November 6, 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 third quarter of 2007, July through September. 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 October 1, 2007, the NRC published a final rule in the *Federal Register* expanding the definition of radioactive materials subject to its regulatory authority. The Energy Policy Act of 2005 expanded the definition of "byproduct material" subject to NRC's authority to include discrete sources of radium-226, material made radioactive in a particle accelerator, and other radioactive material that the Commission determines could pose a threat to public health and safety or the common defense and security. The new regulations become effective November 30.

On October 3, 2007, the NRC received an application from Energy Metals Corporation to construct and operate an in-situ uranium recovery facility at Moore Ranch in Campbell County, Wyoming. It is the first application for a new uranium recovery facility submitted to the NRC since 1988. The NRC staff is currently reviewing the application to determine whether it contains sufficient information to begin detailed environmental and safety reviews. If the application is deemed acceptable, the agency will formally docket it and publish a notice of opportunity to request an adjudicatory hearing. It should also be noted that existing uranium recovery facilities have indicated interest in resuming and expanding operations, and based on projections from industry, the NRC is expecting at least 15 applications for new facilities over the next three years.

On September 20, 2007, the NRC sent an eight-member Augmented Inspection Team (AIT) to the Peach Bottom Atomic Power Station to look into information that security officers at the facility may have been inattentive while on duty. The inspection was concluded on September 28, 2007. At a public meeting with Exelon held on October 9, 2007, NRC staff

provided preliminary results of that inspection. The inspection confirmed that multiple security guards had been inattentive on a number of occasions. The inspection team found however, that security at the plant had not been significantly degraded due to multiple, layered physical security measures and the defense-in-depth nature of the Peach Bottom security plan. The NRC requested that Exelon senior management document those actions being taken to prevent recurrence as well as ensure the inattentiveness was not more pervasive. Exelon's response and the AIT report will be available to the public in early November. On October 19, NRC staff issued a Confirmatory Action Letter to Exelon confirming the company's plan to address concerns related to the security program for Peach Bottom. Follow-on inspection and enforcement considerations continue.

On October 22, 2007, the NRC began a special team inspection at the Massachusetts Institute of Technology's (MIT's) research reactor in response to a higher than expected radiation dosimeter reading for one of the reactor operators. The inspection is expected to be completed in two to three weeks. An inspection report will be issued and made public approximately 30 days following completion of the inspection.

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, July - September 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

JULY - SEPTEMBER 2007

Note: The period of performance covered by this report includes activities occurring between the first day of July and last day of September 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.

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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 this regulation would be 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 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.

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.

On March 22, 2007, the staff issued Regulatory Issue Summary (RIS) 2007-06, "RG 1.200 Implementation," to inform licensees of how the NRC will implement its technical adequacy review of plant-specific probabilistic risk assessments (PRA) used to support risk-informed licensing actions after the issuance of national consensus PRA standards and the issuance of RG 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities."

Beginning April 26, 2007, the Risk-Informed Regulatory Improvement Program is now referred to as the Risk-Informed and Performance-Based Plan (RPP). Under this plan, the staff has committed to complete development of the RPP database, inform the Commission in periodic reports of any potential issues associated with achieving a risk-informed and performance-based regulatory structure, and develop final objectives for each regulatory arena.

II Reactor Oversight Process

The NRC continues to implement the Reactor Oversight Process (ROP) at all nuclear power plants. The NRC staff 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 NRC staff hosted monthly ROP Working Group public meetings on July 18, August 22, and September 19, 2007. The ROP Working Group is made up of industry, Nuclear Energy Institute (NEI), and NRC staff, who meet with the 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 (MSPI) implementation, safety culture integration into the ROP, Performance Indicator (PI) issues, and open and new frequently asked questions (FAQs).

- On July 1, 2007, the NRC implemented the Unplanned Scrams with Complications, issuing Inspection Procedure (IP) 71151, "Performance Indicator Verification." This new PI replaced the Unplanned Scrams with Loss of Normal Heat Removal PI. A RIS and Press Release were also issued on the new PI.

- On August 2, 2007, the NRC held a public meeting to discuss the Kewaunee licensee's ROP appeal of an FAQ on the MSPI.

- On September 12 to 14, 2007, NRC staff attended the Corrective Action Program Owners Group meeting to present information on the interfaces between the ROP safety culture initiative and corrective action programs and the results from Problem Identification and Resolution inspections. Sessions at the meeting covered a variety of topics related to corrective action programs, including the progress on an industry white paper to define significant conditions adverse to quality.

- From September 24 to 28, 2007, NRC staff participated in Nuclear Energy Agency Committee on Nuclear Regulatory Activities Working Group on Inspection Practices (WGIP) meeting and attended the 34th meeting of the WGIP in Garching, Germany. Topics included digital instrumentation and control (I&C) and fire protection inspections, and regulatory inspection philosophy. The WGIP is developing a report on inspection practices for digital I&C systems to bring together I&C experts and regulatory inspectors to:
    - review current regulatory practices and experiences with licensing digital I&C systems,
    - enhance the dialogue between I&C experts, licensees and regulatory inspectors, and
    - develop commendable practices for inspecting digital I&C safety systems.

III Status of Issues in the Reactor Generic Issues Program

Generic Issues (GIs) Closed During Fourth Quarter FY 2007:

None.

GIs with Significant Schedule Adjustments During Fourth Quarter FY 2007:

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

  Completion of Steam Generator Action Plan Item 3.1.k (currently scheduled for January 31, 2008) has been delayed while the staff considers alternatives for completing this item. The estimated completion date for this item will be determined when the staff identifies a suitable alternative for completing this item. This item is the critical path for completing GI-163 work.

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

  The staff prepared temporary inspection guidance to enhance inspection of heavy lift activities during refueling. On September 14, 2007, NEI notified the NRC that the nuclear industry approved a formal initiative that specifies actions each plant will take to ensure that heavy load lifts continue to be conducted safely and that plant licensing bases accurately reflect plant practices. The initiative is expected to clarify the licensing basis with respect to handling of heavy loads, and the NRC staff is modifying guidance documents to accommodate the initiative. The NRC staff is modifying guidance documents to allow time for implementation of the initiative and to be consistent with the expected end state following implementation. The Advisory Committee on Reactor Safeguards (ACRS) brief is delayed until February 28, 2008 to account for the additional time necessary to modify guidance documents.

- GI-193, "BWR ECCS Suction Concerns"

  In a conference call held on June 6, 2007, the Boiling Water Reactor (BWR) Owners Group (BWROG) informed the staff that no plant specific studies have been performed relative to GI-193 issues. The BWROG indicated that they did not have any information regarding operability of Emergency Core Cooling Systems pumps when air ingress might lead to void fractions greater than 20 percent, or the period of time over which blow-down gas clears the suppression pool during the first 30 seconds. However, they did provide references to two research reports from the Lappeenranta University of Technology laboratory in Finland. Subsequently, the BWROG informed the staff that further contacts with Finland have been initiated. The staff has also independently pursued contact with Finland through the Office of International Programs. The significance of the information provided by Finland will be evaluated when received. The additional time required to obtain these documents results in extending the schedule to close this issue until June 30, 2008.

- GI-199, "Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States (CEUS) on Existing Plants"

  Based on discussions with the United States Geological Survey (USGS), the staff determined the time frame for obtaining current seismic hazard update information for CEUS plant sites would be mid-2008 as opposed to October 2007. Accordingly, the staff changed the date for the milestone: "Receive Seismic Hazard Update Results for Selected CEUS Plants from USGS," from October 30, 2007, to June 30, 2008. In support of completing the screening analysis, consistent with timeliness targets described in SECY-07-0022, the staff decided to base the screening analysis on currently available seismic hazard information from the USGS. Following this approach, the staff completed the milestone: "Generate Screening Analysis," on July 27, 2007, and then completed the milestone: "Screening Panel Meeting," on September 12, 2007. The screening analysis and associated review panel recommendation are currently under review by NRC management. As a result, the staff may complete the milestones: "Complete Screening" and "Issue Panel Report to RES Director" earlier than the current dates of February 15 and 28, 2008, respectively.

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 fiscal year (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 GIs or bulletins, NRC responses to 10 CFR 2.206 petitions, NRC review of generic topical reports, responses by Office of Nuclear Reactor Regulation to regional office requests for assistance, NRC review of licensee 10 CFR 50.59 analyses and final safety analysis report 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.

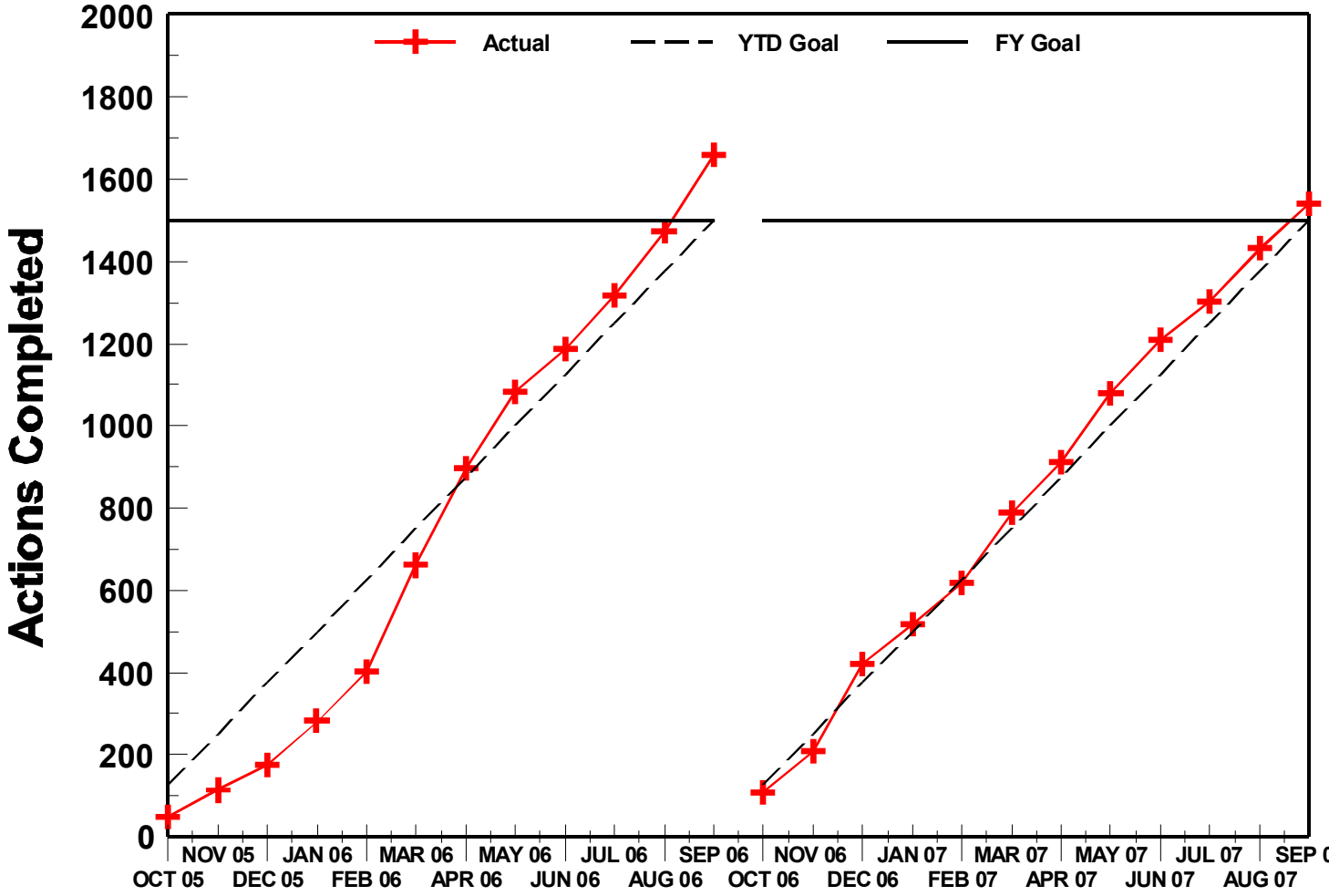
The actual FY 2005 and FY 2006 results, the FY 2007 goals, and the actual to-date FY 2007 results for the three NRC Performance Plan output measures for operating power reactor licensing actions and other licensing tasks are shown in the following table.

PERFORMANCE PLAN				
Output Measure	**FY 2005 Actual**	**FY 2006 Actual**	**FY 2007 Goals**	**FY 2007 Actual (thru 09/30/2007)**
Licensing actions completed/year	1609	1659	≥ 1500	1542
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	97.4%≤ 1 year; and 100.0% ≤ 2 years
Other licensing tasks completed/year	715	676	≥ 500	1045

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:

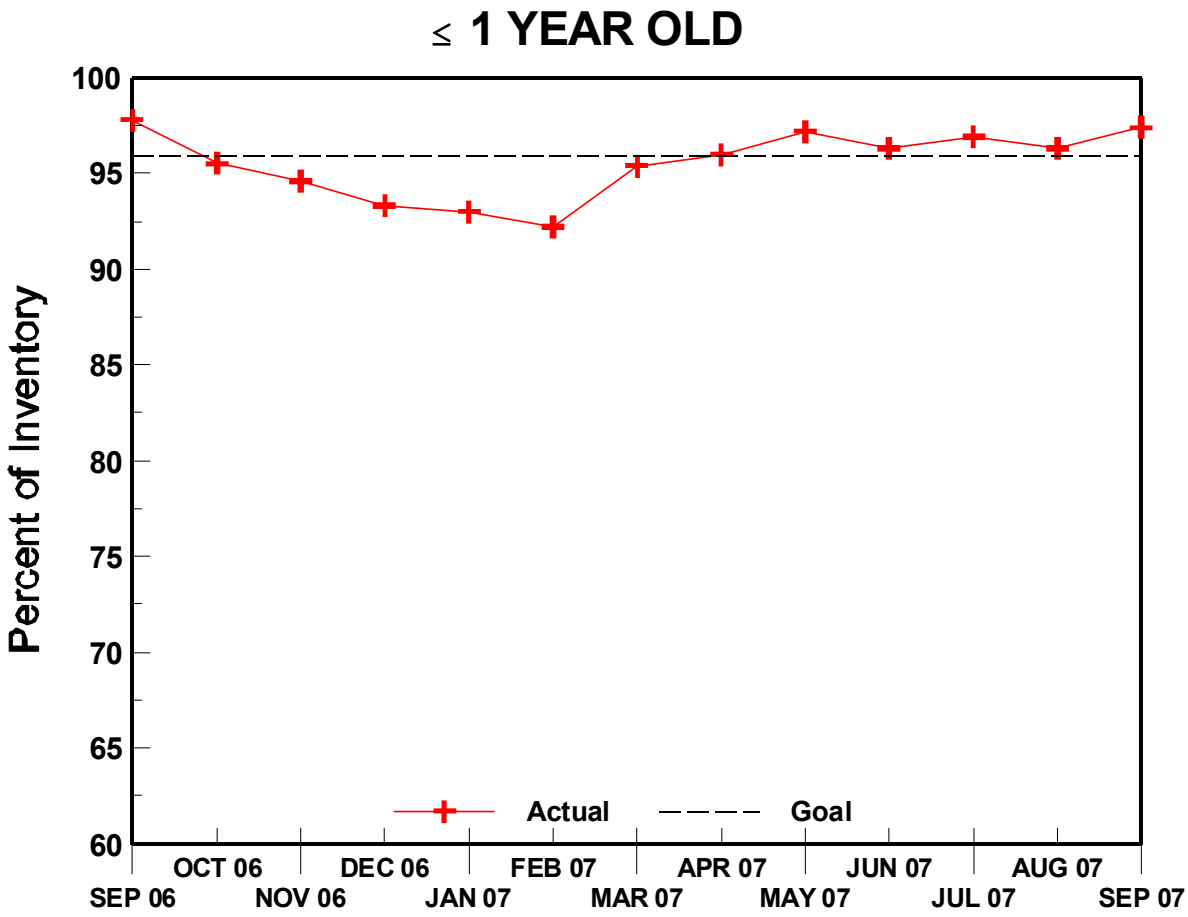
Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Completed Licensing Actions



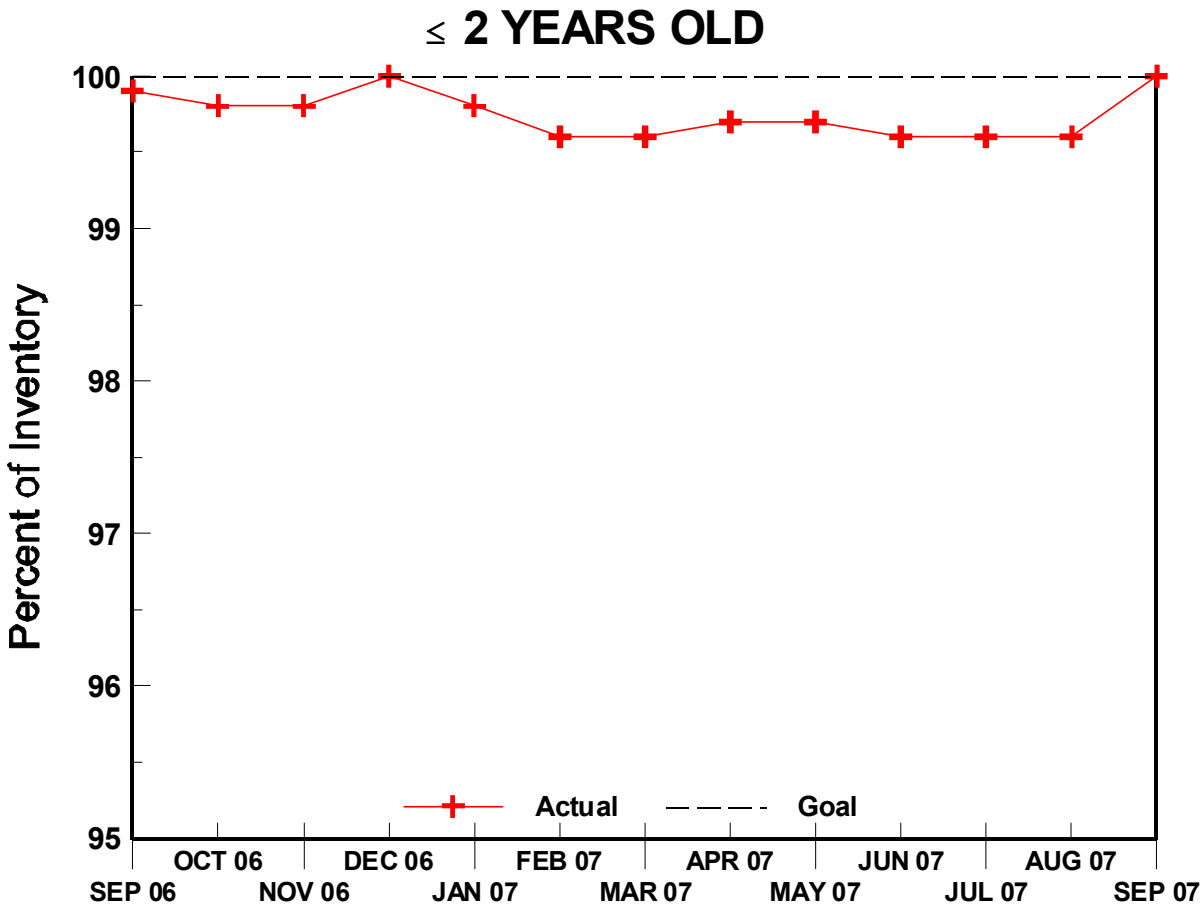
Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Age of Licensing Action Inventory



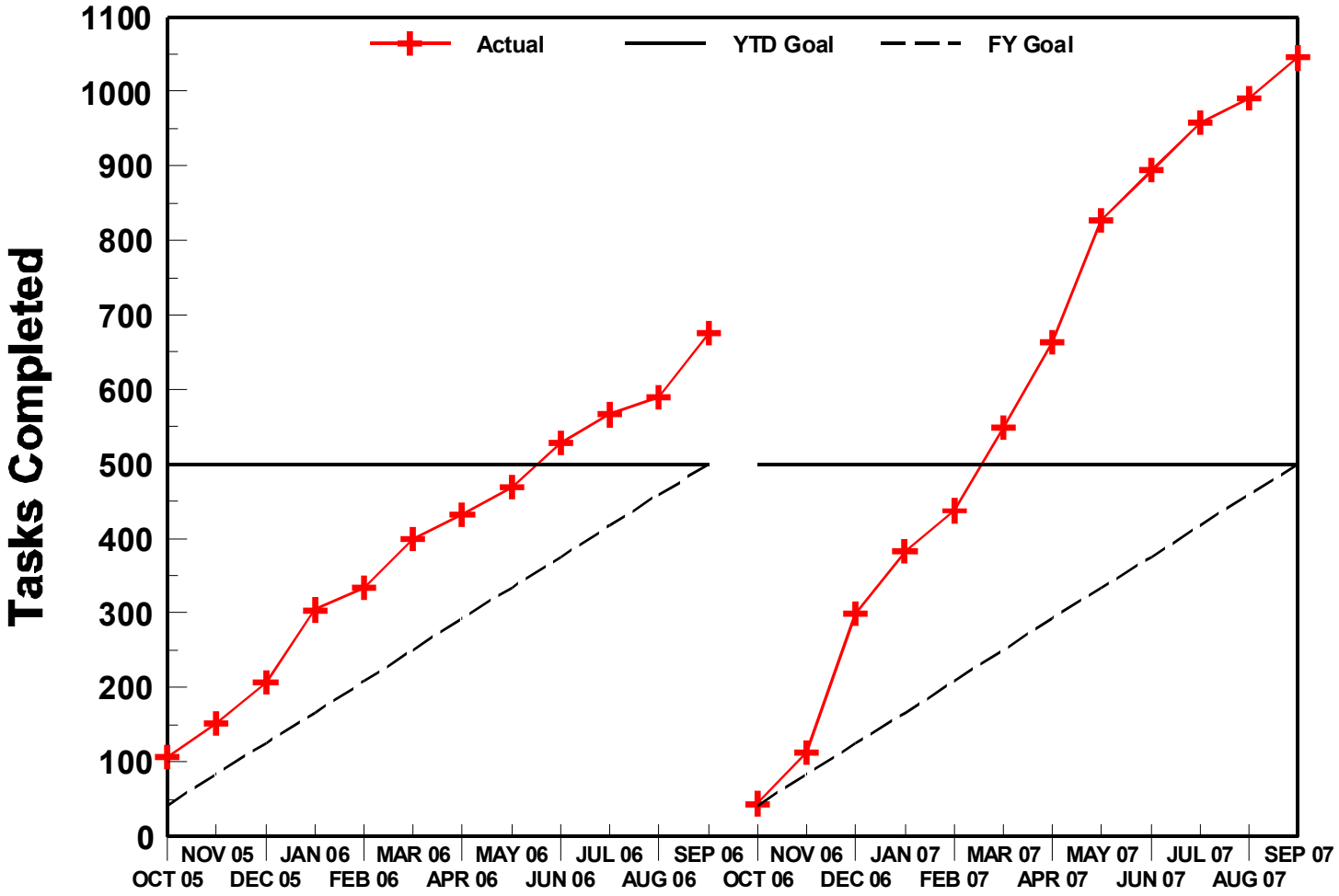
Nuclear Reactor Safety - Reactor Licensing

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.

Oyster Creek License Renewal Application

The final supplemental environmental impact statement (SEIS) was issued in January 2007 and the final safety evaluation report (FSER) was issued 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. An evidentiary hearing was held on September 24-25, 2007.

On May 31, 2007, the State of New Jersey Department of Environmental Protection issued its decision on the Oyster Creek Generating Station Federal Consistency Request, stating that it could not make a positive consistency determination for the applicant's (Amergen) request for consistency certification. Consistency with the Coastal Zone Management Act is required before the renewed operating license can be issued by the NRC. Amergen obtained a 2 week extension to file their appeal from the Secretary of the U.S. Department of Commerce to October 12, 2007.

Pilgrim License Renewal Application

The draft SEIS was issued in January 2007, and the FSER was issued in June 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. The final SEIS was issued in July 2007. To date, the ASLB has not ruled on whether or not there will be hearings for Pilgrim.

Vermont Yankee License Renewal Application

The draft SEIS was issued in December 2006, and the safety evaluation report (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. The final SEIS was issued in August 2007.

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. The draft SEIS was issued in June 2007, and the SER, identifying any remaining open items, is scheduled to be issued in July 2007.

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

The Wolf Creek license renewal application is currently under review. The NRC staff has issued RAIs and is reviewing the licensee's responses. The draft SEIS was issued in September 2007 and the SER identifying any remaining open items is scheduled to be issued in February 2008.

Shearon Harris License Renewal Application

The Shearon Harris license renewal application is currently under review. The NRC staff has issued RAIs and is reviewing the licensee's responses. The draft SEIS is scheduled to be issued in December 2007, and the SER, identifying any remaining open items, is scheduled to be issued in March 2008.

Indian Point License Renewal Application

On April 30, 2007, the NRC received an application for renewal of the operating licenses for Indian Point Units 2 and 3. The NRC conducted its acceptance review and found the application acceptable for docketing and review. The staff conducted an environmental scoping meeting in September 2007. In response to requests from members of Congress and the State of New York, the Commission, in its discretion, has extended the time for filing petitions to intervene in the license renewal proceeding for Indian Point Nuclear Generating Units 2 and 3 from October 1, 2007 to November 30, 2007.

Vogtle License Renewal Application

On June 29, 2007, the NRC received an application for renewal of the operating licenses for Vogtle Units 1 and 2. The NRC conducted its acceptance review and found the application acceptable for docketing and review. The staff conducted an environmental scoping meeting in September 2007.

Beaver Valley Power Station License Renewal Application

On August 28, 2007, the staff received an application from First Energy Nuclear Operating Company (FENOC), requesting the renewal of the operating license for the Beaver Valley Power Station, Units 1 and 2. The staff is currently conducting an acceptance review to determine if the application is acceptable for docketing.

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 4 FY 07	1	0	0	1	2
	FY 07 YTD Total	3	0	0	5	8
	FY 06 Total	10	0	1	3	14
	FY 05 Total	6	0	4	0	10
Non-Cited Severity Level IV or GREEN	Quarter 4 FY 07	42	45	82	81	250
	FY 07 YTD Total	181	161	302	302	946
	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 4 FY 07	43	45	82	82	252
	FY 07 YTD Total	184	161	302	307	954
	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 number of cited violations 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. Additionally, the FY 07 YTD Total for Non-Cited Severity Level IV or Green Violations and the Total FY 07 Cited and Non-Cited Level IV or Green Violations for Region II were both increased by 14 to reflect the addition of 14 Non-Cited Severity Level IV or Green Violations that were inadvertently not included in the 3rd Quarter 2007 Report.

ESCALATED REACTOR ENFORCEMENT ACTIONS ASSOCIATED WITH TRADITIONAL ENFORCEMENT						
		Region I	Region II	Region III	Region IV	TOTAL
Severity Level I	Quarter 4 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 4 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 4 FY 07	0	0	0	0	0
	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 4 FY 07	0	0	0	0	0
	FY 07 YTD Total	2	3	2	0	7
	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 4 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 4 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 4 FY 07	0	0	0	1	1
	FY 07 YTD Total	4	3	1	3	11
	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 4 FY 07	0	0	0	1	1
	FY 07 YTD Total	4	5	3	4	16
	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 that 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

Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Units 2 & 3) EA-07-212 - On August 30, 2007, a Notice of Violation was issued for failure to meet the conditions of a July 30, 2007, Order which required the licensee to implement an Emergency Notification System (ENS) with backup power capability by August 24, 2007. Specifically, the licensee failed to obtain necessary approvals so that the new ENS system could be placed in service as the primary notification system by August 24, 2007. The NRC decided to determine the severity level, any civil penalty, and any required responses from Entergy regarding this matter at a later time.

Nebraska Public Power District (Cooper Nuclear Station) EA-07-090 - On August 17, 2007, a Notice of Violation was issued for a violation associated with a White Significance Determination Finding involving a violation 10 CFR Part 50, Appendix B, Criterion XVI. The licensee failed to establish measures to promptly identify and correct a significant condition adverse to quality (SCAQ) and failed to assure that the cause of a SCAQ was determined and corrective action taken to preclude repetition. Specifically, the licensee's inadequate procedural guidance for evaluating the suitability of parts used in safety related applications presented an opportunity in which the licensee failed to promptly identify a defective voltage regulator circuit board used in Emergency Diesel Generator (EDG) 2 prior to its installation. Following installation of the defective EDG 2 voltage regulator circuit board, the licensee failed to determine the cause of two high voltage conditions, and failed to take corrective action to preclude repetition. As a result, an additional high voltage condition occurred resulting in a failure of EDG 2.

Southern Nuclear Operating Company (Joseph M. Farley Nuclear Plant) EA-07-155 - On August 17, 2007, a parallel White finding was issued to Southern Nuclear Operating Company as a result of inspections at the Joseph M. Farley Nuclear Plant. The parallel White finding was identified during a supplemental inspection to assess the licensee's evaluation associated with unreliability and unavailability reporting in the Support Cooling Water Systems PI within the MSPI. Failures of the licensee's existing safety-related breakers associated with this PI predominantly contributed to the indicator crossing the threshold to White in the second quarter of 2006. This PI was subsequently reported Green in the third quarter of 2006. The supplemental inspection for the White PI identified significant weaknesses related to the thoroughness and quality of several root cause evaluations that challenged the licensee's ability to implement effective overall corrective actions. The licensee's evaluations of the individual failures that contributed to the White PI did not effectively review for systemic aspects of circuit breaker failures. In addition, more recent problems were identified concerning the thoroughness of design reviews for the installation of new breakers. Based on these NRC-identified weaknesses, a parallel PI inspection finding (White) was opened to allow the NRC to continue to monitor activities in this area.

FirstEnergy Nuclear Operating Company (Davis-Besse Nuclear Plant, Perry Nuclear Power Plant, Beaver Valley Nuclear Plant, Units 1 and 2) EA-07-199 - On August 15, 2007, a Confirmatory Order (Effective Immediately) was issued to FENOC to formalize commitments made by FENOC following the NRC staff's issuance of a Demand for Information (DFI) on May 14, 2007. The DFI was issued in response to the information provided by FENOC relative to its re-analysis of the time line and root causes for the 2002 Davis-Besse reactor pressure vessel head degradation event following its receipt of a report prepared by Exponent Failure Analysis Associates and Altran Solutions Corporation (Exponent). On June 13, 2007, FENOC provided its response to the DFI. On July 16, 2007, FENOC provided a supplemental response to the DFI which provided additional detail regarding the planned implementation of commitments established in its June 13, 2007, response to the DFI.

Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Units 2 & 3) EA-07-189 - On July 30, 2007, an Immediately Effective Order was issued to Entergy Nuclear Operations, Inc., to ensure compliance with the regulations and implementation of the requirements of the Energy Policy Act of 2005. The Order supplemented the requirements of NRC Confirmatory Order (EA-05-190) which required, in part, a backup power system for the ENS. The Confirmatory Order was issued to the Indian Point Nuclear Generating Unit Nos. 2 and 3 on January 31, 2006, and was amended by the NRC on January 23, 2007, extending the implementation date for the required ENS backup power system to April 15, 2007. The requirements of the January 31, 2006, Confirmatory Order remain in effect except as specifically modified or supplemented by this Order.

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 RISs 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.

In April 2007, the Commission approved proceeding with the publication of the final rule to amend existing 10 CFR Part 26 requirements for security force personnel at reactor facilities and to engage the industry and stakeholders to complete the associated guidance for the rule. The NRC visited a limited number of reactor facilities in July and August 2007 to collect information to address an issue associated with the fatigue language that requires additional data. The publication date of the final rule will reflect these additional tasks.

The NRC continues to work on the proposed rule, “Power Reactor Security Requirements” and resolve public comments, draft final rule language, and publish draft regulatory guidance in a concurrent process. In the fourth quarter of FY 2007, two regulatory guides were published, public meetings held on the guidance, and comments were received from the public. Additionally, on September 14, 2007, the NRC conducted a public meeting to discuss the draft regulatory guide DG-5021 “Managing the Safety Security Interface” in support of the proposed rule 10 CFR 73.58.

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. During the fourth quarter of FY 2007, the NRC completed force-on-force exercises at seven sites. The current force-on-force cycle ends in December 2007. The NRC remains committed to working with the industry to improve realism and effectiveness of the force-on-force exercise program and continues to pursue methods to improve simulations.

On September 19, 2007, NRC met with industry representatives to discuss security-related information in support of NEI’s monthly Nuclear Security Working Group. Topics discussed included: Force-on-Force implementation issues related to target set development process and second cycle improvements in effectiveness and efficiency; methods for assessing gradual

degradation including Risk Analyses and Management for Critical Asset Protection; Joint Conflict and Tactical Simulation; beyond design basis threat force-on-force exercises; and rulemaking updates. NSIR continues to work with industry through focused working groups on a number of these issues.

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.

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 site visits were completed in September 2007. The Comprehensive Review Outcomes Working Network was established to address gaps and potential enhancements identified during the Comprehensive Review program and is composed of representatives from DHS Protective Security Coordination Division, DHS Sector Specific Agency Executive Management Office, U.S. Coast Guard, and the NRC.

In January and March 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 has established an interoffice Grid Security Special Project Working Group to address the potential vulnerability identified by DHS. The working group has developed a draft action plan to address NRC actions to deal with the vulnerability. NRC is working with DHS to assist in the Federal inter-agency effort.

On February 21, 2007, the 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. On several occasions in the fourth quarter of FY 2007, the NRC met with DHS to discuss implementation of the MOU, including the status of previously developed action-items, DHS support in the timely review of new reactor applications, and related concepts with respect to the scope and content of the final report to be provided to the NRC at the conclusion of its evaluation.

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. SPUs 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 11 plant-specific power uprate applications under review. The 11 applications include five MUR power uprates and six EPUs.

In April 2007, 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 26 nuclear power plants over the next 5 years. If approved, these power uprates will result in an increase of about 4,138 MWt or approximately 1,380 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 (ESPs), and combined licenses (COLs) for nuclear power plants. These activities are summarized in the table at the end of this section.

The staff is engaged in numerous ongoing interactions with vendors and utilities regarding prospective new reactor applications and licensing activities. Based on these interactions, the staff expects to receive a significant number of new reactor COL applications over the next several years and is currently developing the infrastructure necessary to support the application reviews. As of September 2007, the staff is preparing to receive up to 21 COL applications for a total of 32 new nuclear units over the next few years.

Design Certifications and Pre-Application Activities

The staff has issued design certifications for four reactor designs that can be referenced in an application for a nuclear power plant: General Electric (GE) Nuclear Energy's Advanced Boiling Water Reactor (ABWR) design, Westinghouse's System 80+ design, Westinghouse's AP600 design, and Westinghouse's AP1000 design. COL applications referencing the ABWR and the AP1000 designs are expected during the next 12 months.

The economic simplified boiling water reactor (ESBWR) design certification application was submitted on August 24, 2005. On June 1, 2007, GE submitted its schedule for submitting major deliverables to support the ESBWR design certification. The staff is currently preparing its safety evaluation with open items based on Design Control Document (DCD) Revision 3. DCD Revision 4 was submitted on September 28, 2007, and DCD Revision 5 will be submitted by March 31, 2008. GE also provided the schedule for milestones for new topical reports and revised topical reports. The staff is developing a detailed schedule for completion of the ESBWR design certification. COLAs referencing the ESBWR DCD application are expected during the next 12 months as well.

By letter dated May 26, 2007, Westinghouse submitted an application to amend the AP1000 Design Certification Rule and also submitted Revision 16 to the AP1000 DCD. As of October 10, 2007, Westinghouse has submitted 109 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 through Revision 16 to the AP1000 DCD. The staff is evaluating the schedule for its review of the amendment to the AP1000 Design Certification in light of recent technical issues identified in the technical reports.

The staff is currently conducting design certification preapplication activities for AREVA's Evolutionary Power Reactor (EPR) and Mitsubishi's U.S. Advanced Pressurized Water Reactor (APWR).

Early Site Permit Reviews

The staff has issued two ESPs: the Clinton ESP on March 15, 2007, and the Grand Gulf ESP on April 5, 2007. ESP reviews that are in progress are addressed below.

The staff has completed its safety and environmental reviews for the North Anna ESP application and has issued the FSER and Environmental Impact Statement (EIS) for this review. The ASLB has conducted hearings for the North Anna ESP application and issued the initial decision for this ESP on June 29, 2007. The Commission is currently considering the ASLB's initial decision.

The staff received the Vogtle ESP application in August 2007 and completed its acceptance review in September 2007. The staff issued its SER with open items for the Vogtle ESP application on August 30, 2007. The staff issued its draft EIS for the Vogtle ESP on September 14, 2007. The staff plans to issue both the FSER and Final EIS for the Vogtle ESP in August 2008.

Combined License Application Activities

On August 23, 2007, the NRC staff notified UniStar Nuclear of the status of the acceptance review of the Calvert Cliffs Nuclear Power Plant, Unit 3, partial COL application. The partial application included the environmental report, administrative information, and final safety analysis information regarding site suitability (information submitted pursuant to 10 CFR 2.101(a)(5)) and was submitted on July 13, 2007, and supplemented on July 16 and August 2, 2007. The staff identified several areas, as listed in the enclosure to the August 23, 2007, letter that have not yet been sufficiently addressed in the application. The staff requested UniStar's plan for submitting additional information to address these issues so that the staff may allocate appropriate resources to complete the acceptance review and continue processing the application.

On September 24, 2007, NRG Energy and South Texas Nuclear Operating Company submitted a COL application for two Advanced Boiling Water Reactor units to be located at their site in Matagorda County, Texas. This was the first full application for a COL submitted under the Part 52 process. The staff's acceptance review of the STP COL application began on October 1, 2007.

Construction Inspection Program Developments

Several milestones were achieved regarding the development of the construction inspection program, which include:

- Inspection Manual Chapters and related IPs to support Limited Work Authorizations were completed.

- Stakeholder interaction, including in the vicinity of potential new reactor sites, have increased substantially.

- Staff piloted a new inspection procedure, the objective of which is to verify, by direct observation, the effectiveness of the independent oversight activities performed by third-party organizations of NRC quality assurance requirements.

- Three additional inspections under the enhanced vendor inspection program were completed.

- Bilateral cooperation activities continue to expand, with a visit to Finland to share construction and vendor experience with Finnish regulators.

Regulatory Infrastructure

The staff continues to perform activities to ensure that it is prepared to review new applications. These activities include completing a COL application, RG 1.206 on June 20, 2007, developing strategies for optimizing the review of the applications to be received, developing a construction inspection program framework and subsequent inspection program for new construction activities, and continuing activities in the pre-application and design certification review processes. In addition, the NRC has updated NUREG-0800, "Standard Review Plan," and associated RGs.

In response to a recommendation from the Commission, an Office of New Reactors Working Group developed an efficient and effective acceptance review process for DCD applications and new reactor COL applications. The culmination of the working group's efforts was an NRO Office Instruction (OI) that was issued on September 26, 2007. The OI provides guidance to the staff during the acceptance review to: ensure that the applications meet the NRC's regulations and are technically sufficient, streamline the acceptance review considering both safety and risk insights, and provide schedule input for the development of an application-specific review plan and updated schedule.

The staff has undertaken several activities associated with rulemaking. On August 28, 2007, the NRC published 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," as a final rule in the *Federal Register* (72 FR 49351). The rule became effective on September 27, 2007. The final rule enhances effectiveness and efficiency of the Part 52 licensing processes, and clarifies the applicability of requirements to each of the processes: ESP, standard design approval, standard design certification, COL, and manufacturing license.

On October 9, 2007, the NRC completed the rule amending 10 CFR Parts 2, 50, and 52 to revise requirements for limited work authorizations and site preparation activities and published "Limited Work Authorizations for Nuclear Power Plants" as a final rule in the Federal Register (72 FR 57415). The rule becomes effective on November 8, 2007.

The NRC staff prepared a proposed rulemaking on aircraft impact assessments following a Staff Requirements Memorandum (SRM) directing the staff to incorporate the requirement into 10 CFR Part 52. The proposed rule was published in the Federal Register for a 75-day comment period on October 3, 2007. The SRM also directed the staff to share sensitive information related to aircraft impact with new plant designers. Orders requiring vendors to establish programs for control of Safeguards Information (SGI) have been issued to Westinghouse and General Electric-Hitachi (GEH) and the SGI parameters were provided to Westinghouse on June 22, 2007, and GEH on July 31, 2007. Orders to Areva and Mitsubishi and revised Orders to Westinghouse and GEH were issued on September 12, 2007, and included limitations on storage of the SGI within the U.S. and sharing the information with foreign nationals.

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	12/2007	Letters 3/4/05, 10/25/05, 3/16/06 7/17/06 (RIS), 5/31/07 (RIS), and 9/5/2007
NuStart Energy (TVA) (740)	Bellefonte (2)	R-COL	10/2007	Letters 12/7/2004, 11/17/2005, 7/17/06 (RIS), and 5/31/07 (RIS)
Progress Energy (738)	Harris (2)	COL	1/2008	Letters 8/24/05 and 2/1/06; 11/1/05 Mtg Letter 7/12/06 (RIS), 5/31/07 (RIS)
Progress Energy (756)	Levy County, Fla (2)	COL	7/2008	Letters 8/24/05 and 2/1/06; 11/1/05 Mtg Letter 7/12/06 (RIS), 5/31/07 (RIS)
South Carolina Electric and Gas (743)	Summer (2)	COL	10/2007	Letters 12/5/05, 2/10/06, 7/13/06 (RIS), and 5/30/07 (RIS)
Southern Nuclear Operating Co. (755)	Vogtle (2)	COL	3/2008	Letters 7/26/05, 8/17/05, 7/17/06 (RIS), and 5/30/07 (RIS); Mtg Summary (ML052710018)
ESBWR (52-010) Design Certification Application submitted 8/24/05				
Dominion (741)	North Anna	R-COL	11/2007	Letter 11/22/05, 7/17/06 (RIS), 5/31/07 (RIS), 08/09/07
Entergy (745)	River Bend	COL	5/2008	Letter 12/5/05, 7/17/06 (RIS), and 5/31/07 (RIS)
NuStart Energy (Entergy) (744)	Grand Gulf	COL	02/2008	Letters 12/7/2004, 11/17/2005, 7/17/06 (RIS), 5/31/07 (RIS), 08/09/07
EPR (733) Design Certification Application to be submitted 12/2007				
Alternate Energy Holdings	Bruneau, Idaho	COL	4th Qtr 2008	Letters 12/14/06, 5/14/07 (RIS), and 7/23/07
Amarillo Power (752)	TBD (2)	COL	4th Qtr 2008	Letter 3/13/06, 7/27/06, 3/15/07, and 5/31/07 (RIS)
AmerenUE (750)	Callaway	COL	3rd Qtr 2008	Letter 7/12/06, 12/15/06, 4/5/07, 6/1/07, and 5/31/07 (RIS)
PPL Generation	Berwick	COL	3rd Qtr 2008	Letters 5/24/07, 6/13/07, and 9/4/2007
Unistar Nuclear (746)	Calvert Cliffs Nine Mile Point	R-COL COL	1/2008 3rd Qtr 2008	Press Release; 11/2/05 Mtg; Letters 11/4/05, 6/8/06, 6/21/06, 7/13/06 (RIS), and 5/31/07 (RIS)
ABWR (52-001) Certified Design				
NRG Energy (749)	South Texas Project (2)	R-COL	Submitted 8/24/07	Letters 6/19/06 and 5/29/07 (RIS)

New Reactor Licensing Activities - Letters of Intent Received
As of October 10, 2007

US APWR (751) Design Certification Application to be submitted 12/2007				
TXU Power (754)	Comanche Peak (2)	R-COL	7/2008	Letter 6/27/06, 9/7/06, 1/18/07, 3/9/07, 4/9/07, and 5/30/07 (RIS)
Unannounced Technology				
DTE Energy	Fermi	COL	10/2008	Letters 2/15/07 and 5/31/07 (RIS)
Duke	Davie County, NC Oconee County, SC	ESP ESP	TBD TBD	Letter 3/16/06
Exelon	Texas (2)	COL	11/2008	Letter 9/29/06 and 5/31/07 (RIS)
Florida Power & Light	TBD (2)	COL	2009	Letters 4/3/06 and 7/2/2007 (RIS)
Unannounced Applicant	TBD	ESP	6/2010 - 6/2012	Letter 4/5/07
Unannounced Applicant	TBD	COL	12/08	Letter 8/28/07

* Numbers in parentheses are Docket Number or Project Number

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