STATEMENT FOR THE RECORD

BY THE

OFFICE OF THE INSPECTOR GENERAL

U.S. NUCLEAR REGULATORY COMMISSION

TO THE

SUBCOMMITTEE ON CLEAN AIR AND NUCLEAR SAFETY

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

U.S. SENATE

FOR THE OVERSIGHT HEARING ON NRC'S LICENSING AND RELICENSING PROCESS

FOR NUCLEAR PLANTS

SUBMITTED BY

HUBERT T. BELL

INSPECTOR GENERAL

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STATEMENT FOR THE RECORD

Introduction

Mr. Chairman and members of the Subcommittee, it is a pleasure to appear before you today. I am accompanied today by Mr. Anthony Lipuma, Deputy Assistant Inspector General for Audits, and Mr. George Mulley, Senior Level Assistant for Investigative Operations.

As you know, the mission of the Office of the Inspector General (OIG) at the Nuclear Regulatory Commission (NRC) is to assist NRC by ensuring integrity, efficiency, and accountability in the agency's programs that regulate the civilian use of byproduct, source, and special nuclear material in a manner that adequately protects public health and safety and the environment, while promoting the Nation's common defense and security. Specifically, OIG supports NRC by carrying out its mandate to (1) independently and objectively conduct and supervise audits and investigations related to NRC programs and operations; (2) prevent and detect fraud, waste, and abuse; and (3) promote economy, efficiency, and effectiveness in NRC programs and operations. OIG also keeps the NRC Chairman and members of Congress fully and currently informed about problems, recommends corrective actions, and monitors NRC's progress in implementing those actions.

Background

To perform these activities, OIG employs auditors, analysts, criminal investigators, technical experts, legal counsel, and support personnel. OIG also uses private sector contractors to audit the NRC's financial statements as mandated by the Chief Financial Officers Act and for other audit, investigative, and information technology technical support services.

To fulfill our audit mission, OIG conducts performance, financial, and contract audits. Performance audits focus on NRC administrative and program operations and evaluate the effectiveness and efficiency with which managerial responsibilities are conducted and whether the programs achieve intended results. Financial audits attest to the reasonableness of NRC's financial statements. Contract audits evaluate the cost of goods and services that NRC procured from commercial enterprises. In addition, the audit staff prepare evaluation reports that present OIG perspectives or information on specific topics.

OIG's investigative program carries out its mission by performing investigations relating to the integrity of NRC programs and operations. Most OIG investigations focus on allegations of fraud, waste, and abuse and violations of law or misconduct by NRC employees and contractors. Additionally, OIG investigates allegations of irregularities or abuses in NRC programs and operations with special emphasis on those activities that could adversely impact public health and safety. Periodically, the investigative staff conducts event inquiries, which yield investigative reports documenting the examination of events or agency regulatory actions that do not specifically involve individual misconduct. Instead, these reports identify staff actions that contributed to the occurrence of an event.

Over the past year, my office has issued three reports pertaining to NRC's licensing and relicensing processes for operating nuclear power plants. These reports identify shortcomings relative to the agency's review process. Following are summaries of the three reports.

Reports Issued

Audit of NRC's License Renewal Program

(Issued: September 6, 2007)

NRC regulations limit the term of an initial nuclear reactor operating license to 40 years. However, the regulations also allow a license to be renewed for an additional 20 years. NRC published requirements for license renewal in the *Code of Federal Regulations* (CFR). 10 CFR Part 54[1] was amended in 1995 to concentrate NRC's reviews on how licensees manage adverse effects of aging to provide reasonable assurance that plants will continue to operate in accordance with their current licensing basis for the period of extended operations. OIG initiated this audit to determine the effectiveness of NRC's license renewal safety reviews.

OIG auditors found that NRC has developed a comprehensive license renewal process to evaluate applications for extended periods of operation; however, OIG identified areas where improvements would enhance program operations. Specifically,

License renewal reporting efforts need improvements. NRC staff do not consistently provide adequate descriptions of review methodology or support for conclusions in license renewal reports because NRC has not established a report quality assurance process to ensure adequate documentation. In 42 percent of the cases reviewed, OIG found identical or nearly identical word-for-word repetition of the licensee's renewal application text in the NRC review teams' review, inspection, and safety evaluation reports. The lack of precision in differentiating quoted and unquoted text made it difficult for a reader to distinguish between the licensee-

[1]10 CFR Part 54, *Requirements for Renewal of Operating Licenses for Nuclear Power Plants.*

provided information and NRC staff's independent assessment methodology and conclusion. As a result, those who read the reports could conclude that regulatory decisions are not adequately reviewed and documented.

Guidance for removing licensee documents obtained during site visits could be clarified. OIG found inconsistencies in the guidance provided to NRC's license renewal staff with regard to removing licensee documents obtained during site visits. NRC license renewal review teams should collect and document the information they review during site visits. However, these NRC teams are prohibited by their management from removing licensee documents from the licensee's site, which makes it more difficult for license renewal staff to write their reports. In contrast, NRC regional inspectors are permitted to remove documents from the site during license renewal inspections.

Consistent evaluation of operating experience would improve NRC reviews. NRC license renewal review team members do not consistently review or independently verify licensee-supplied operating experience information. This is because NRC program managers have not established effective controls to standardize the conduct and depth of such reviews. Consequently, NRC license renewal review team members may not have adequate assurances that relevant operating experience was captured for NRC's consideration in the licensee's renewal application.

More attention is needed to planning for post-renewal inspections. Post-renewal inspections are considered vital to ensure that licensees adhere to commitments made for license renewal. However, the agency has only recently focused its attention on developing and overseeing details associated with these inspections, resulting in post-renewal inspections sometimes not being conducted. Inadequate planning increases the risk that licensees could

enter into the extended period of operation without being in full compliance with license renewal terms, inspections will be inconsistently implemented, and inspection and technical support resources will be unavailable when needed.

License renewal issues need evaluation for backfit application. When NRC imposes new staff positions resulting in new license renewal review standards, a documented justification is required pursuant to the backfit rule. However, new license renewal review standards have not followed NRC's backfit policy because NRC does not have a mechanism or methodology to trigger such a backfit review. Furthermore, the organizational accountability for these documented justifications has not been clearly established. Consequently, the use of different license renewal review standards without a backfit justification may result in an appearance that previous approval standards were inadequate, stakeholders questioning continually changing review standards, and licensees managing aging effects differently from plant to plant.

Agency Actions:

In response to the OIG audit recommendations, NRC has proposed or taken specific actions intended to impose standards for report writing and ensure consistent implementation of license renewal reviews. OIG is currently assessing the NRC's proposed and completed actions to determine whether the actions meet the intent of the recommendations. These actions include updating report writing guidance and developing associated training to convey report writing standards for describing the license renewal review methodology and providing support for conclusions in license renewal reports, implementing an enhanced report review process, developing guidance on removing documents from licensee sites, providing additional guidance and management controls to standardize the conduct and depth of license renewal operating experience reviews, and completing revisions to post-renewal inspection guidance. In addition,

the Commission reviewed and reaffirmed an earlier position that backfit does not apply to license renewal applications.

As a follow on to the *Audit of NRC's License Renewal Program*, OIG issued a report to the NRC Chairman.

Report to the Chairman: NRC Staff Review of License Renewal Applications
(Issued May 2, 2008)

To address concerns raised regarding the extent of the NRC staff review of license renewal applications, OIG's Investigative unit conducted a review of NRC staff preparation of license renewal Safety Evaluation Reports that documented NRC assessments of license renewal applications for four nuclear plants (Browns Ferry, Brunswick, D.C. Cook, and Oyster Creek). The review focused on two Aging Management Programs for each plant.

OIG determined that the NRC license review staff conducted headquarters and onsite reviews of license renewal application materials. OIG also learned that the staff used professional judgment to determine the extent of their onsite review of licensee documents and the number and nature of questions posed to the licensee staff in *Requests for Additional Information* (RAIs). OIG determined that between 70 and 90 percent of the NRC review of license renewal applications was performed onsite. The results of the onsite reviews were documented in license renewal audit reports. Based on information developed by staff during its headquarters and onsite review activities, as well as written responses to the RAIs and clarifying discussions held with the licensee, NRC reviewers submitted their formal input to be used as the basis for a final Safety Evaluation Report.

OIG noted that the Safety Evaluation Reports are summary in nature as are the NRC license renewal audit reports. These audit reports document the findings of the NRC onsite review and provide support for the NRC conclusions in Safety Evaluation Reports. The audit reports also list the licensee documents that were reviewed during the NRC onsite reviews. Additionally, NRC work hour data examined by OIG indicated that significant numbers of hours were used by the NRC staff in their review of the license renewal applications for the four power plants reviewed by OIG.

However, during its review OIG learned that as a standard practice the NRC staff does not preserve as permanent records copies of all licensee documents reviewed onsite or their own working papers, for example, inspector notes. These documents provide additional direct support of the specifics of the NRC onsite review. The lack of licensee documents and NRC working papers made it difficult for OIG to verify specific details of the agency's review activities.

Audit of NRC's Power Uprate Program

(Issued: March 28, 2008)

Power uprate is the process for increasing the maximum power level at which a commercial nuclear power plant is authorized to operate. Plant components must be able to accommodate any new conditions that would exist at increased power levels. In some instances, licensees will modify and/or replace components in order to accommodate a higher power level. Depending on the desired increase in power level and original equipment design, this can involve major and costly modifications to the plant. All of these factors must be analyzed by the licensee as part of an application request for a power uprate.

In order to make a change to the license of a currently licensed plant, a licensee must file with the NRC an application for an amendment that fully describes the changes desired. NRC's technical staff, legal counsel, and management are involved with the review of the application. After NRC completes its review of the application and acts on any applicable public comments, hearing requests, or Advisory Committee on Reactor Safeguards recommendations, the agency may approve or deny the request on the basis of its findings. This process for requesting and approving such changes is specified in 10 CFR 10, Parts 50.90, 50.91, and 50.92. The overall objective of this audit was to examine the process for reviewing and approving power uprate amendment applications.

OIG auditors identified the following power uprate program matters as needing NRC management attention:

The power uprate inspection procedure has been implemented and documented inconsistently. NRC staff have an inconsistent understanding of the power uprate inspection procedure's use, implementation, and documentation, and some NRC staff are not aware of the procedure. This is because the inspection procedure lacks specification, implementation, and documentation guidance, which results in NRC's external stakeholders being unable to adequately monitor power uprate inspections.

The circulation and written quality of power uprate safety evaluations needs improvement. OIG found that not all regions and resident inspectors are aware of the recommended areas for inspection or the regulatory commitments sections in the power uprate safety evaluations due to a lack of internal controls for distributing safety evaluations. Consequently, inspectors risk developing their inspection samples and plans without knowledge of recommended inspection areas and regulatory commitments in the safety evaluation. In

addition, NRC staff noted shortcomings in the writing quality of uprate safety evaluations that could be improved by strengthening the training for writing inputs to the safety evaluation reports. Poorly written safety evaluation inputs hamper a stakeholder's ability to comprehend NRC's basis for approving an uprate application.

The power uprate coordinating function could be strengthened to ensure program success. The power uprate program does not have a formalized mission statement, defined roles and responsibilities, and adequate communication and knowledge management tools. A key reason for these shortcomings is that the agency lacks an authoritative coordinating entity to oversee the entire program. As a result, power uprate internal stakeholders are left without clear direction and oversight.

Agency Actions:

In response to the audit recommendations, the agency has proposed a number of measures intended to improve staff understanding and implementation of the power uprate activities, including updating the power uprate inspection procedure, developing guidance on communicating safety evaluations associated with power uprate approval and post-approval activities, and developing guidance that outlines roles and responsibilities and identifies a specific branch as the coordinating agent for power uprate activities. OIG is monitoring the implementation of these activities and will assess the activities to determine whether they meet the intent of the recommendations.

Future Work

As resources permit, my staff will continue to conduct audits related to nuclear power industry licensing during FY 2009 and beyond. An audit of NRC's quality assurance planning for new reactors will determine how NRC has identified and incorporated quality assurance lessons learned into their preparations for the next generation of nuclear power plants. This audit will be significant because quality assurance was a significant problem for many power plants when the first generation of plants was licensed. Another audit will evaluate NRC's readiness to oversee the construction of new nuclear power plants. It will be important to understand NRC's inspection philosophy and methodology during the new generation of plant construction. An audit of NRC's vendor inspection program will evaluate how NRC regulates the process by which new reactor licensees will acquire systems, structures, and components for new plants. For example, counterfeit and substandard parts can jeopardize plant operations and imperil public safety. Finally, an audit of NRC's oversight of Independent Spent Fuel Storage Installations (ISFSIs) will examine the agency's process for reviewing and approving ISFSIs, which generally consist of casks on a concrete pad located onsite at nuclear power plants to store spent fuel.

Summary

Since September 2007, my office has issued three reports addressing NRC's licensing and relicensing processes for operating nuclear power plants. Two reports pertained specifically to nuclear power plant license renewal applications and the third focused on licensee amendment requests for power uprates. While none of the reports describe problems with NRC's technical review of license renewal applications or the quality of the outcome, they each identify

shortcomings pertaining to inconsistent approaches to performing the reviews and failure to maintain essential supporting documentation that led to important regulatory outcomes.

Mr. Chairman, and members of the subcommittee, this concludes my report to you on my office's recent activities pertaining to NRC's licensing and relicensing processes for nuclear power plants. I would be pleased to answer any questions at this time.