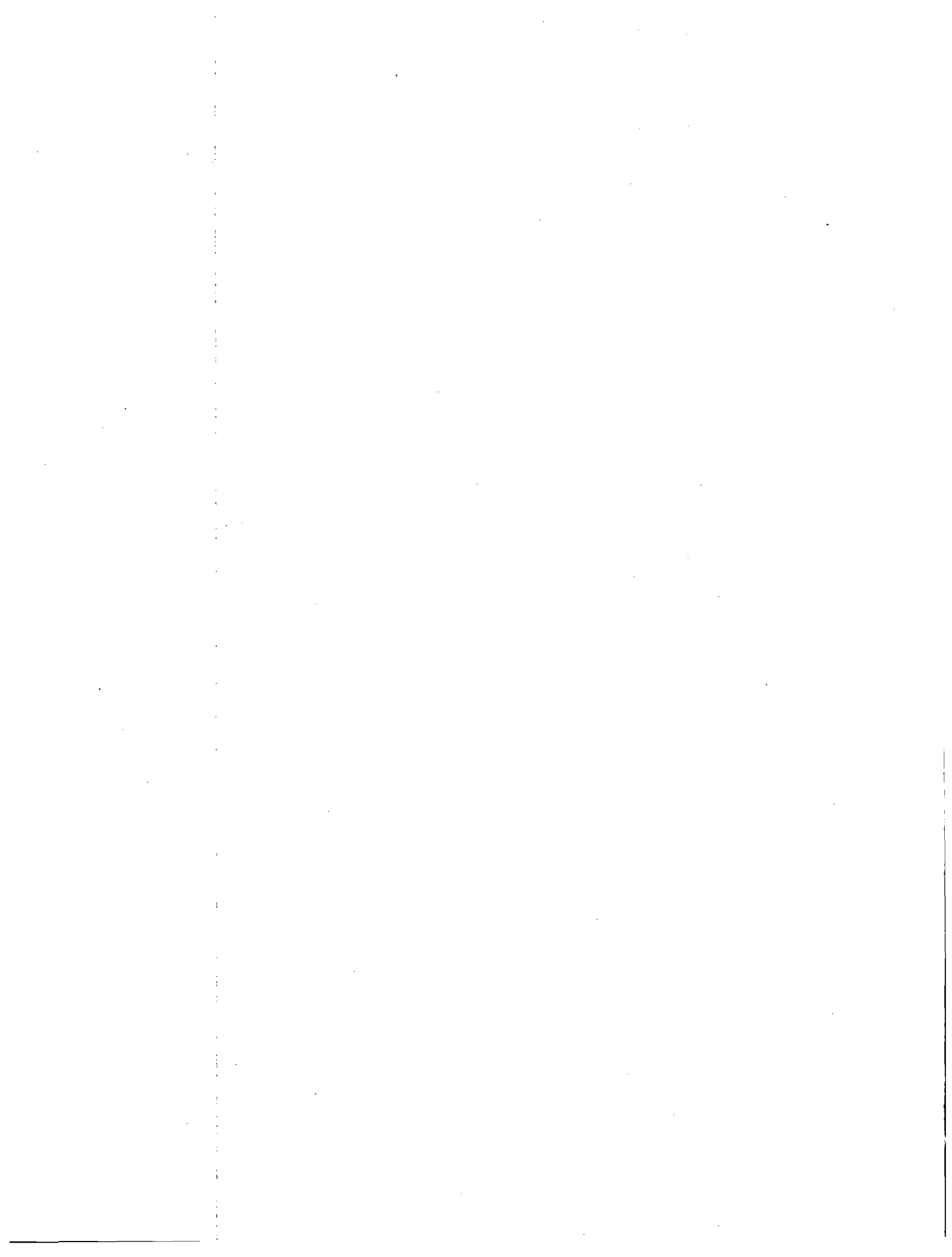
This report describes the results of the NRC's security inspection program, including the nuclear reactor security baseline inspection program and exercises conducted as part of FOF inspections. The reporting period covered is January 1, 2008, through December 31, 2008.

During CY 2008, the NRC conducted 182 security inspections at NPPs and CAT I fuel cycle facilities (of which 24 were FOF inspections). These inspections identified 133 findings, of which 125 were of very low security significance and 8 were of low-to-moderate security significance. The results of the security inspections conducted at CAT I fuel cycle facilities are discussed in the Safeguards Information (SGI) version of this report.



## ACRONYMS

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
CAF	composite adversary force
CAT I	Category I
CY	calendar year
DBT	design-basis threat
DHS/HSC	U.S. Department of Homeland Security/Homeland Security Council
FBI	Federal Bureau of Investigation
FOF	force-on-force
HEU	highly enriched uranium
IN	information notice
IPCE	Integrated Pilot Comprehensive Exam
IR	inspection report
MC&A	material control and accounting
NEI	Nuclear Energy Institute
NFS	Nuclear Fuel Services
NPP	nuclear power plant
NRC	U.S. Nuclear Regulatory Commission
OUO	Official Use Only
PA	protected area
PI	performance indicator
PPSDP	Physical Protection Significance Determination Process
RIS	regulatory issue summary
ROP	reactor oversight process
SA	security advisory
SDP	Significance Determination Process
SERP	Senior Executive Review Panel
SIG	Safeguards Information
SL	severity level
SSNM	strategic special nuclear material
U.S.C.	United States Code



# 1. INTRODUCTION

The Energy Policy Act of 2005 amended Chapter 14, Section 170D, of the Atomic Energy Act to require, in part, that "not less often than once each year, the Commission shall submit to the Committee on Environment and Public Works of the Senate and the Committee on Energy and Commerce of the House of Representatives, a report, in classified form and unclassified form, that describes the results of each security response evaluation conducted and any relevant corrective action taken by a licensee during the previous year." This report fulfills the requirement for an unclassified report.

The NRC is providing to Congress the fourth annual report on the results of the NRC's security inspection program. This report for CY 2008 conveys the results of inspections for the reporting period. For a summary of inspection findings at sites, sorted by state, please see Appendix A to this report.

This report provides an overview of the NRC's security inspection program and FOF program and summaries of the results of those inspections. It also describes the NRC's communications and outreach activities with the public and other stakeholders (including other Federal agencies). Unless otherwise noted, this report does not include security activities or initiatives of any class of licensee other than power reactors or CAT I fuel cycle facilities. CAT I fuel cycle facilities are those that use or possess formula quantities of SSNM, which is defined in Title 10 of the *Code of Federal Regulations* (10 CFR) 74.4, "Definitions," as uranium-235 (contained in uranium enriched to 20 percent or more in the uranium-235 isotope), uranium-233, or plutonium.



## 2. REACTOR SECURITY OVERSIGHT PROCESS

### 2.1 Overview

The NRC continues to implement the Reactor Oversight Process (ROP), which is the agency's program for ensuring plant and radiological safety, security, and emergency preparedness at operating NPPs. The basic principles and philosophy of the ROP are to ensure that a defined, repeatable, and objective process is applied to identify findings, determine their significance, and document results in accordance with ROP program guidance. Program instructions and inspection procedures help ensure that licensee actions and regulatory responses are commensurate with the safety or security significance of the particular event, deficiency, or weakness. Within each ROP cornerstone (see Figure 1), NRC resident inspectors, Headquarters, and regional security inspectors follow detailed inspection procedures to conduct NRC inspections. In the aggregate, the results of these inspections contribute to an overall assessment of licensee performance.

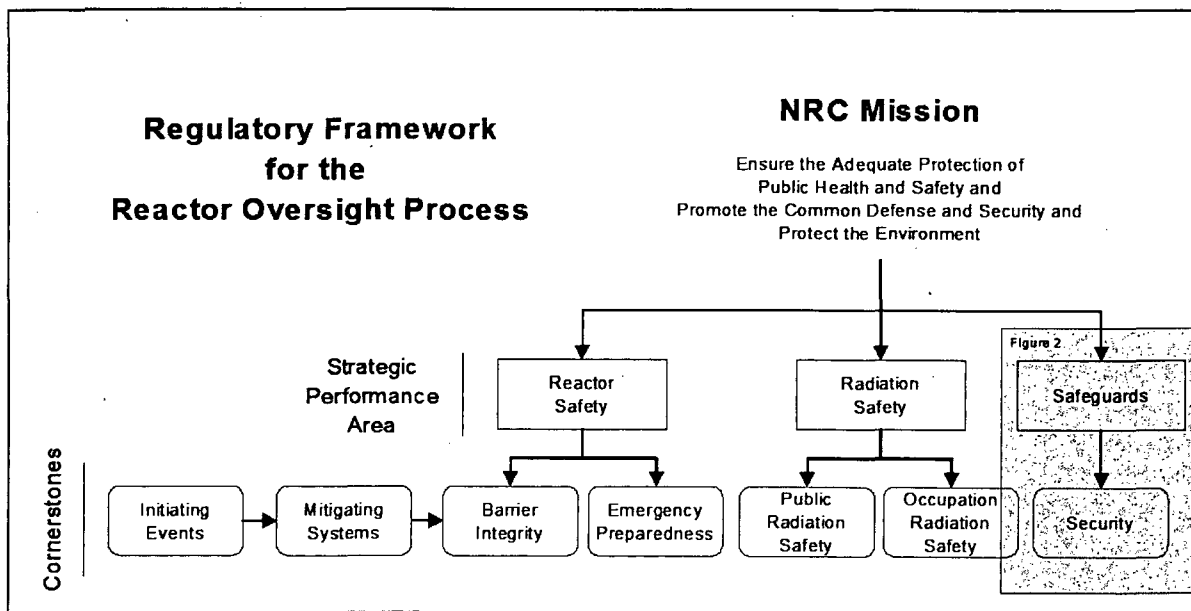


Figure 1: Cornerstones of the ROP

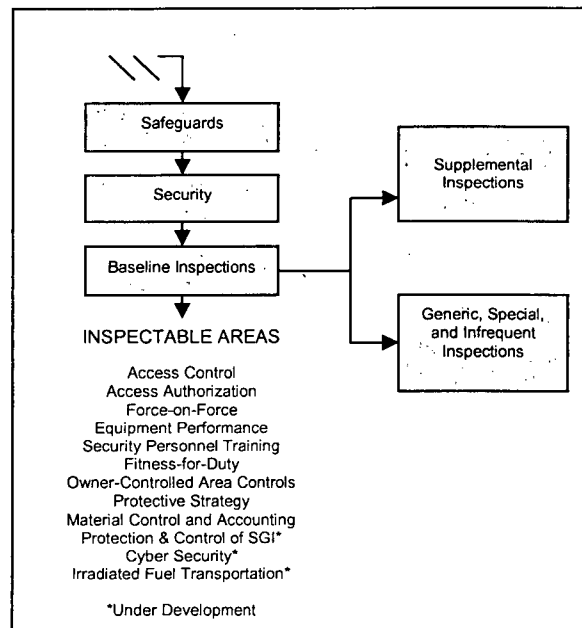
As part of post-9/11 actions, the NRC issued a number of Orders requiring licensees to strengthen security programs in several areas. Through those Orders, the NRC significantly enhanced its baseline security inspection program for commercial NPPs. This inspection effort resides within the "Security Cornerstone" of the agency's ROP. The Security Cornerstone focuses on the following five key licensee performance attributes: access authorization, access control, physical protection systems, material control and accounting (MC&A), and response to contingency events. Through the results obtained from all oversight activities, including baseline security inspections and performance indicators (PIs), the NRC determines whether licensees comply with requirements and can provide high assurance of adequate protection against the design-basis threat (DBT) of radiological sabotage.

The Security Cornerstone's baseline inspection program has four objectives: (1) to obtain information providing objective evidence that the security and safeguards at NRC-licensed NPPs are maintained in a manner that contributes to public health and safety and promotes the

common defense and security, (2) to determine that licensees have established measures to deter, detect, and protect against the DBT of radiological sabotage as required by regulations and other Commission mandates such as Orders, (3) to determine the causes of declining performance in the physical protection arena before such performance reaches a level that may result in a degradation of reactor safety or undue risk to public health and safety, and (4) to identify those significant issues that may have generic or crosscutting applicability. These objectives help ensure the secure use and management of radioactive materials.

Before 2004, the PIs measured aspects of the licensees' security programs that were not specifically inspected by the NRC's baseline inspection program. However, with the enhanced security inspection program initiated in 2004, the NRC now inspects all of the aspects of licensees' security programs that the PIs measure. In 2007, the NRC informed the power reactor licensees that they no longer need to report two (i.e., Personnel Screening Program and Fitness-for-Duty/Personnel Screening Program) of the three PIs. The agency retained the Protected Area (PA) Security PI, as that PI also promotes good maintenance practices for security barriers. During 2008, licensees reported data on the PA Security PI. The staff compared the data reported by the licensees to an established set of thresholds to determine the data's significance, which is represented by the colors green, white, yellow, and red (in order of increasing severity).

The Security Cornerstone's baseline inspection program comprises 11 "inspectable areas" to be reviewed periodically at each power reactor facility (see Figure 2). Three of the inspectable areas (irradiated fuel transportation, cyber security, and protection and control of SGI) are under development and will be included in the inspection program at a later date. The staff is coordinating with internal and external stakeholders in its current efforts to further develop these three inspectable areas, which will formalize and better define existing oversight activities. Another one of the inspectable areas, contingency response, is assessed through the conduct of FOF inspections, which are described in detail in the next section.



**Figure 2:** Inspectable Areas of the Security Cornerstone



Where performance issues have been identified for a particular licensee, supplemental inspections may be conducted to further investigate a particular deficiency or weakness that exceeds a certain level of significance. In some situations, the NRC may conduct generic or special inspections. Such inspections are not part of the baseline or supplemental inspection program and would be conducted in support of a review and assessment of a particular security or safeguards event or condition. These types of inspections include, but are not limited to, resolution of employee concerns, security matters requiring particular focus, and licensee plans for coping with a security force strike or walkout.

## **2.2 Significance Determination Process**

The Significance Determination Process (SDP) for NPPs uses risk insights, where appropriate, to help NRC inspectors and staff determine the significance of inspection findings. These findings include both programmatic and process deficiencies. Security-related findings are evaluated using the baseline Physical Protection SDP (PPSDP). The PPSDP determines the security significance of security program deficiencies.

FOF performance findings are evaluated using the FOF PPSDP. The significance of findings associated with FOF adversary actions depends on the impact on critical equipment (referred to as a target set) and a determination of whether these actions could have an adverse impact on public health and safety. The NRC also uses the baseline PPSDP to evaluate other security-related findings identified during FOF activities. These findings may include programmatic and process deficiencies that are not directly related to an FOF inspection outcome but are identified during the FOF exercise. In situations where the NRC cannot clearly determine the outcome of an exercise, it will consider the exercise indeterminate, and an additional exercise may be conducted if appropriate.

## **2.3 Findings and Violations**

Inspection findings typically relate to violations of NRC requirements, and are categorized by significance. Inspection findings evaluated with the SDP are assigned colors as follows:

- green (very low security significance)—normally described in inspection reports (IRs) as noncited violations if the licensee has placed the issue into their Corrective Action Program.
- white (low to moderate security significance).
- yellow (substantial security significance).
- red (high security significance)—cited as a Notice of Violation requiring a written response by the licensee unless its has already provided sufficient information to the NRC

White, yellow, and red findings are considered more serious than green. For particularly significant violations, the Commission reserves the use of discretion to assess civil penalties in accordance with Section 234 of the Atomic Energy Act of 1954, as amended.

All inspection findings at CAT I fuel cycle facilities and those findings at commercial power reactor facilities that result in violations with willful aspects, or potential or actual safety consequences are not evaluated through the SDP but, instead, are addressed through the traditional enforcement process. These violations are categorized in terms of four levels of severity to show their relative importance or significance. Severity Level (SL) I has been assigned to most significant violations. SL I and II violations are of very significant regulatory concern. In general, violations designated as SL I or II involve actual or high potential consequences for public health and safety or common defense and security. SL III violations are cause for significant regulatory concern. SL IV violations are less serious but are of more than minor concern. SL IV violations involve noncompliance with NRC requirements that are not considered significant based on security risk.

## **2.4 Inattentive Officers at Peach Bottom**

In September 2007, a TV reporter presented the NRC with video evidence that showed a number of security officers at the Exelon Corporation's Peach Bottom Station in an inattentive state in the ready room.<sup>1</sup> After receiving this information, the NRC conducted a range of inspection and investigative activities to determine the extent of this situation and ensure that Exelon and its security contractor, Wackenhut, had promptly and effectively addressed this unacceptable performance.

After becoming aware of inattentive security officers at the Peach Bottom Station, the staff issued Security Advisory (SA 2007-06), "Security Officers Inattentive to Duty," dated September 27, 2007, to NRC reactor licensees to emphasize the importance of security officer attentiveness. In December 2007, the staff issued Security Bulletin 2007-01, "Security Officer Attentiveness," to these same licensees to gather information on administrative and management controls and any other actions taken to address inattentiveness.

Once the staff had reviewed all licensee responses to the security bulletin, the staff identified the need for additional information in July 2008. The staff has now received, reviewed, and assessed all licensee responses to the bulletin and subsequent request for additional information. Based on the acceptability of the licensee's responses, the staff plans on closing Security Bulletin 2007-01 by issuing closure letters to affected licensees during CY 2009.

During CY 2008, the staff issued the results of the agency's lessons-learned reviews, one conducted by Region I, with the insights of other regional offices as well as the Office of Enforcement, and the other by a Senior Executive Review Panel (SERP).<sup>2</sup> These reviews evaluated the allegation and inspection program activities associated with the condition of inattentive security officers identified at the Peach Bottom Station.

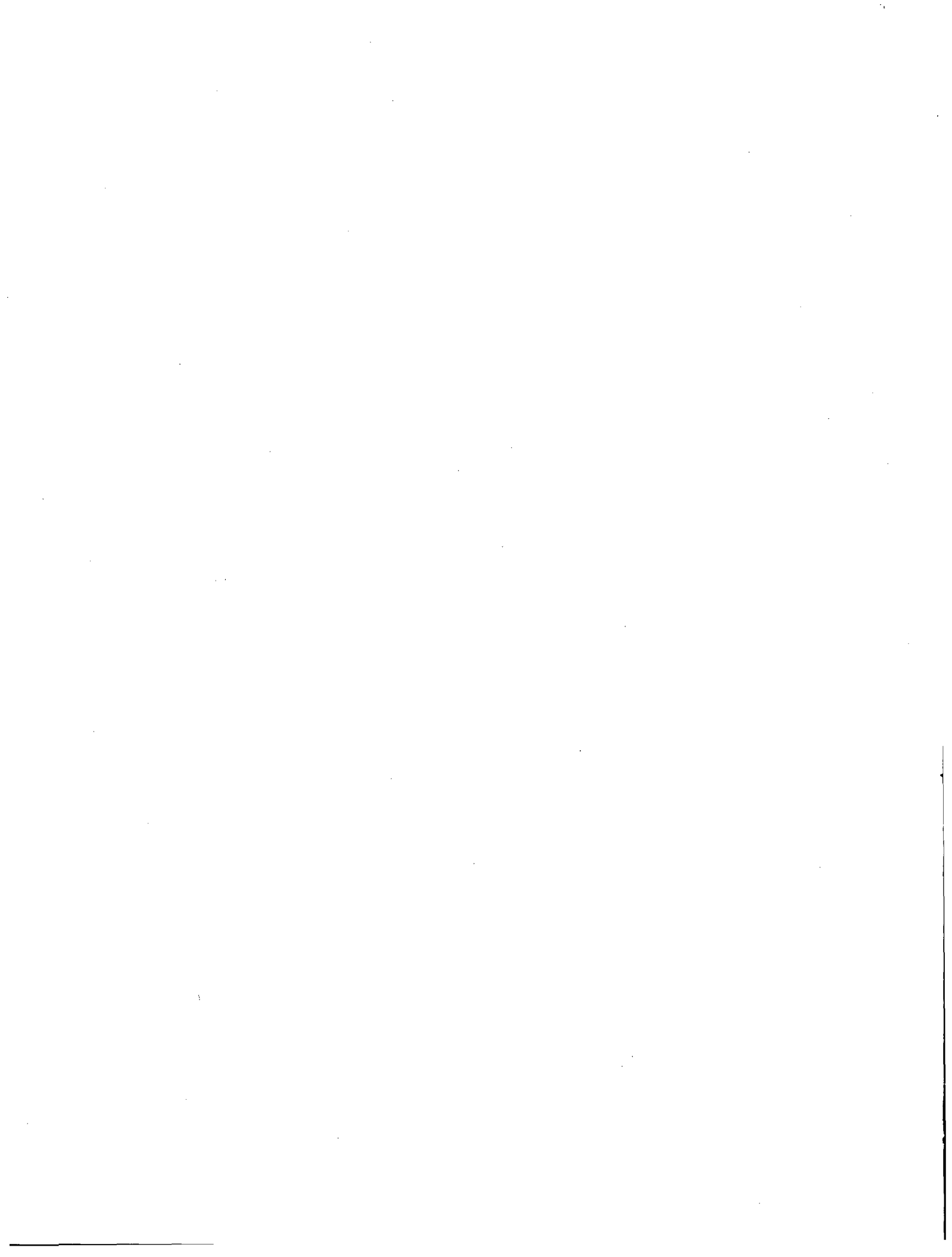
As a result of these reviews, the NRC has instituted a number of programmatic improvements. With respect to the security inspection program, the staff has enhanced the Resident Inspector Program by aiding resident inspectors in the routine oversight of security at power reactor facilities. Specifically, resident inspectors have been trained to enhance their sensitivity to

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<sup>1</sup> The ready room is a place where security officers who are not on patrol, or manning an observation post, are allowed to read, study, eat, or relax, but must remain ready to respond if called upon.

<sup>2</sup> These documents are NUREG-1904, "Review Team Findings with Respect to Inattentive Security Officers at Peach Bottom," issued February 2008, and Memorandum from Bruce S. Mallett, Chair of the SERP, to Luis A. Reyes, Executive Director for Operations, dated March 4, 2008.

security issues and increase security oversight at their assigned sites. The staff is also collaborating with the Office of Nuclear Reactor Regulation and the regional offices to identify how best to formalize resident involvement in security oversight. In addition, the staff is assessing the security baseline inspection program and associated inspection procedures and activities for possible program revisions that may further address security officer attentiveness.



## **3. FORCE-ON-FORCE INSPECTION PROGRAM**

### **3.1 Overview**

An FOF inspection, which is typically conducted over the course of 3 weeks, includes both tabletop drills and exercises that simulate combat between a mock commando-type adversary force and the licensee security force. At an NPP, the adversary force attempts to reach and simulate damage to key safety systems and components that protect the reactor's core or the spent fuel pool, which could potentially cause a radioactive release to the environment. The licensee's security force, in turn, interposes itself to prevent the adversaries from causing such a release.

In conducting FOF inspections, the NRC notifies the licensees in advance for operational and personnel safety reasons, as well as logistical purposes. This notification provides adequate planning time for licensee coordination of two sets of security officers—one for maintaining actual plant security and the other for participating in the exercise. In addition, the licensee must arrange for a group of individuals who will control and monitor each exercise. A key goal of the NRC is to balance personnel and plant safety with the maintenance of actual plant security during an exercise that is as realistic as possible.

In preparation for the FOF exercises, information from table-top drills, which probe for potential deficiencies in the licensee's protective strategy, are factored into a number of commando-style attack scenarios. A FOF inspections consider security baseline inspection results and security plan reviews. Any significant deficiencies in the protective strategy identified during FOF exercises are promptly reviewed and corrected before NRC inspectors leave the licensee's site.<sup>3</sup>

During an FOF inspection, three FOF exercises are scheduled. If an exercise is canceled because of severe weather or other reasons, NRC management may consider less than three exercises to satisfy inspection requirements but only when a licensee has successfully demonstrated an effective strategy in at least two exercises with no significant issues identified. If those conditions are not met, the team may have to expand the schedule or schedule a subsequent exercise.

### **3.2 Program Activities in 2008**

In 2008, the FOF inspection program continued to focus on effectively evaluating licensee protective strategies while maintaining regulatory stability and consistency in the evaluation process. The staff continued to work with the nuclear industry to improve the standards of training and qualifications for exercise controllers. In 2007, the staff endorsed the industry's revised controller guidance document and, in 2008, the staff refined controller and exercise guidance documentation. The NRC remains committed to working with the industry to improve the realism and effectiveness of the FOF inspection program and will continue to pursue methods to improve exercise simulations and the controller responses to those simulations.

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<sup>3</sup> See "Protecting Our Nation," and Office of Public Affairs "Backgrounder" on FOF. These are available at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/broucures/br0314/>.

The composite adversary force (CAF) used for NPP inspections continued to meet expectations for a credible, well-trained, and consistent mock adversary force. FOF team members provide necessary monitoring of information to assist the CAF in defining and developing mission plans used during FOF exercises. Additionally, FOF team members review CAF team briefings to ensure that the information provided in the briefings accurately reflects established parameters.

### **3.3 Results of Inspections**

Between January 1, 2008, and December 31, 2008, the NRC conducted FOF inspections at 23 commercial NPPs.<sup>4</sup> The FOF inspections identified six findings related to areas of the security baseline program. These six findings include failure to ensure the ability to detect penetration into the PA (five findings associated with different locations) and failure of a security officer to be attentive.

Four findings pertain to the conduct of FOF inspections at three separate sites. Two findings resulted from the failure of licensee armed security personnel to interpose themselves between the mock adversary and the vital areas and target set components. Both licensees implemented immediate compensatory measures followed by long-term corrective actions. The NRC continues to track the progress of the long-term corrective actions. In these cases, NRC inspectors observed additional exercises at the sites and verified the adequacy of the corrective actions. The remaining two findings resulted from the failure to effectively conduct and control the exercises. The licensees entered the issues into their corrective action program and the NRC will track the actions as part of follow-on inspection activity.

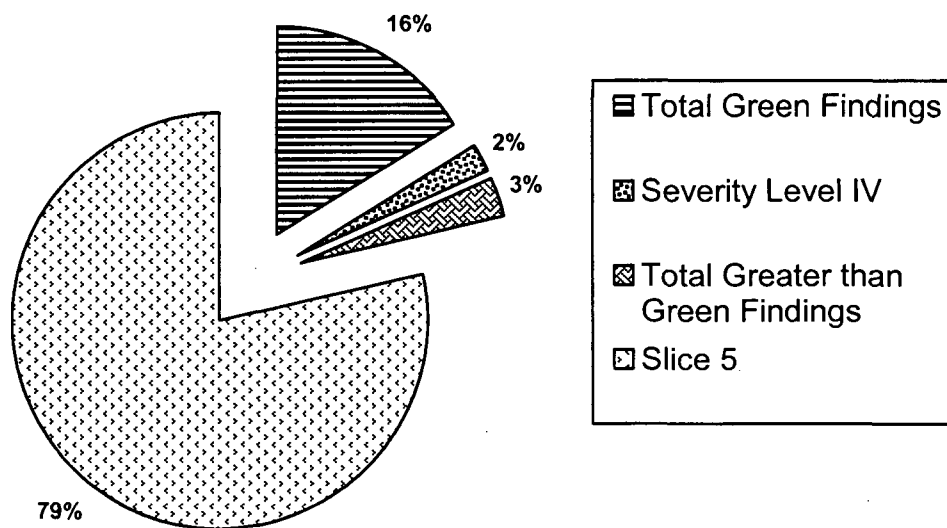
As of the end of 2008, the NRC had completed the first year of the second cycle of NPP FOF inspections (23 sites). Table 1 summarizes the 24 inspections conducted at NPPs in CY 2008, and Table 2 provides site-specific information.

<b>Table 1: CY 2008 FOF Inspection Program Summary at NPPs</b>	
24	Total number of inspections conducted
10	Total number of inspection findings
9	Total number of green findings
1	Total number of greater than green findings
0	Total number of SL IV violations
0	Total number of greater than SL IV violations

<sup>4</sup> The NRC conducted a reinspection at one site in September 2008.

Table 3 summarizes the cumulative results of the FOF inspections conducted at NPPs since the first 3-year cycle began in November 2004, while Figure 3 provides a visual summary of the first year of the second cycle of FOF inspection findings at NPPs (i.e., CY 2008). As of December 31, 2007, which was the end of the first cycle, the NRC had conducted inspections at all commercial NPPs and CAT I facilities.

<b>Table 2: Cumulative FOF Inspection Program Results at NPPs (November 2004 through December 2008)</b>	
90	Total number of inspections conducted
88	Total number of inspection sites
239	Total number of exercises conducted
4	Total number of times a complete target set damaged or destroyed
20	Total number of inspection findings
73	Total number of inspections with no findings
15	Total number of green findings
3	Total number of greater than green findings <sup>5</sup>
2	Total number of SL IV violations
0	Total number of greater than SL IV violations



**Figure 3: Summary of Cumulative FOF Inspection Findings at NPPs**

Of the total number of exercises conducted, four exercises were inconclusive and deemed indeterminate. An indeterminate exercise is one in which the NRC inspectors are prevented from effectively gathering sufficient information to evaluate the licensee's protective strategy or

<sup>5</sup> Two greater than green findings occurred in CY 2007, and one occurred in CY 2008.

to form a cogent conclusion. These exercises were indeterminate because of insufficient exercise control and/or administrative holds. Another two exercises were canceled because of potential safety concerns associated with dangerous weather conditions or a plant safety issue. In all four cases, NRC management considered less than three exercises satisfied the inspection requirements due to the fact that the licensee successfully demonstrated an effective strategy in the other two exercises with no significant issues identified.

### **3.4 Discussion of Corrective Actions**

If inspectors identify deficiencies during the conduct of FOF inspection activities that indicate a licensee potentially cannot demonstrate the ability to protect against the applicable DBT with high assurance or does not meet other regulatory requirements, that licensee must take corrective actions or compensatory measures sufficient to restore regulatory compliance. NRC inspectors review and accept proposed compensatory measures and/or corrective actions and, when necessary, verify before leaving the site that the licensee has completed those actions. As appropriate, the licensee must also plan for long-term corrective actions with oversight from the NRC.

In many cases, though not required to do so by regulation, licensees voluntarily implement corrective actions in response to observations and lessons learned from FOF inspections, even after demonstrating that their protective strategy can effectively protect against the DBT. Those corrective actions typically fall into one of three categories: procedural or policy changes, physical security and/or technology improvements and upgrades, and personnel or security force enhancements. In CY 2008, FOF inspectors have observed corrective actions taken in each of these categories.

Licensees will commonly improve or add physical security structures and technologies based on lessons learned from FOF exercises. For example, if a licensee determines that the adversary team did not encounter the desired delay throughout the simulated attack, it may add extra delay barriers, such as fences or locks on doors or gates. As another example, if a licensee determines that earlier detection and assessment are desirable (even after demonstrating an effective protective strategy in FOF exercises), it may choose to add sensors, cameras, and/or lighting to the owner-controlled area (the area of the facility beyond the boundary of the protected perimeter) to enhance its security posture.

Finally, licensees may commit to additional security personnel as a result of lessons learned from FOF exercises. Inspectors have observed situations where licensees decided that additional security personnel would help to ensure that licensees would have a greater opportunity to interdict adversaries at a greater frequency and thus enhance their ability to prevent the completion of the adversaries' mission.

### **3.5 Future Planned Activities**

CY 2009, year two of the second cycle of FOF inspections, began with 25 inspections scheduled for the year. Of the 25 inspections, 3 are followups to assess corrective actions and evaluate other improvements that licensees implemented as a result of previous FOF inspections. Although significant enhancements have already been made, the NRC will continue to seek ways to increase the realism of FOF exercises throughout the inspection cycle.



## 4. SECURITY BASELINE INSPECTION PROGRAM

### 4.1 Overview

The security baseline inspection program is a primary component of the Security Cornerstone of the ROP that the NRC uses to ensure plant and radiological safety, security, and emergency preparedness at operating NPPs. FOF inspections are just one piece of the NRC's overall security oversight process. In addition to FOF inspections, the security baseline inspection program includes the following inspectable areas: access control, access authorization, equipment performance, security personnel training, fitness-for-duty, owner-controlled area controls, protective strategy, and MC&A. Cyber security, protection and control of SGI inspection guidance, and Irradiated Fuel Transportation are pending development. The development of the cyber security inspection program is based on the Commission's issuance of a revised 10 CFR Part 73, "Physical Protection of Plants and Materials."

### 4.2 Results of Inspections

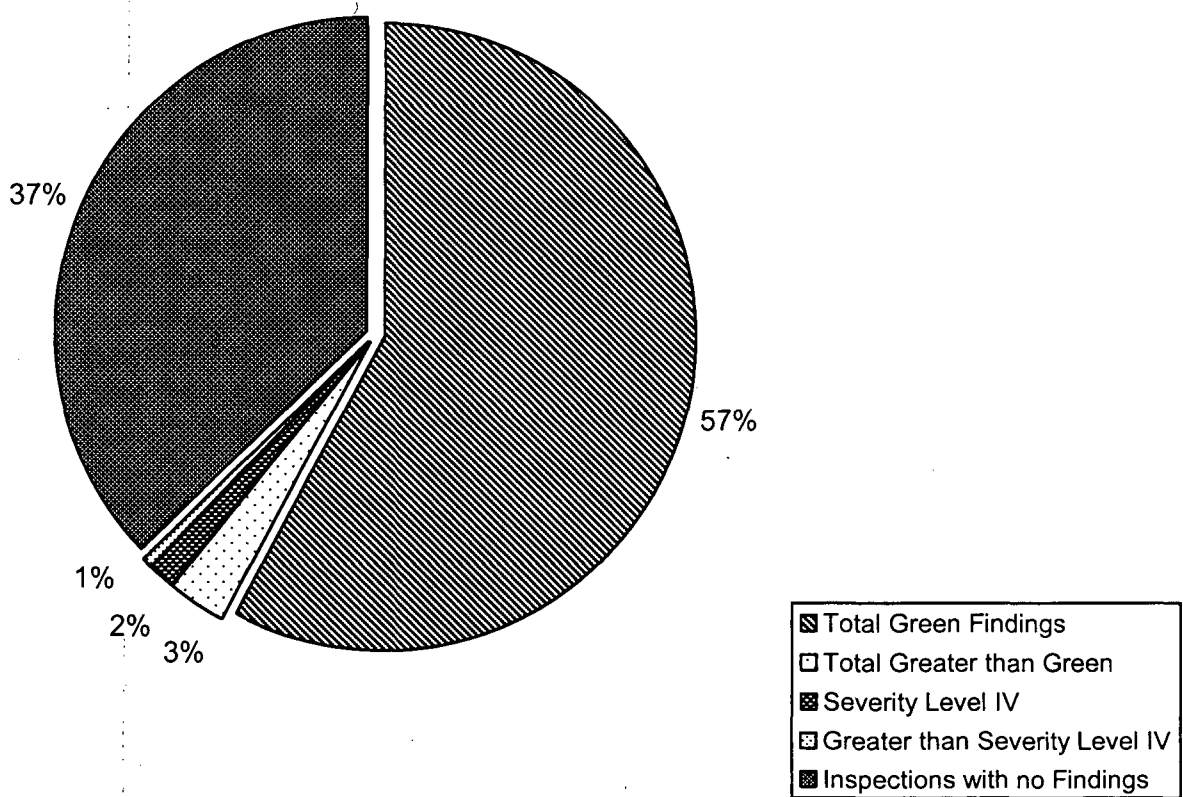
Tables 3 and 4 summarize the overall results of the security baseline inspection program of NPPs excluding FOF inspection results from 24 inspections (which were discussed in Section 3) and CAT I security inspection results from 3 inspections (discussed in the SGI version of this report). Figure 4 provides a graphic summary of the CY 2008 security baseline inspections. This information gives an overview of licensee performance within the Security Cornerstone.

**Table 3: CY 2008 Security Inspections (without FOF)**

155	Total number of inspections conducted (includes special and augmented inspections)
68	Total number of inspections with findings
87	Total number of inspections with no findings
9	Total number of special and augmented inspections conducted

**Table 4: CY 2008 Security Inspection Findings (without FOF)**

123	Total number of inspection findings
113	Total number of green findings
6	Total number of greater than green findings
3	Total number of SL IV violations
1	Total number of greater than SL IV violations



**Figure 4:** Summary of CY 2008 Security Inspection Findings at NPPs

## **5. OVERALL REACTOR SECURITY ASSESSMENT**

### **5.1 Overview**

The previous two sections describe the results of the security baseline inspection program. The security assessment process collects the information from those inspections and PIs provided by NPP licensees to enable the NRC to reach objective conclusions about a licensee's performance in security. Based on this assessment information, the NRC determines the appropriate level of agency response.

### **5.2 Performance Indicator**

Licensees voluntarily report data on the PA equipment. The data reported by the licensees are compared to an established set of thresholds to determine their significance, which is represented by the colors green, white, yellow, and red (in order of increasing significance). The PI measures aspects of the licensees' security programs that are not specifically inspected by the NRC's baseline inspection program. As of the end of CY 2008, all licensees reported that each security PI was categorized as green.

### **5.3 Security Cornerstone Action Matrix**

Similar to the ROP safety cornerstones action matrix, the security cornerstone action matrix has the following five response columns: Licensee Response, Regulatory Response, Degraded Cornerstone, Repetitive Degraded Cornerstone, and Unacceptable Performance. Table 5 summarizes the number of plants by their performance as indicated by security cornerstone action matrix columns.

Most licensees fell into the Licensee Response column, which indicates that all assessment inputs (PIs and inspection findings) were green and the cornerstone objectives were fully met. Licensees that fall into the Regulatory Response column have assessment inputs that resulted in no more than one white input, and the cornerstone objective was met with minimal reduction in security performance. In CY 2008, nine sites fell into this column.

The Degraded Cornerstone column categorizes a performance level indicated by multiple white inputs or one yellow input, while meeting the cornerstone objective with moderate degradation in security performance. If a licensee falls into the Repetitive Degraded Cornerstone column, it has received multiple yellow inputs or at least one red input, while meeting the cornerstone objective with longstanding issues or significant degradation in security performance. The most significant column in the security action matrix is the Unacceptable Performance column. Licensees in this column have overall unacceptable performance and margin for security. In CY 2008, one licensee fell into the Degraded Cornerstone, and no licensees fell into either the Repetitive Degraded Cornerstone, or the Unacceptable Performance categories.

<b>Table 5: Summary of Security Action Matrix<sup>6</sup></b>	
<b>Number of Sites</b>	<b>Response Band</b>
54	Licensee Response
9	Regulatory Response
1	Degraded Cornerstone
0	Repetitive Degraded Cornerstone
0	Unacceptable Performance

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<sup>6</sup> For the purpose of the security inspection program, Salem and Hope Creek are counted as one site, as they share a common security program. This brings the total number of reactor sites to 64.

## **6. CAT I FACILITY SECURITY OVERSIGHT PROGRAM**

### **6.1 Overview**

The NRC maintains regulatory oversight of safeguards and security programs of two CAT I fuel cycle facilities: B&W Nuclear Operations Group, located in Lynchburg, VA, and Nuclear Fuel Services (NFS), located in Erwin, TN. Previously, these two sites were operated by separate and independent companies. On December 31, 2008, the owners of NFS sold the company to B&W Nuclear Operations Group which now operates both sites. However, the names of the two sites remain the same. These facilities manufacture fuel for Government reactors and also down blend highly enriched uranium (HEU) into low-enriched uranium for use in commercial reactors. Each CAT I facility stores and processes SSNM, which must be reliably protected against unauthorized access, theft, and diversion. The facilities have significantly enhanced their security posture since September 11, 2001. NFS is currently implementing a major program of additional security upgrades.

The primary objectives of the CAT I security oversight program are to assess that the fuel cycle facilities are operating safely and securely in accordance with regulatory requirements and Commission Orders, detect indications of declining safeguards performance, investigate specific safeguards events and weaknesses, and identify generic security issues. NRC Headquarters and regional security inspectors based at NRC offices in Rockville, MD and Atlanta, GA, conduct inspections using detailed inspection procedures. In the aggregate, the results of these inspections contribute to an overall assessment of licensee performance.

Similar to the reactor baseline inspection program, the CAT I inspection program is used to identify findings, determine their significance, document results, and assess licensees' corrective actions. The core inspection program requires three physical security areas ("inspection procedure suites") to be reviewed annually at each CAT I facility. These include HEU access control, HEU alarms and barriers, and other security topics such as security force training and contingency response. The core inspection program also requires two MC&A inspections annually and a transportation security inspection once every 3 years. NRC inspectors also review the U.S. Department of Energy's audits of licensees' programs to protect classified material and information.

The core inspection program is complemented by the FOF inspection program, which is implemented by NRC Headquarters inspectors. In addition, NRC resident inspectors assigned to each CAT I facility provide an onsite NRC presence for direct observation and verification of the licensee's ongoing activities. Through the results obtained from all oversight efforts, the NRC determines whether licensees comply with regulatory requirements and can provide high assurance of adequate protection against the DBT for theft and diversion of CAT I SSNM.

Similar to the ROP, plant-specific supplemental or reactive inspections may be conducted to further investigate a particular deficiency or weakness. Such an inspection is not part of the core inspection program and would be conducted to support a review and assessment of a particular security or safeguards event or condition.

## **6.2 Results of Inspections**

The SGI version of this report includes the results of the CAT I security inspections.

## 7. STAKEHOLDER COMMUNICATIONS

### 7.1 *Communications with the Public and Industry*

In 2006, the Commission reviewed several options that would make some security oversight information available to the public. The Commission decided to place the cover letters to NPP security-related IRs in the public domain. However, the information contained in the letters would have to be such that the letters do not identify actual or potential vulnerabilities at the inspected plant. The cover letters for security-related IRs issued after May 8, 2006, are released to the public.

The criteria the NRC placed on releasing security-related information to the public after September 11, 2001, also affected the agency's ability to share information with allegers who bring security-related concerns to the NRC. The criteria have made it difficult for the staff to assure allegers that their concerns have been addressed, and a number of allegers have expressed dissatisfaction with this policy. Some, in an effort to obtain a satisfactory response, chose to pursue their concerns publicly by engaging elected officials and public interest groups and by disseminating their concerns via public Web sites or media outlets. To address this issue, the Commission approved a three-tiered approach to responding to security allegers. The approach is based on the severity of the concern raised and the normal availability of the information to the alleger (e.g., the alleger is a member of a licensee's security force).

As an additional effort to inform and involve stakeholders in the regulatory process, the NRC continues to hold public meetings specifically on nuclear security issues.<sup>7</sup> For example, security topics are presented at the NRC's Regulatory Information Conference held each spring in Rockville, MD.

The NRC also communicates with the industry to disseminate key lessons learned and generic issues. The NRC analyzes findings and observations from the security inspection program to determine if a potentially generic issue may exist within the industry. When applicable, the NRC staff supplements periodic security meetings held with the industry and develops generic communications or advisories as a means of effectively communicating security-related issues to the industry. In CY 2008, the NRC issued 19 SAs, 10 regulatory issue summaries (RIS), and 4 information notices (INs) covering a variety of topics (see the list in the next section). After each FOF inspection, the NRC staff gathers lessons learned in a variety of categories. To further the mutual goal of safe and realistic performance evaluations, the agency disseminates those lessons learned to the industry through the Nuclear Security Working Group, a consortium of security representatives from NRC-licensed facilities.

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<sup>7</sup> For more information on public meetings on security, please see <http://www.nrc.gov/security/security-safeguards.html>.

## **7.2 CY 2008 List of Generic Communications by Title**

### **Security Advisories**

SA-08-01–SA-08-04	The Presidential 2008 State of the Union Address in the Washington, DC Area
SA-08-05	Potential Cyber Security Vulnerabilities
SA-08-06–SA-08-08	National Special Security Event at Denver, Colorado
SA-08-09–SA-08-11	National Special Security Event at Minneapolis-Saint Paul, Minnesota
SA-08-12–SA-08-15	The G-20 Global Financial Summit To Be Held in the Washington, DC Area
SA-08-16–SA-08-19	The 2009 Pre-Inauguration Events and the Presidential Inauguration

### **Regulatory Issue Summaries**

RIS-08-02	Actions to Increase the Security of High Activity Radioactive Sources
RIS-08-04	Discontinuation of Two Performance Indicators Associated with the Security Reactor Oversight Process
RIS-08-06	Protection Against the Malevolent Use of Vehicles When Utilizing Landform Obstacles
RIS-08-08	Endorsement of Revision 1 to Nuclear Energy Institute Guidance Document NEI 06-04, "Conducting a Hostile Action-Based Emergency Response Drill"
RIS-08-10	Notice Regarding Forthcoming Federal Firearms Background Checks
RIS-08-10	Supplement 1, Notice Regarding Forthcoming Federal Firearms Background Checks
RIS-08-17	Voluntary Security Enhancements for Self-Contained Irradiators Containing Cesium Chloride Sources
RIS-08-20	Redesignation of Safeguards Advisory for Operating Power Reactors
RIS-08-22	Notification of Licensees Regarding Aircraft Threats
RIS-08-24	Regulatory Issue Summaries for 2008 Security Responsibilities of Service Providers and Client Licensees



## **Information Notices**

- IN 2008-01 Designation and Protection of Safeguards Information
- IN 2008-03 Precautions To Take before Sharing Sensitive Security-Related Information
- IN 2008-10 Response to Indications of Potential Tampering, Vandalism, or Malicious Mischief
- IN 2008-19 Tamper-Indicating Device Issues

### **7.3 Communications with Local, State, and Federal Agencies**

In most NRC FOF inspections, representatives from local law enforcement agencies attend planning activities and observe the exercise to improve their understanding of the licensee's response and coordination of integrated response activities. Other representatives from State emergency management agencies, State governments, the Government Accountability Office, and Congress have also observed FOF inspections.

The NRC's security action matrix also includes informing various levels of interested local, State, and Federal organizations of plants whose performance has declined. In addition, Homeland Security offices in several States routinely receive copies of security IRs associated with the NPPs located in their States.

The NRC continues to support the U.S. Department of Homeland Security/Homeland Security Council (DHS/HSC) initiative to enhance integrated response planning for power reactor facilities. The staff is continuing to work with DHS/HSC, the Federal Bureau of Investigation (FBI), and others to develop plans to further this initiative. The first integrated exercise at an NPP, which is discussed below, occurred in 2008. In addition, the staff has coordinated with other Federal agencies and State and local security partners in completing the development of Emergency Action Levels for any imminent threat.

The Integrated Pilot Comprehensive Exercise (IPCE), a voluntary, collaborative effort between the FBI, DHS, NRC, and the Nuclear Energy Institute (NEI), represents the first initiative designed to incorporate Federal, State and local law enforcement tactical response planning and operations into the concept of integrated response. The IPCE provides law enforcement tactical teams with opportunities to prepare for, and respond to, simulated security incidents inside commercial NPP sites. The first IPCE occurred at the Limerick NPP in 2008 and involved senior representatives and planners from Exelon, the Limerick Township Police, Pennsylvania State Police, FBI Philadelphia Field Office, FBI Headquarters, DHS, NRC, and NEI. This effort culminated in a full-scale exercise being conducted on December 13, 2008. The involved stakeholders are now discussing the lessons learned and an approach for conducting additional IPCEs.

**BIBLIOGRAPHIC DATA SHEET**

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Shyrl Coker, NRC Project Manager

11. ABSTRACT (200 words or less)

This report fulfills the requirements of Chapter 14, Section 170D, of the Atomic Energy Act of 1954 (42 U.S.C. 2201 et seq.), as amended by the Energy Policy Act of 2005, which states "not less often than once each year, the Commission shall submit to the Committee on Environment and Public Works of the Senate and the Committee on Energy and Commerce of the House of Representatives, a report, in safeguards form and unclassified form, that describes the results of each security response evaluation conducted and any relevant corrective action taken by a licensee during the previous year." This is the fourth annual report which covers calendar year 2008. In addition to information on the security response evaluation program (force-on-force inspections), the U. S. Nuclear Regulatory Commission (NRC) is providing additional information regarding the overall security performance of the commercial nuclear power industry and Category I fuel cycle facilities to keep Congress and the public informed of the NRC's efforts to protect the public health and safety, the common defense and security, and the environment, through effective regulation of the Nation's electric power infrastructure and strategic special nuclear material (SSNM).

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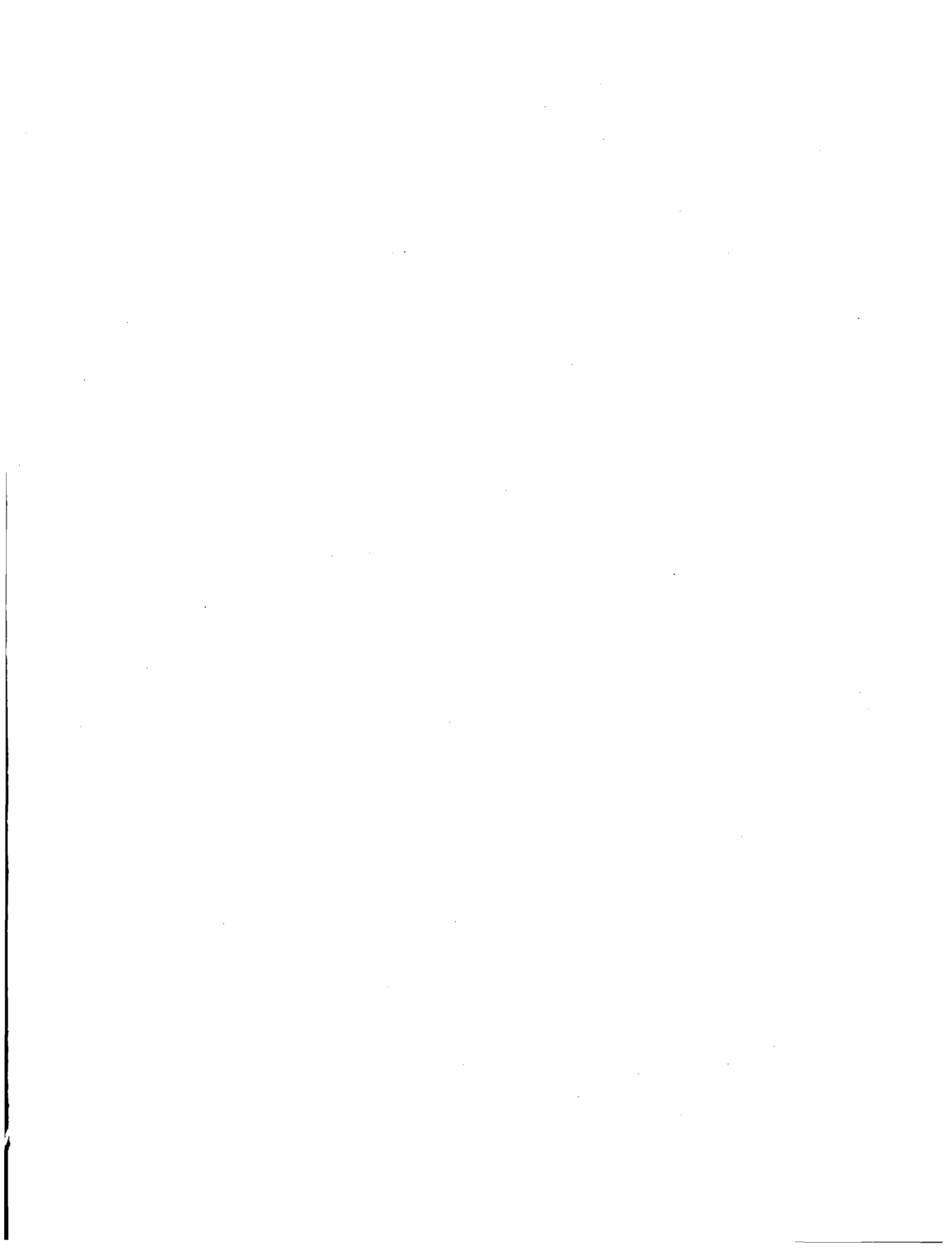
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