

May 30, 2007

The Honorable Thomas R. Carper
Chairman, Subcommittee on Clean Air
and Nuclear Safety
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

The Fiscal Year (FY) 2006 Energy and Water Development Appropriations Act, House Reports 109-86 and 109-275, directed the U.S. Nuclear Regulatory Commission (NRC) to provide a quarterly report on the status of its licensing and other regulatory activities. The initial reporting requirement arose in the FY 1999 Energy and Water Development Appropriations Act, Senate Report 105-206. On behalf of the Commission, I am pleased to submit this report, which covers the first quarter of 2007, January through March. I am also providing in this cover letter additional information in order to keep you fully and currently informed of NRC's regulatory activities.

On March 12, 2007, NRC staff conducted a public meeting with Tennessee Valley Authority (TVA) representatives to discuss plans for reactivating the construction and licensing of Watts Bar (WBN) Unit 2. TVA and its contractors are conducting a study of the feasibility of completing WBN Unit 2 by 2013. During the meeting, the staff discussed the timing and content of TVA submittals, and stressed the need for additional meetings and communications, including TVA's identification of potential significant regulatory issues. TVA Board of Directors is expected to make its decision on the reactivation by August 2007.

On March 19, 2007, the NRC approved a final rule that enhanced security regulations governing the design basis threat (DBT). This rule, designed to enhance security at NRC-licensed facilities, imposed security requirements similar to those previously imposed on operating nuclear reactors by the Commission's April 29, 2003 DBT Orders. The rule modifies and enhances the DBT based on the experience and insights gained by the Commission during implementation of the Orders and extensive consideration of the 12 factors specified in the Energy Policy Act of 2005.

Since the issuance of the last report, the NRC has continued to coordinate with Federal agencies, industry, and other stakeholders in the development of security-related regulations, policies, and guidance and to enhance our Nation's integrated response to events of national importance. This effort has included establishing a Memorandum of Understanding with the Department of Homeland Security (DHS) to implement, in part, Section 657 of the Energy Policy Act of 2005 for consultations between NRC and DHS involving new reactors, and coordination with the commercial reactor industry regarding classified threats, emergency action levels, preparedness and performance, and scenario development.

The NRC has completed the review of license renewal applications for 48 of the 104 units licensed to operate. Agency operations under the continuing resolution earlier this year will result in delays of the staff review of the Wolf Creek and Shearon Harris renewal applications. The schedule delays are a result of completing work deferred during the continuing resolution and the need to perform multiple safety and environmental site audits concurrent with reviews of additional license renewal applications.

The NRC staff expects to receive a significant number of new reactor combined license (COL) applications over the next several years and has developed the infrastructure necessary to support the application reviews. As of April 2007, the staff has received letters of intent from potential applicants for a total of 19 COLs for up to 28 nuclear units. On March 8, 2007, the NRC approved issuance of an Early Site Permit (ESP) to Exelon Generating Company, LLC, for its Clinton site. On March 27, 2007, the NRC approved issuance of an ESP to System Energy Resources, Inc., for its Grand Gulf site. Issuance of these two ESPs successfully demonstrated the viability of Subpart A of the 10 CFR Part 52 licensing process for the siting of new nuclear power plants. In addition, an Atomic Safety Licensing Board has scheduled a hearing for the North Anna ESP in April 2007.

On April 13, 2007, the NRC issued a license to USEC, Inc., to construct and operate a gas centrifuge enrichment plant at the Portsmouth Gaseous Diffusion Plant near Piketon, Ohio. The facility, known as the American Centrifuge plant, will use a design based on technology developed by the U.S. Department of Energy to enrich uranium for use in commercial nuclear power reactors.

Section 651(b) of the Energy Policy Act of 2005 (EPAct) directed the NRC to require nuclear power plants located within certain population densities to have back-up power for their emergency notification systems (ENS), including sirens. On January 31, 2006, the NRC issued a Confirmatory Order to Entergy Nuclear Operations, Inc. (Entergy) to implement Section 651(b) of the Act by January 30, 2007. Indian Point Nuclear Generating Units 2 and 3 (Indian Point), located at the Indian Point Energy Center in Buchanan, New York, were the only NRC-licensed facilities that met the population density threshold of the EPAct. By letter dated January 11, 2007, Entergy requested an extension of the deadline to April 15, 2007, based on three factors: local permits and approval; equipment installation issues; and other activities, such as system testing and emergency personnel training. On January 23, 2007, the NRC approved an extension to April 15, 2007. On April 13, 2007, Entergy requested a second extension in part because preoperational acceptance test results for the siren system did not meet the licensee's acceptance criteria. The NRC staff evaluated the factors reported by the licensee as well as Entergy's ability to have reasonably foreseen difficulties that impacted the completion date of April 15, 2007, and the extent to which the factors were within Entergy's control. Based on the staff's review of the licensee's submittal, the NRC denied Entergy's request because the licensee did not demonstrate good cause for relaxation. On April 23, 2007, the NRC issued a Severity Level III Notice of Violation and proposed imposition of Civil Penalty of \$130,000 to emphasize the importance of compliance with Orders and in recognition of Entergy's enforcement history over the last two years. The NRC staff will continue enhanced oversight of the existing ENS while the new notification system is completed.

On April 17, 2007, the NRC issued amended regulations for nuclear power plants regarding the issuance of limited work authorizations for construction related to new power reactors and updated fitness-for-duty requirements for work hour limits and drug and alcohol testing. On April 24, 2007, the Commission directed the staff to promptly process a proposed rulemaking to require that each applicant for a new reactor design assess how the design can have greater built-in protections to avoid or mitigate the effects of a large commercial aircraft impact.

On May 1, 2007, the NRC, in accordance with the EPAct, issued Orders imposing additional fingerprinting and criminal history check requirements on the Nation's research and test reactors (RTR). Licensees for RTRs must now ensure that persons allowed unescorted access to these facilities undergo fingerprinting and a criminal history check by the Federal Bureau of Investigation.

On May 14, 2007, the NRC issued a Demand for Information (DFI) to FirstEnergy Nuclear Operating Company (FENOC), regarding a recent technical analysis of reactor vessel head corrosion at the Davis-Besse nuclear power plant. The DFI requires that FENOC provide information to the NRC to assist the agency in determining if further action should be taken to ensure compliance with regulatory requirements.

Please contact me for any additional information you may need.

Sincerely,

/RA/

Dale E. Klein

Enclosure:
Quarterly Status Report on the Licensing
Activities and Regulatory Duties of the
U.S. NRC, January - March 2007

cc: Senator George V. Voinovich

Identical letters sent to:

The Honorable Thomas R. Carper
Chairman, Subcommittee on Clean Air
and Nuclear Safety
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510
cc: Senator George V. Voinovich

The Honorable Barbara Boxer
Chairman, Committee on Environment
and Public Works
United States Senate
Washington, D.C. 20510
cc: Senator James M. Inhofe

The Honorable Rick Boucher
Chairman, Subcommittee on Energy
and Air Quality
Committee on Energy and Commerce
United States House of Representatives
Washington, D.C. 20515
cc: Representative J. Dennis Hastert

The Honorable John D. Dingell
Chairman, Committee on Energy
and Commerce
United States House of Representatives
Washington, D.C. 20515
cc: Representative Joe Barton

The Honorable Peter J. Visclosky
Chairman, Subcommittee on Energy
and Water Development
Committee on Appropriations
United States House of Representatives
Washington, D.C. 20515
cc: Representative David L. Hobson

The Honorable Byron Dorgan
Chairman, Subcommittee on Energy
and Water Development
Committee on Appropriations
United States Senate
Washington, D.C. 20510
cc: Senator Pete V. Domenici



Protecting People and the Environment

QUARTERLY STATUS REPORT ON THE
LICENSING ACTIVITIES AND REGULATORY DUTIES OF THE
UNITED STATES NUCLEAR REGULATORY COMMISSION

JANUARY - MARCH 2007

Note: The period of performance covered by this report includes activities occurring between the first day of January and last day of March 2007. The transmittal letter to Congress accompanying this report may provide more recent information in order to keep Congress fully and currently informed of NRC's licensing and regulatory activities.

TABLE OF CONTENTS

I	Implementing Risk-Informed Regulations	2
II	Reactor Oversight Process	2
III	Status of Issues in the Reactor Generic Issues Program	3
IV	Licensing Actions and Other Licensing Tasks	7
V	Status of License Renewal Activities	12
VI	Summary of Reactor Enforcement Actions	13
VII	Power Reactor Security Regulations	18
VIII	Power Uprates	20
IX	New Reactor Licensing	21

I Implementing Risk-Informed Regulations

The U.S. Nuclear Regulatory Commission (NRC) continues to make significant progress toward risk-informing its regulations for nuclear power reactors. On November 22, 2004, the NRC published a final rule, Title 10 to the *Code of Federal Regulations* (10 CFR) Part 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Reactors." This risk-informed regulation establishes an alternate set of requirements incorporating up-to-date analytic tools and risk insights to enhance plant safety by enabling nuclear power plant licensees to determine more precisely the safety significance of reactor systems, structures, and components and maintain these structures, systems, and components in a manner commensurate with their safety significance. To ensure that the new regulation is properly implemented, the NRC published Revision 1 to Regulatory Guide (RG) 1.201, "Guidelines for Categorizing Structures, Systems and Components in Nuclear Power Plants According to Their Safety Significance," in May 2006.

Risk-informed requirements for emergency core cooling system (ECCS) are also being developed. The NRC published a proposed rule for risk-informing these requirements on November 7, 2005. The NRC is resolving open issues related to this rulemaking as it develops the final rule.

Broad efforts to transform the overall deterministic structure of NRC regulations into a new format based on the use of risk information are also in progress. The NRC is working on a regulatory structure for new plant licensing that would result in risk-informed, technology-neutral regulations for licensing future nuclear power reactor designs.

In March 2006, the Commission approved the NRC staff's recommendation to issue an Advanced Notice of Proposed Rulemaking (ANPR) on approaches for making technical requirements for power reactors risk-informed, performance-based, and technology neutral (10 CFR Part 53). The ANPR was published in the *Federal Register* on May 4, 2006, (71 FR 26267) with a public comment period open until December 2006. The staff held a public meeting on June 15, 2006, to discuss with stakeholders the questions on the topics in the ANPR and to inform stakeholders of the changes made to the technology neutral framework document. During September 14-15, 2006, NRC staff held a public workshop on the ANPR.

The comment period on the ANPR closed December 29, 2006. The staff completed a preliminary review of the stakeholder's comments and determined that, while stakeholder's views are generally favorable toward risk-informing reactor requirements for advanced reactors, there is a general desire that a set of draft requirements be developed and applied to a non-light water reactor as a pilot test. Stakeholders also expressed concern that the effort to risk-inform the requirements should not adversely impact the licensing of new reactors in the near-term. The NRC staff is evaluating the comments received and plans to summarize the stakeholder's views in a recommendation to the Commission.

II Reactor Oversight Process

The NRC continues to implement the Reactor Oversight Process (ROP) at all nuclear power plants. The NRC continues to meet with interested stakeholders on a periodic basis to collect

feedback on the effectiveness of the process and to consider feedback for future ROP refinements. Recent activities include the following:

- The staff hosted monthly ROP Working Group public meetings on January 17, February 21, and March 21, 2007. The ROP Working Group is made up of industry, Nuclear Energy Institute, and NRC staff with a goal of continuously improving the ROP and improving reactor safety. The meetings are open to the public and provide a forum for external feedback on staff initiatives. During the three meetings, attendees discussed mitigating systems performance index implementation, safety culture integration into the ROP, performance indicator issues, open and new frequently asked questions, and the Fiscal Year (FY) 2007 goals for the ROP Working Group.
- On February 21, 2007, NRC staff issued a White finding to the Arizona Public Service Company for the Palo Verde Nuclear Generating Station for an issue involving the Unit 3 emergency diesel generator. The White finding moved Unit 3 into Column 4 of the ROP Action Matrix. During March 14-15, 2007, NRC staff met with representatives from Palo Verde and its contractor, Synergy, to discuss the expectations and plans for conducting a third-party safety culture assessment to support the future NRC supplemental inspection activity at the site. Palo Verde is the first plant to receive the Column 4 supplemental inspection since the addition of the safety culture enhancements in July 2006.
- NRC management and staff conducted sessions to discuss the ROP improvement initiatives during the 20th Annual Regulatory Information Conference held from March 11-13, 2007. Discussions were held in the following topic areas:
 - on-going safety culture enhancements to the ROP
 - cross-regional consistency
 - use of equipment for movement of heavy loads
 - liquid radioactive release/industry groundwater initiative
 - component design bases inspections
- On March 16, 2007, the staff met with members of the Japanese Nuclear Safety Commission to discuss how the NRC conducts inspections at nuclear power plants. Other discussion topics included developing 18-month inspection schedules and selecting activities or system/components for inspection, dealing with minor findings that are not documented in inspection reports, inspector competencies and inspector training requirements, and enhancing NRC safety culture in the ROP.

III Status of Issues in the Reactor Generic Issues Program

Generic Issues (GI) closed during 2nd quarter FY 2007:

- GI-196, “Boral® Degradation”

The staff closed this issue in February 2007 with no new requirements for licensees and no changes to existing regulations or guidance. Closure is based on the conclusion that since Boral® remains an effective neutron absorber even after significant blistering, criticality is not a concern for the licensed life of dry cask storage of spent nuclear fuel.

The staff will follow-up on the International Atomic Energy Agency Coordinated Research Project entitled, “Spent Fuel Performance Assessment and Research,” which is expected to be completed in 2009. The staff will inform the Advisory Committee on Nuclear Waste of the project outcome in the context of criticality implications of aged and blistered Boral® for dry cask storage of spent nuclear fuel.

- GI-198, “Hydrogen Combustion in PWR Piping”

The staff closed this issue in February 2007 with no new requirements for licensees and no changes to existing regulations or guidance. Closure is based on initial screening analysis results indicating that this issue has a very low likelihood of leading to a severe accident.

The staff’s conclusion was based on the limited number of places where non-condensable gases can accumulate in the primary system of a pressurized water reactor (PWR), which is largely liquid-filled; the lack of any observed precursor events in any PWR; and the low frequency of such events based on the extrapolation of the boiling water reactor (BWR) experience described in the analysis of GI-195, “Hydrogen Combustion in BWR Piping.”

This issue involves the possibility of a combustible mixture of hydrogen and oxygen accumulating in the primary system of a PWR. Based on some events which have occurred in BWRs, ignition of such a mixture could result in a pipe break.

- GI-200, “Tin Whiskers”

The staff closed this issue in January 2007 with no new requirements for licensees and no changes to existing regulations or guidance. Closure is based on the screening analysis review panel’s conclusion that the staff should classify tin whiskers (a metallic formation possibly resulting from mechanical stress on pure tin or tin alloys) as a compliance issue rather than as a GI.

The panel’s conclusion was based on a low number of reported events associated with this issue, no increasing trend, the low safety significance of these events, and no apparent decrease in reliability of systems or components due to tin whiskers. Furthermore, the panel noted that existing regulatory requirements and programs have provisions to address the issue.

- GI-201, "Small-Break Loss-of-Coolant Accident with Loss of Offsite Power"

The staff closed this issue in March 2007 with no new requirements for licensees and no changes to existing regulations or guidance. Closure is based on the screening analysis review panel's recommendation that this issue be dropped from further pursuit under the generic issues program (GIP) due to the very low likelihood of leading to a severe accident. The panel's conclusion was based on a bounding point estimate of the core-damage frequency showing a negligible increase of 4E-08 associated with this issue.

This issue involves the possibility of a PWR having a small break loss-of-coolant accident event where the refueling water storage tank is depleted and the ECCS is aligned in high-pressure injection (HPI) mode. In such a case, the low-pressure injection (LPI) pumps would provide suction head to the HPI pumps. If a loss of off-site power has occurred, the HPI pumps may be sequenced onto the emergency diesel generators (EDG) prior to the sequencing of the LPI pumps - possibly causing pump damage due to restart of the HPI pumps without adequate suction head.

- GI-203, "Potential Safety Issues with Cranes that Lift Spent Fuel Casks"

The staff closed the issue in March 2007 with no new requirements for licensees and no changes to existing regulations or guidance. Closure is based on the conclusion that the concern involves licensee compliance issues that are not suitable for further consideration under the GIP per Management Directive 6.4.

The staff entered this concern into the ROP feedback program for consideration in the NRC's inspection program at power reactor facilities.

Generic Issues with Significant Schedule Adjustments During 2nd Quarter FY 2007:

- GI-163, "Multiple Steam Generator Tube Leakage"

The staff has targeted January 31, 2008, for completing this task and April 30, 2009, for issuing memorandum to the Executive Director for Operations (EDO) documenting the resolution of GI-163 and the supporting technical bases.

In response to NRC Generic Letter (GL) 2006-01, "Steam Generator Tube Integrity and Associated Technical Specifications," all PWR licensees have submitted license amendment applications to change their technical specifications in accordance with Technical Specification Task Force-449. The staff has approved and issued amendments for 48 PWRs. The staff has targeted December 31, 2007, for issuing amendments for the remaining PWRs.

Steam generator (SG) action plan tasks relevant to resolution of GI-163 have been completed, with the exception of task 3.1.k. Task 3.1.k involves evaluation of the conditional probabilities of multiple tube failures for risk assessment pertaining to SG

alternate repair criteria. To support the needs of GI-163, the staff is performing this task from the broad standpoint of the integrity of the overall tube rather than one narrowly focused on tube locations with alternate repair criteria.

- GI-186, "Potential Risk and Consequences of Heavy Load Drops in Nuclear Power Plants"

The staff is developing Supplement 1 to Regulatory Issue Summary (RIS) 2005-025, "Clarification of NRC Guidelines for Control of Heavy Loads," to notify industry of the changes to Section 9.1.5 Standard Review Plan (SRP) for constructing or operating nuclear power plants, and to clarify further existing regulatory positions related to load drop analyses. The staff plans to issue Supplement 1 to RIS 2005-025 by April 30, 2007, and then brief the Advisory Committee on Reactor Safeguards (ACRS) on implementation of recommendations by July 31, 2007, to support close out of this GI by October 31, 2007.

- GI-189, "Susceptibility of Ice Condenser and Mark III Containments to Early Failure from Hydrogen Combustion During a Severe Accident"

The staff received initial industry proposals for modifications that incorporate security insights related to this issue in late February and early March 2007. The staff is reviewing the industry proposals and expects to resolve any remaining safety, security, and regulatory issues by December 2007. Based on industry proposals, the staff expects full implementation of the modifications to be completed by June 2008 at nearly all affected power reactor sites, with two sites delayed as late as early 2010 for more complex modifications.

- GI-191, "Assessment of Debris Accumulation on PWR Sump"

The staff is conducting detailed plant audits to examine licensees' analyses and design changes to address sump screen technical issues. The staff will also use inputs from review of licensee responses to GL 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation during Design Basis Accidents at Pressurized-Water Reactors," and items identified from Regional inspections using Temporary Instruction (TI) 2515/166 to support closure of GI-191. The staff's review of GL responses is expected to be complete in July 2008.

- GI-193, "BWR ECCS Suction Concerns"

In March 2007, the Office of Nuclear Reactor Research and the Office of Nuclear Reactor Regulation (NRR) decided to seek BWR Owners Group (BWROG) cooperation to support the ongoing assessment of this GI, an approach consistent with the principles described in SECY-07-0022, "Status Report on Proposed Improvements to the Generic Issues Program." NRR made preliminary contact with the BWROG in March 2007 and requested information to support this GI. The plan is to hold a meeting with BWROG by June 2007 to discuss their input and identify

alternatives for addressing this GI. The planned completion dates include reviewing BWROG information and determining regulatory action by September 30, 2007, initiating appropriate regulatory action by December 31, 2007, and closing out this GI by March 31, 2008.

The remaining open GIs are on track to complete according to (or close to) schedules previously submitted.

IV Licensing Actions and Other Licensing Tasks

Operating power reactor licensing actions are defined as orders, license amendments, exemptions from regulations, relief from inspection or surveillance requirements, topical reports submitted on a plant-specific basis, notices of enforcement discretion, or other actions requiring NRC review and approval before they can be implemented by licensees. The FY 2007 NRC Performance Plan incorporates two output measures related to licensing actions – number of licensing actions completed per year and age of the licensing action inventory.

Other licensing tasks for operating power reactors are defined as licensee responses to NRC requests for information through GLs or bulletins, NRC responses to 10 CFR 2.206 petitions, NRC review of generic topical reports, responses by NRR to regional office requests for assistance, NRC review of licensee 10 CFR 50.59 analyses and final safety analysis report (FSAR) updates, or other licensee requests not requiring NRC review and approval before they can be implemented by licensees. The FY 2007 NRC Performance Plan incorporates one output measure related to the number of other licensing tasks completed.

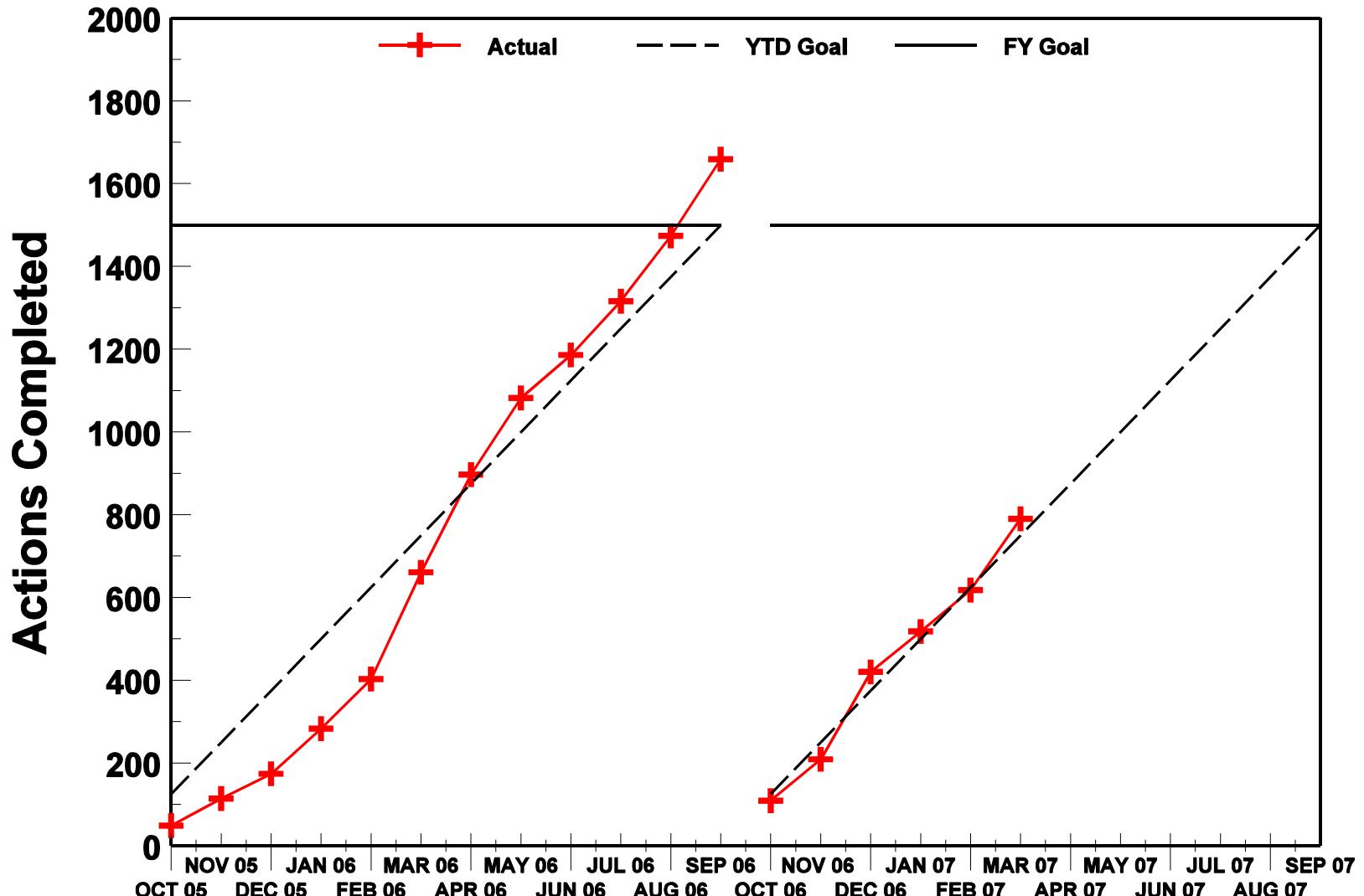
The actual FY 2005 and FY 2006 results, the FY 2007 goals, and the actual to-date FY 2007 results for the three NRC Performance Plan output measures for operating power reactor licensing actions and other licensing tasks are shown in the following table.

PERFORMANCE PLAN				
Output Measure	FY 2005 Actual	FY 2006 Actual	FY 2007 Goals	FY 2007 Actual (thru 03/31/2006)
Licensing actions completed/year	1609	1659	≥ 1500	790
Age of licensing action inventory	92.6% ≤ 1 year; and 99.9% ≤ 2 years	97.8% ≤ 1 year; and 99.9% ≤ 2 years	96% ≤ 1 year and 100% ≤ 2 years old	95.4% ≤ 1 year; 99.6% ≤ 2 years
Other licensing tasks completed/year	715	676	≥ 500	549

The charts on the following pages show NRC's FY 2007 trends for the three operating power reactor licensing action and other licensing task output measure goals:

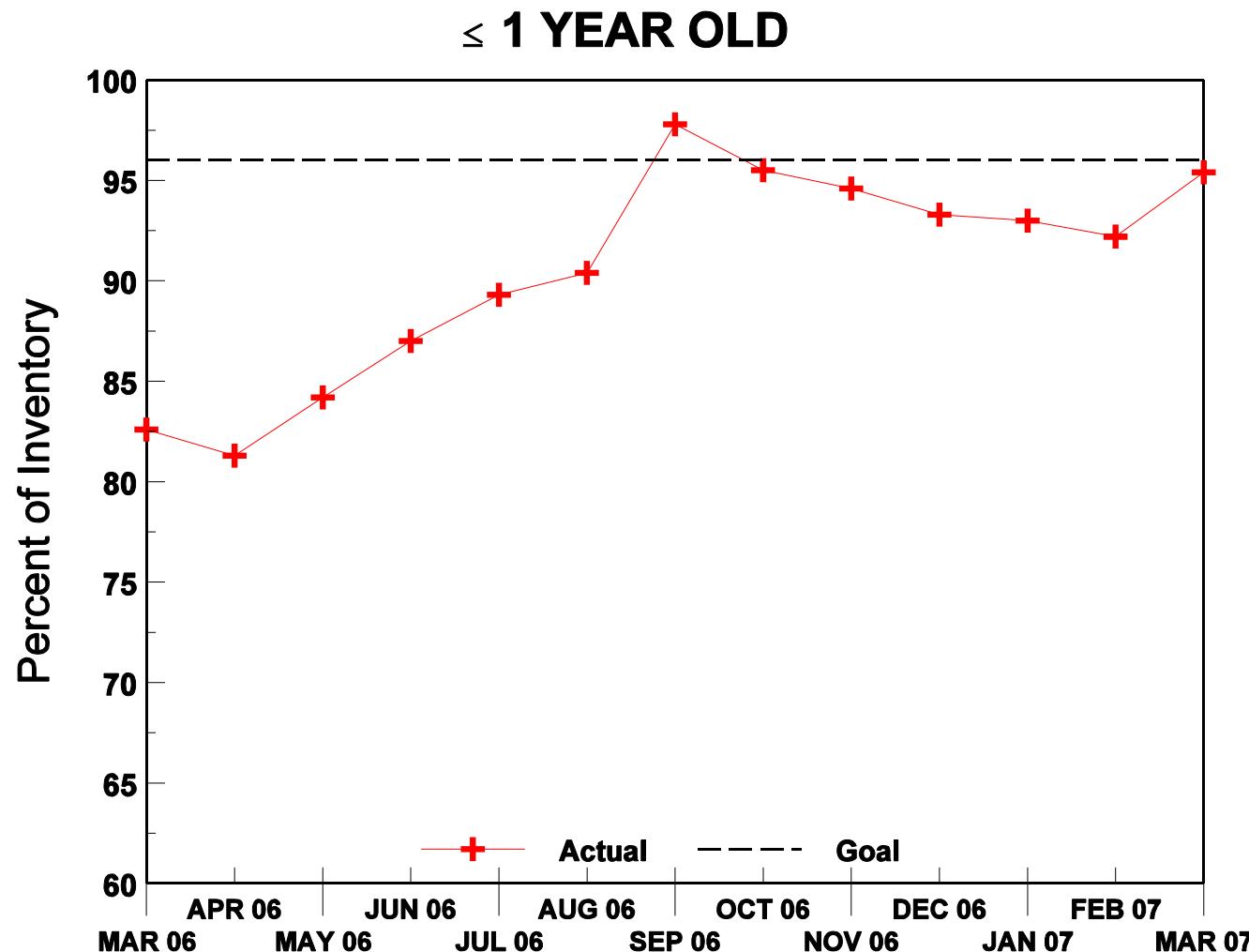
Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Completed Licensing Actions



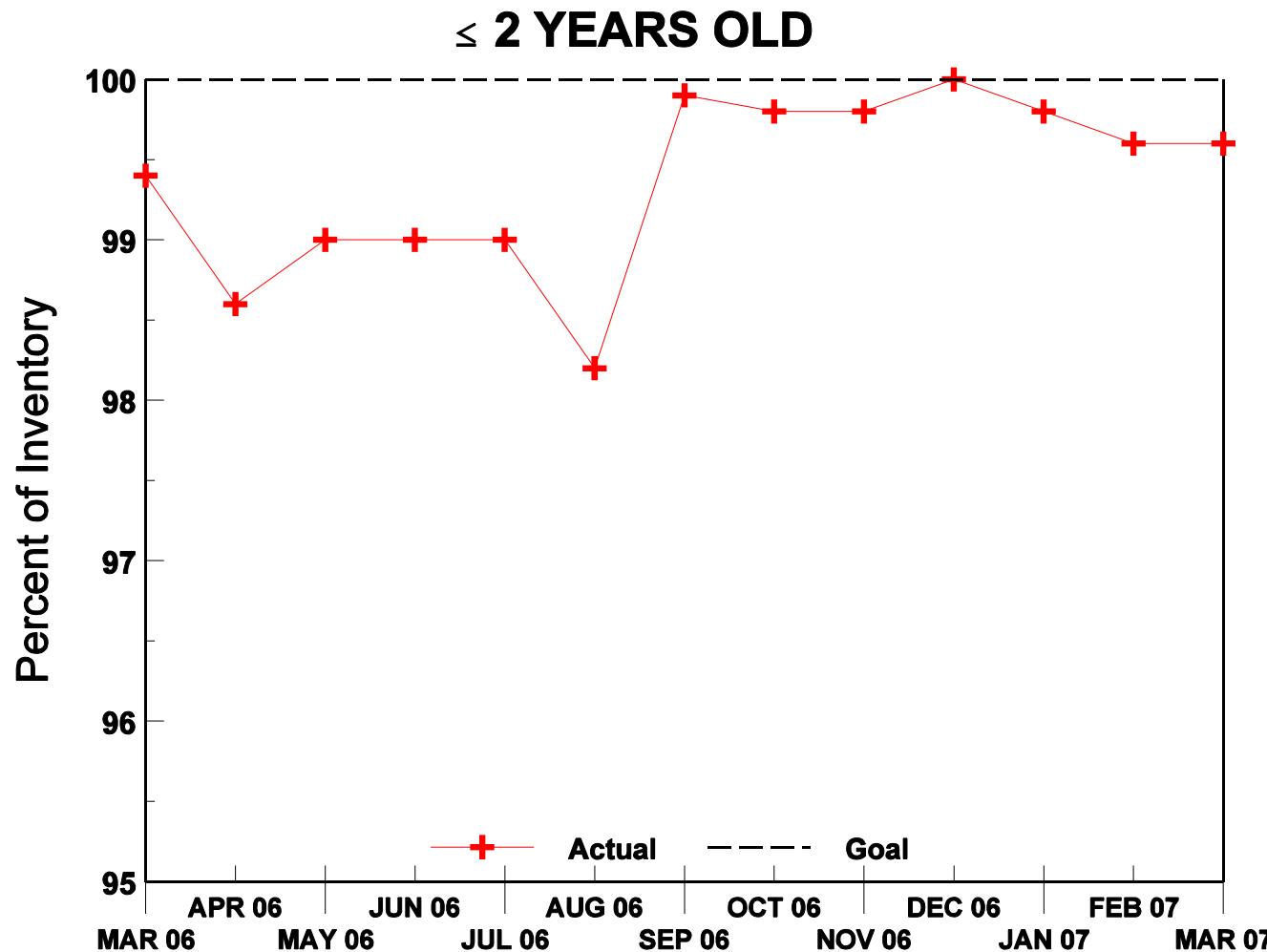
Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Age of Licensing Action Inventory



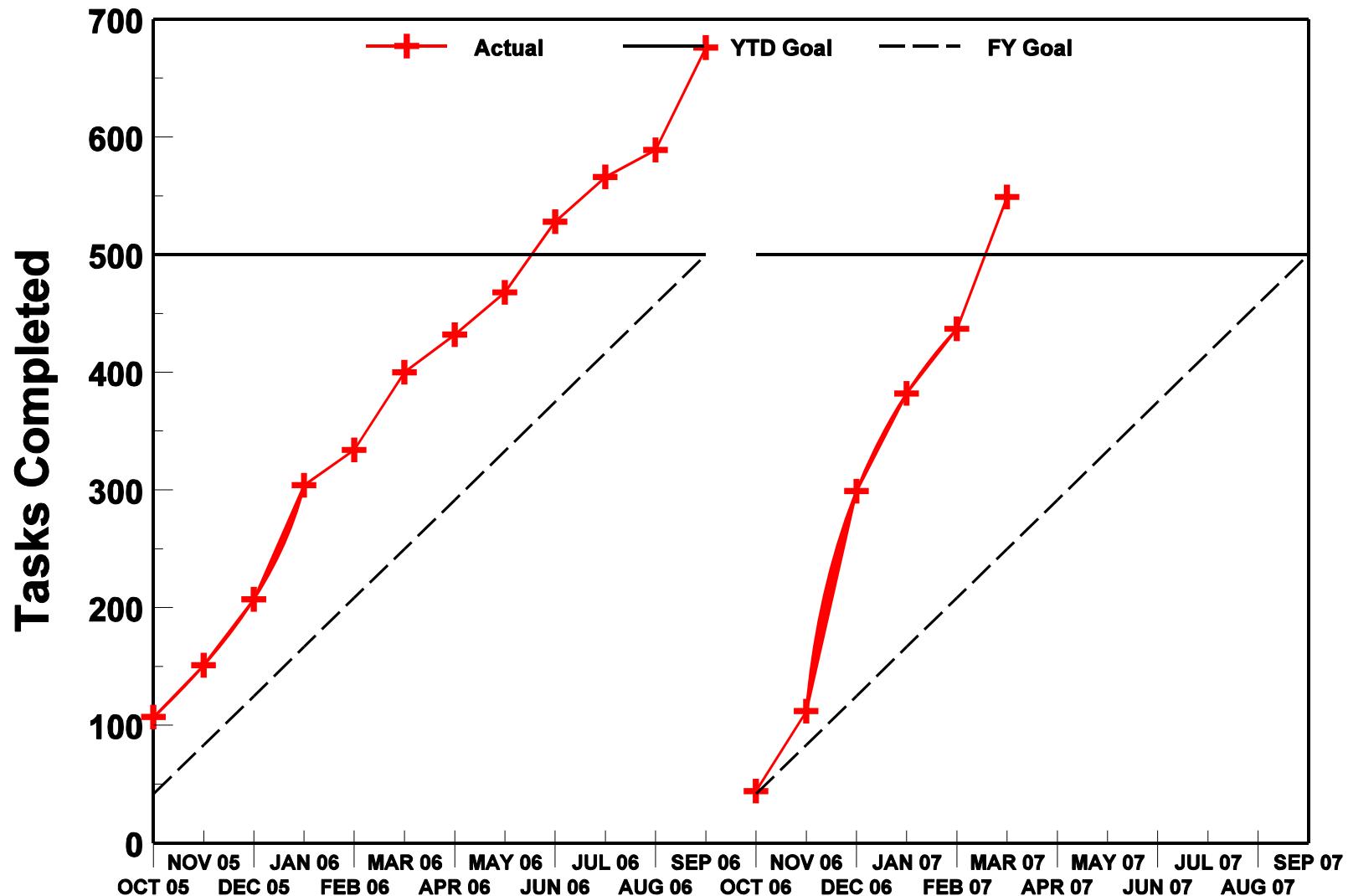
Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Age of Licensing Action Inventory



Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Completed Other Licensing Tasks



V Status of License Renewal Activities

The NRC has completed the review of license renewal applications for 48 of the 104 units licensed to operate. The impact of the budget constraints as a result of the continuing resolution created schedule delays for staff review of renewal applications. The schedule delays are a result of the cascading effects of completing work delayed during the continuing resolution and the need to perform multiple safety and environmental site audits concurrent with reviews of additional applications to be submitted in 2007.

Palisades License Renewal Application

The renewed operating license for Palisades was issued on January 17, 2007, completing the review of the license renewal application.

Oyster Creek License Renewal Application

The final supplemental environmental impact statement (SEIS) was issued in January 2007 and the final safety evaluation report (FSER) in March 2007. A request for hearing was received in response to the NRC's notice of opportunity for hearing, an Atomic Safety and Licensing Board (ASLB) was established, and the hearing is proceeding.

Pilgrim License Renewal Application

The draft SEIS was issued in January 2007 and the safety evaluation report (SER), identifying remaining open items, was issued in March 2007. A request for hearing was received in response to the NRC's notice of opportunity for hearing, an ASLB was established, and the hearing is proceeding.

Vermont Yankee License Renewal Application

The draft SEIS was issued in December 2006 and the SER, identifying remaining confirmatory items, was issued in March 2007. A request for hearing was received in response to the NRC's notice of opportunity for hearing, an ASLB was established, and the hearing is proceeding.

James A. FitzPatrick License Renewal Application

The FitzPatrick license renewal application is currently under review. The NRC staff has issued requests for additional information (RAI) and is reviewing the licensee's responses.

Susquehanna License Renewal Application

On September 13, 2006, the NRC received an application for renewal of the operating licenses for Susquehanna Units 1 and 2. The NRC completed its acceptance review and found the application acceptable for docketing and review. A request for hearing was submitted in response to the notice of an opportunity to request a hearing, and an ASLB was established. ASLB subsequently determined that the petitioner's contentions were not admissible and terminated the proceeding.

The licensee submitted the license renewal application concurrent with a request for extended power uprate (EPU) which will require the licensee to supplement the renewal application in the future. Because of the potential impact of the EPU supplement on the license renewal review, the licensee agreed that the license renewal schedule will be established after approval of the EPU and submittal of the supplement to the renewal application.

Wolf Creek License Renewal Application

On October 4, 2006, the NRC received an application for renewal of the operating license for Wolf Creek Generating Station. No hearing requests were received. Due to the impact of the continuing resolution, the normal schedule for review of the application is extended by 4 months with a decision on the renewed license scheduled for November 2008. The application is currently under review, and the staff is preparing RAI.

Shearon Harris License Renewal Application

On November 16, 2006, the NRC received an application for renewal of the operating license for the Shearon Harris Nuclear Power Plant. The staff completed its acceptance review and found the application acceptable for docketing and review, and the notice of opportunity for hearing was issued. Due to the impact of the continuing resolution, the normal schedule for review of the application was extended 3 months with a decision on the renewed license scheduled for August 2009 (allowing for a possible hearing). The application is currently under review and the staff is preparing RAI.

VI Summary of Reactor Enforcement Actions

Reactor Enforcement by Region

The reactor enforcement statistics below are arranged by Region, most recent calendar quarter, and FY 2007 to date. FY 2006 and FY 2005 statistics are provided for comparison purposes. The statistics are also depicted in separate tables for the non-escalated and escalated reactor enforcement data as well as separate tables for the escalated enforcement data associated with traditional enforcement and the ROP. These tables are then followed by brief descriptions of the escalated reactor enforcement actions associated with both traditional enforcement ROP (as well as any other significant actions) taken during the applicable calendar quarter.

NON-ESCALATED REACTOR ENFORCEMENT ACTIONS						
		Region I	Region II	Region III	Region IV	TOTAL
Cited Severity Level IV or GREEN	Quarter 2 FY 07	1	0	0	2	3
	FY 07 YTD Total	1	0	0	2	3
	FY 06 Total	10	0	1	3	14
	FY 05 Total	6	0	4	0	10
Non-Cited Severity Level IV or GREEN	Quarter 2 FY 07	56	42	53	83	234
	FY 07 YTD Total	89	77	128	150	444
	FY 06 Total	224	154	256	259	893
	FY 05 Total	239	197	300	282	1018
TOTAL Cited and Non-Cited Severity Level IV or GREEN	Quarter 2 FY 07	57	42	53	85	237
	FY 07 YTD Total	90	77	128	152	447
	FY 06 Total	234	154	257	262	907
	FY 05 Total	245	197	304	282	1028

NOTE: The non-escalated enforcement data above reflects the cited and non-cited violations either categorized at Severity Level IV or associated with GREEN findings during the referenced time periods. The numbers of cited violations are based on enforcement action tracking system data that may be subject to minor changes following verification. The monthly totals generally lag by 30 days due to inspection report and enforcement development. GREEN findings that do not have associated violations are not included in this data.

ESCALATED REACTOR ENFORCEMENT ACTIONS ASSOCIATED WITH TRADITIONAL ENFORCEMENT						
		Region I	Region II	Region III	Region IV	TOTAL
Severity Level I	Quarter 2 FY 07	0	0	0	0	0
	FY 07 YTD Total	0	0	0	0	0
	FY 06 Total	0	0	0	0	0
	FY 05 Total	0	0	2	0	2
Severity Level II	Quarter 2 FY 07	0	0	0	0	0
	FY 07 YTD Total	0	1	0	0	1
	FY 06 Total	0	0	0	0	0
	FY 05 Total	0	1	2	0	3
Severity Level III	Quarter 2 FY 07	0	0	1	0	1
	FY 07 YTD Total	1	0	2	0	3
	FY 06 Total	2	1	7	1	11
	FY 05 Total	2	1	3	2	8
TOTAL Violations Cited at Severity Level I, II, or III	Quarter 2 FY 07	0	0	1	0	1
	FY 07 YTD Total	1	1	2	0	4
	FY 06 Total	2	1	7	1	11
	FY 05 Total	2	2	7	2	13

NOTE: The escalated enforcement data above reflects the Severity Level I, II, or III violations or problems cited during the referenced time periods.

ESCALATED REACTOR ENFORCEMENT ACTIONS ASSOCIATED WITH THE REACTOR OVERSIGHT PROCESS						
		Region I	Region II	Region III	Region IV	TOTAL
Violations Related to RED Findings	Quarter 2 FY 07	0	0	0	0	0
	FY 07 YTD Total	0	0	0	0	0
	FY 06 Total	0	0	0	0	0
	FY 05 Total	0	0	3	0	3
Violations Related to YELLOW Findings	Quarter 2 FY 07	0	0	0	0	0
	FY 07 YTD Total	0	0	0	0	0
	FY 06 Total	0	0	1	0	1
	FY 05 Total	0	0	0	1	1
Violations Related to WHITE Findings	Quarter 2 FY 07	1	1	1	1	4
	FY 07 YTD Total	4	3	1	2	10
	FY 06 Total	3	6	3	2	14
	FY 05 Total	5	5	5	1	16
TOTAL Related to RED, YELLOW, or WHITE Findings	Quarter 2 FY 07	1	1	1	1	4
	FY 07 YTD Total	4	3	1	2	10
	FY 06 Total	3	6	4	2	15
	FY 05 Total	5	5	8	2	20

NOTE: The escalated enforcement data above reflects the violations or problems cited during the referenced time periods which were associated with either RED, YELLOW, or WHITE findings. RED, YELLOW, or WHITE findings that do not have associated violations are not included in this data.

Reactor Escalated Enforcement and Other Significant Actions

Nuclear Management Company, LLC (Monticello, Palisades, Point Beach, and Prairie Island) EA-06-178

On January 3, 2007, a Confirmatory Order (Effective Immediately) was issued to Nuclear Management Company, LLC (NMC), in accordance with the settlement agreement reached during an alternative dispute resolution meeting held on November 31, 2006. The action is based on an investigation by the NRC's Office of Investigation, which identified an apparent violation of 10 CFR 50.7, "Employee protection," that was being considered for escalated action. Specifically, the NRC found that Point Beach management discriminated against a senior reactor operator in part for raising safety concerns using the licensee's corrective action program. As part of the settlement agreement, NMC agreed to take the following actions, among others: revising its policy on writing corrective action program reports, training its supervisory employees on safety conscious work environment principles, communicating its safety culture policy to its employees, conducting a safety culture survey at Point Beach, and developing action plans to address significant issues identified as needing management attention in the NMC 2004 and 2006 Comprehensive Cultural Assessments. In view of the settlement agreement and based upon the corrective actions that NMC has taken and committed to take, the NRC agreed not to pursue enforcement action relating to this matter further.

Nuclear Management Company, LLC (Point Beach Nuclear Plant) EA-06-274

On January 29, 2007, a Notice of Violation was issued for a Severity Level III violation. The violation involved the licensee's failure to update its FSAR in 1983 which, combined with the licensee's continued failure to understand fully the facility's licensing and design basis since that time, impacted the licensee's ability in 2005 to understand the current Point Beach licensing and design basis and resulted in a performance deficiency. The performance deficiency also impacted the NRC's ability to perform its regulatory function. The licensee's failure to update the FSAR and understand the facility's licensing and design basis represented a challenge to the regulatory envelope upon which certain activities were licensed, such as reactor vessel head lift activities.

Exelon Generation Company, LLC (Clinton Power Station) EA-06-291

On February 7, 2007, a Notice of Violation was issued for a violation associated with a WHITE significance determination process (SDP) finding involving the licensee's failure to select an appropriate method for calculating the minimum elevation (i.e., the analytical level) of water above the high pressure core spray (HPCS) pump suction line to preclude vortex formation and subsequent air entrainment in the pump's suction. As a result, the analytical level would result in significant air entrainment potentially causing the HPCS to be incapable of completing its safety function. The violation was cited against 10 CFR Part 50, Appendix B, Criteria III, "Design Control," because prior to August 12, 2006, the licensee had not ensured the adequacy of the design of the HPCS system by performance of design reviews or by use of alternate or simplified calculational methods. Specifically, the initiation of suction swap-over from the reactor core isolation cooling tank to the suppression pool, a controlling parameter to ensure continued function of the HPCS pump, was required to occur at 740.19 feet. However, this

calculated value would not have prevented significant air entrainment in the suction of the HPCS pump and subsequent loss of function of the HPCS pump.

Duke Power Company, LLC, doing business as – Duke Energy Carolinas, LLC (Oconee Nuclear Station) EA-06-294

On February 13, 2007, a Notice of Violation was issued for a violation associated with a WHITE SDP finding involving the identification of foreign material in the Unit 3 A and B train reactor building emergency sump (RBES) suction lines during the end-of-cycle 22 refueling outage. The violation was cited against Technical Specification 5.4.1, "Procedures," and Section 9.e of the referenced RG 1.33 for the failure to comply with Nuclear System Directive 104, "Material Condition/Housekeeping, Cleanliness/Foreign Material Exclusion, and Seismic Concerns," for the failure to maintain the Unit 3 RBES free of foreign material.

Arizona Public Service Company (Palo Verde Nuclear Generating Station) EA-06-296

On February 21, 2007, a Notice of Violation was issued for a violation associated with a WHITE SDP finding involving the failure to develop adequate instructions or procedures for corrective maintenance activities on the Unit 3, EDG A, K-1 relay and the failure to identify and correct the cause of the erratic K-1 relay operation prior to installation of the relay. This resulted in the EDG being inoperable for almost 4 weeks. The violation was cited against 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" and 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action."

Constellation Nuclear (Nine Mile Point Nuclear Station) EA-07-001

On March 13, 2007, a Notice of Violation was issued for a violation associated with a WHITE SDP finding involving an activity that compromised the integrity of the annual licensed operator requalification (simulator) exam at Unit 1 for calendar years 2005 and 2006. Specifically, the process used by the licensee to select and validate the simulator exam scenarios resulted in the licensed operators being knowledgeable of a significant portion of the exam prior to its administration, thereby affecting the equitable and consistent administration of the exam. The violation was cited against 10 CFR 55.49, "Integrity of Examinations and Tests."

VII Power Reactor Security Regulations

In response to the terrorist attacks on September 11, 2001, the NRC and the nuclear industry have taken many actions to ensure security at nuclear power plants. A series of Advisories, Orders, and Regulatory Issue Summaries have been issued and, as needed, will continue to be issued to strengthen further the security of NRC-licensed facilities and control of nuclear materials.

On October 26, 2006, NRC published the proposed rule to amend the regulatory requirements for nuclear power reactor facilities contained in 10 CFR Part 73 to codify the actions taken to enhance security at power reactors. The NRC conducted public meetings in November 2006 and on March 9, 2007, to provide members of the public an opportunity to provide their comments on the proposed rule. Several industry and State representatives attended and provided useful comments. Due to the length of the proposed rule, industry requested and was granted an extension to the comment period to March 23, 2007. On March 1, 2007, NRC met with industry representatives in a closed meeting to discuss the draft RGs developed for the 10 CFR 73.1 Design Basis Threat (DBT) rulemaking. Industry provided comments and requested clarification on some RG provisions. The final DBT rule was published in the *Federal Register* (72 FR 12705) on March 19, 2007.

The NRC is conducting full force-on-force exercises at each site on a normal, 3-year cycle using the expanded adversary characteristics that were developed as a result of the increased post-9/11 threat. The purpose of the force-on-force exercises is to assess and improve, as necessary, performance of defensive strategies at licensed facilities.

The NRC continues to support the U.S. Department of Homeland Security (DHS)/Homeland Security Council (HSC) initiative to enhance integrated response planning for power reactor facilities. The staff is continuing to work with HSC, DHS, the Federal Bureau of Investigation, and others to develop plans to address recommended actions. Working closely with licensees and DHS, the staff also developed Emergency Action Levels (EALs) specifically for events involving credible imminent threats. On February 28, 2007, NRC met with the industry EAL task force in two public meetings. In the first meeting, the task force presented an enhanced version of Nuclear Energy Institute (NEI) 99-01 Rev. 4, "Methodology for Development of Emergency Action Levels." This version (Rev. 5) contained the security-based EALs in NRC Bulletin 2005-02, "Emergency Preparedness and Response Actions for Security-Based Events," EAL frequently asked questions, and industry lessons learned. In the second meeting, the task force presented NEI 07-01, "Methodology for Development of Emergency Action Levels Advanced Passive Light Water Reactors," with EALs for the AP1000 and economic simplified boiling water reactor (ESBWR) designs. The industry is requesting NRC endorsement of both documents by September 2007.

NRC and the DHS continued to conduct monthly coordination meetings with a primary focus on categorization of, and action on, certain gaps identified during the Comprehensive Review process. The Comprehensive Review Outcomes Working Network was established to address gaps and potential enhancements identified during the Comprehensive Review program with representatives from DHS Risk Management Division, DHS Chemical and Nuclear Preparedness and Protection Division, U.S. Coast Guard, and the NRC.

On January 18 and 31, and March 13, 2007, NRC met with DHS to discuss a potential grid vulnerability that, under certain postulated conditions, could disable power generation and some equipment at electrical generating stations, including nuclear power plants. The DHS Office of Cyber Security and Telecommunications and Office of Infrastructure Protection are co-leading a "Tiger Team" to determine the impact, if any, on the nuclear sector, and to assess the potential impact and consequences from a Federal perspective. NRC is working with DHS to assist in this Federal interagency effort. Follow-up meetings are planned.

On February 21, 2007, the Memorandum of Understanding (MOU) for new reactors was signed by the DHS Assistant Secretary for Infrastructure Protection. The MOU establishes a process to implement the provisions of Section 657 of the Energy Policy Act of 2005 for the NRC to consult with DHS on security issues concerning the locations of proposed new reactor facilities.

In a series of recent meetings, the NRC staff has discussed various new reactor security topics with the industry's New Plants Security Task Force (NPSTF). On January 31 and March 6, 2007, NRC staff met with NPSTF to discuss industry topical reports; FSAR content; proposed security-related Inspection; Test, Analysis, and Acceptance Criteria (ITAAC); construction security measures; and Appendix E to NEI 03-12, "New Reactors Program Implementation – Security Plan Changes." The ITAAC and FSAR discussions were open to the public. On March 29, 2007, the Digital Instrumentation and Controls (DI&C) Steering Committee Cyber Security Task Working Group (TWG) conducted a public meeting to discuss existing and proposed guidance to address cyber security requirements for nuclear power plants. The TWG is developing a project plan to review existing regulatory guidance and develop a "gap analysis" to address any inconsistencies. The objective of the TWG is to consolidate guidance for future Combined Operating License Applicants and for existing licensees who may be developing plant-specific DI&C system upgrades.

VIII Power Uprates

There are three types of power uprates. A measurement uncertainty recapture (MUR) power uprate is a power uprate of less than 2 percent and is based on the use of more accurate feedwater flow measurement techniques. Stretch power uprates (SPU) are power uprates that are typically on the order of less than 7 percent and are within the design capacity of the plant. SPU require only minor plant modification. EPUs are power uprates beyond the design capacity of the plant and, thus, require major plant modification.

Licensees have applied for and implemented power uprates since the 1970s as a way to increase the power output of their plants. The NRC staff has conducted power uprate reviews since then and has completed 113 such reviews to date. Approximately 14,700 megawatts-thermal (MWt) or 4,900 megawatts-electric (MWe) in electric generating capacity (an equivalent of about 4.9 nuclear power plant units) has been gained through implementation of power uprates at existing plants. The NRC currently has nine plant-specific power uprate applications under review. The nine applications include three MUR power uprates and six EPUs.

On March 6, 2007, the NRC staff completed its review of the Browns Ferry Unit 1 SPU application and approved a 5 percent power uprate. The power uprate approval completes major licensing activities for Browns Ferry Unit 1 approximately 2 months before the scheduled restart. Browns Ferry Unit 1 has been shut down since 1985, and the licensee plans to restart the unit later this year.

The NRC staff is currently reviewing the Calvert Cliffs, Units 1 and 2, and Fort Calhoun MUR power uprates, which were submitted on January 31 and March 31, 2005, respectively. The NRC did not complete these reviews within six months, which is the timeliness goal for MUR power uprates that are based on the use of NRC-approved methodologies for feedwater flow

measurement. The scheduled reviews have been extended because the staff determined that an NRC-approved methodology for feedwater flow measurement may not be adequate based on recent operating experience.

In September 2006, the NRC staff conducted a survey of all nuclear power plant licensees to obtain information on whether they planned to submit power uprate applications over the next 5 years. Based on this survey, licensees plan to request power uprates for 25 nuclear power plants over the next 5 years. If approved, these power uprates will result in an increase of about 4,150 MWe or approximately 1,383 MWe in generating capacity.

IX New Reactor Licensing

The NRC expects to license the next generation of nuclear power plants using 10 CFR Part 52. Part 52 governs the issuance of standard design certifications, early site permits (ESP) and combined licenses (COL) for nuclear power plants. These activities are summarized in the table at the end of this section.

Design Certifications and Pre-Application Notifications

As of March 20, 2007, Westinghouse has submitted 66 of 91 proposed technical reports for staff review. Although submitted as part of the Bellefonte COL pre-application phase, these technical reports apply generically to the remaining COL applications that intend to reference the AP1000 design. Westinghouse has stated that they plan to submit a revised design control document in May 2007, which will incorporate the technical reports that they have submitted or plan to submit. This revision, if submitted, will be the basis for Westinghouse to request an amendment to their final design certification (DC) rule, which could then be referenced a potential COL applicant.

Based on the current status of the review of General Electric's (GE) application for the ESBWR design certification, and consistent with the revised plan for review discussed in GE's letter submitted in February 2007, the staff expects to issue an FSER and final design approval in January 2009. This would initiate the rulemaking process, which is then expected to take approximately 12 months.

Mitsubishi Heavy Industry has stated that it plans to submit a DC application for the US-APWR in December 2007. In a letter dated March 9, 2007, TXU Generation Management Company, LLC, stated interest in referencing this design in several future COL applications.

Early Site Permit Reviews

The staff received ESP applications in September and October 2003 from Exelon Generation Company, LLC (Exelon), for the Clinton site; System Energy Resources, Inc., a subsidiary of Entergy Corporation, for the Grand Gulf site; and Dominion Nuclear North Anna, LLC (Dominion), for the North Anna site. The staff also received an ESP application in August 2006 from Southern Nuclear Operating Company for the Vogtle site.

The staff has completed its safety and environmental reviews for both the Clinton and Grand Gulf ESP applications and has issued FSERs and Final Environmental Impact Statements (EIS) for these reviews. The ASLB has conducted hearings for both the Clinton and Grand Gulf ESP

applications and issued the initial decision for the Clinton ESP in December 2006 and the initial decision for the Grand Gulf ESP in January 2007. In March 2007, the Commission approved issuance of ESPs for the Clinton and Grand Gulf sites.

North Anna ESP Review: The ASLB issued a scheduling order for the North Anna hearing in January 2007. The Board plans to begin the hearing in April 2007 and continue until the oral testimony is complete, or May 2007, whichever comes first.

Vogtle ESP Review: The staff received the Vogtle ESP application in August 2006 and completed its acceptance review in September 2006. The staff has completed the safety and environmental site audits and submitted the environmental RAI. Staff submitted the safety RAI in March 2007. The staff plans to issue both the FSER and Final EIS for the Vogtle ESP in May 2008.

Combined License Application Notifications

On February 15, 2007, Detroit Edison submitted a letter notifying the NRC of its intent to submit a COL application in the 4th quarter of 2008 for a yet unknown reactor type on the site of the Fermi 2 plant.

Regulatory Infrastructure

NRC Headquarters and Region II construction organization staff are working closely to develop the detailed guidance to be used by inspectors examining the performance of ITAAC-related work during construction. This includes the development of the procedures to be used when inspecting ITAAC-related field work. Issuance of the 26 ITAAC inspection procedures is currently targeted for the spring of 2007. The development of guidance for assessment and enforcement is also underway, and public meetings are being scheduled to solicit stakeholder input.

Draft Guide (DG)-145, "Combined License Applications for Nuclear Power Plants (LWR Edition)," is expected to be issued following the issuance of the final 10 CFR Part 52 rules. This DG is based in part on RG 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants," and will be applicable to all light water reactor COL applications submitted under 10 CFR Part 52, whether the application references a certified design, an ESP, both, or neither. The timing of publication of this RG will depend on issuance of the final 10 CFR Part 52 rule, with about 60 days needed to incorporate conforming changes into the DG, depending on the extent of the changes. In addition, the staff is finalizing DG-1145 in close coordination with the SRP update project.

The staff continues development of the revision of the SRP (NUREG-0800). In March 2007, all SRP sections except Chapter 19, "Probabilistic Risk Assessment," have been issued in final. Issuance of Chapter 19 will occur 60 days following receipt of staff requirements memorandum on 10 CFR Part 52.

In October 2006, the staff forwarded the draft final rule to update 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," to the Commission for consideration. In parallel with the work on the draft final 10 CFR Part 52 rule, the staff and NRC's Office of the General Counsel (OGC) issued a supplement to the 10 CFR Part 52 proposed rule to address

public comments. These public comments proposed to modify the limited work authorization (LWA) process in 10 CFR 50.10 to facilitate site preparation activities in advance of issuance of a COL or construction permit. After resolving the public comments, the staff and OGC prepared a final LWA rule, "Final Rulemaking on Limited Work Authorizations," for submittal to the Commission in February 2007.

New Reactor Licensing Activities

as of April 2007

Organization/Design*	Sites under Consideration **	Planned Applications	Date	Basis
AP1000 (52-006) Certified Design				
Duke (742)	William S. Lee III Nuclear Station (2) (Cherokee)	COL	10/2007	Letters 3/4, 10/25/05, and 3/16/06 7/17/06 (RIS)
NuStart Energy (740)	Bellefonte (2)	COL	10/2007	Letters 12/7/2004 and 11/17/2005, Letter 7/17/06 (RIS)
Progress Energy (738)	Harris (2)	COL	10/2007	Letters 8/24/05, 2/1/06 and 12/12/06; 11/1/05 Mtg Letter 7/12/06 (RIS)
Progress Energy (756)	Levy County, Fla (2)	COL	7/2008	Letters 8/24/05, 2/1/06 and 12/12/06; 11/1/05 Mtg Letter 7/12/06 (RIS)
South Carolina Electric and Gas (743)	V. C. Summer (2)	COL	10/2007	Letters 12/5/05 and 2/10/06, 7/13/06 (RIS)
Southern Nuclear Operating Co (755)	Vogtle (2)	COL	3/2008	Letters 7/26/05, 8/17/05, 7/17/06 (RIS) Mtg Summary (ML052710018)
ESBWR (52-010) Design Certification Application submitted 8/24/05				
Dominion (741)	North Anna	COL	11/2007	Letter 11/22/05 7/17/06 (RIS)
Entergy (745)	River Bend	COL	5/2008	Letter 12/5/05, 7/17/06 (RIS)
NuStart Energy (744)	Grand Gulf	COL	11/2007	Letters 12/7/2004 and 11/17/2005, 7/17/06 (RIS)
EPR (733) Design Certification Application to be submitted 12/2007				
Unistar Nuclear (746)	Calvert Cliffs TBD Nine Mile Point	COL COL COL	January 2008 1 st half of 2008 3 rd Qtr 2008	Press Release; 11/2/05 Mtg; Letters 11/4/05, 6/8/06, 6/21/06
Amarillo Power (752)	TBD (2)	COL	4th Qtr 2008	Letter 3/13/06, 7/27/06, 3/15/07
Ameren UE (750)	Callaway	COL	3 rd Qtr 2008	Letter 7/12/06, 12/15/06, 4/5/07

* Numbers in parentheses are Docket Number or Project Number.

** Numbers in parentheses are the announced number of units to be built at the site.

New Reactor Licensing Activities
as of April 2007

Organization/Design*	Sites under Consideration **	Planned Applications	Date	Basis
ABWR (52-001) Certified Design				
NRG Energy (749)	South Texas Project (2)	COL	Late 2007	Letter 6/19/06
Unannounced Technology				
Florida Power & Light	TBD	COL	2009	Letter 4/3/06
Exelon	TBD	COL	Nov 2008	Letter 9/29/06
Duke	Davie County, NC Oconee County, SC	ESP ESP	TBD TBD	Letter 3/16/06
Detroit Edison (DTE)	Fermi	COL	4th Qtr 2008	Letter 2/15/07
US APWR (0751) Design Certification Application to be submitted 12/2007				
Mitsubishi Heavy Industries, LTD.	N/A	Design Certification	12/2007	Letters 5/15/06, 6/20/06, 8/31/06
TXU Power (754)	Comanche Peak (2)	COL	By mid 2008	Letters 6/27/06, 9/7/06, 1/18/07, 3/9/2007, 4/9/2007

* Numbers in parentheses are Docket Number or Project Number.

** Numbers in parentheses are the announced number of units to be built at the site.