November 7, 2008

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:

On behalf of the Commission, I am pleased to submit the U.S. Nuclear Regulatory Commission's (NRC's) report on the status of its licensing and other regulatory activities. The enclosed report covers the period April through September 2008. The FY 2008 Energy and Water Development Appropriations Act 110-185, directed the NRC to provide a semiannual report on the status of its licensing and other regulatory activities. 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 May 12, the NRC released 58 event notification reports for two nuclear fuel fabrication facilities, Nuclear Fuel Services (NFS) in Erwin, Tennessee, and BWX Technologies (BWXT) in Lynchburg, Virginia, spanning the period 2004 - 2007. These reports had been previously withheld for security reasons. From 2004 until last year, nearly all documents regarding NFS and BWXT were withheld as security sensitive information under a Commission policy established in response to issues identified by the Department of Energy's (DOE) Office of Naval Reactors. Last September, the Commission reversed that policy and directed the staff to release redacted documents in order to achieve an appropriate balance between ensuring that NRC's regulatory process is open to the public and maintaining the secure use and management of radioactive materials.

On May 29, the NRC issued Regulatory Issue Summary 2008-12, "Considerations for Extended Interim Storage of Low-Level Radioactive Waste by Fuel Cycle and Materials Licensees," regarding the need for fuel cycle and materials licensees to store Class B and C low-level radioactive waste on site for an extended period once the low-level waste disposal facility in Barnwell, South Carolina, closed to much of the Nation on July 1. About 95 percent of Class B and C waste is generated by nuclear power plants, which have the space, expertise, and experience needed to store radioactive wastes for extended periods. The remaining Class B and C waste consists primarily of liquid wastes from radiochemical producers and sealed radioactive sources from industrial, research, or medical licensees. The closure of Barnwell leaves fuel cycle and materials licensees in 36 states with no disposal options for this waste. The need for extended interim storage as well as ways to minimize the production of Class B and Class C low-level wastes are addressed in the guidance. The guidance also addresses considerations such as security, worker safety, and the need to keep track of radioactive materials, including during emergency situations (e.g., hurricanes).

On June 3, the NRC received an application from the DOE for a license to construct the Nation's first geologic repository for high-level nuclear waste at Yucca Mountain, Nevada. Staff immediately began a docketing review to determine whether the application was sufficiently complete to initiate a formal licensing review. On September 8, 2008, the staff formally docketed the license application and also recommended that the Commission adopt, with further supplementation, DOE's Environmental Impact Statement for the repository project. On October 17, 2008, the NRC announced the opportunity to request a hearing on the DOE's application seeking authorization to construct a proposed geologic repository for high-level nuclear waste at Yucca Mountain, Nevada. Petitions to intervene and requests for hearing must be submitted within 60 days of publication in the *Federal Register*.

As of August 1, the Commission has awarded nearly $20 million to 60 different educational institutions in 28 jurisdictions to boost nuclear education and expand the workforce for nuclear energy. Congress provided NRC $15 million to supplement NRC's grant program. The NRC awarded 88 grants for faculty development ($7.8 million), education scholarships and graduate fellowships ($6.4 million), university curriculum development ($4.7 million), and trade school scholarships ($0.75 million). Recipients included Minority Serving Institutions and Historically Black Colleges and Universities located in 26 states, the District of Columbia and Puerto Rico.

On August 22, the NRC issued a Confirmatory Action Letter (1-08-005) to Entergy Nuclear Operations, Inc. (Entergy) regarding the actions that Entergy is planning to take to enhance the new Alert and Notification System (ANS) for the Indian Point Energy Center.

On August 22, the Federal Emergency Management Agency (FEMA) granted approval for Entergy to place the new ANS for the Indian Point Energy Center in service. On August 27, Entergy placed the new ANS in service and declared the system operable. While placing the system in service completes a major project milestone, additional actions are needed to fulfill remaining requirements and commitments. The NRC Orders dated January 31, 2006 (EA-05-190) and July 30, 2007 (EA-07-189), require three consecutive siren tests to demonstrate system reliability in addition to FEMA system reliability testing requirements.

On September 22, the NRC issued guidance to the Regional Offices of the NRC and the 35 Agreement States regarding pre-licensing visits of new materials license applicants. This revised guidance will require the agency to conduct pre-licensing site visits and background checks for materials license applicants new to the NRC licensing process. This action addresses a 2007 U.S. Government Accountability Office finding that adversaries could fraudulently obtain a license and radioactive material.

From August 25 to September 25, the NRC conducted a series of eight public meetings to discuss the Draft Generic Environmental Impact Statement (GEIS) for In-Situ Leach Uranium Milling Facilities. Specifically, public meetings were held in Spearfish, South Dakota; Chadron, Nebraska; Newcastle, Wyoming; Gallup, New Mexico; Grants, New Mexico; Albuquerque, New Mexico; Gillette, Wyoming; and Casper, Wyoming. The GEIS will help the NRC license certain uranium recovery facilities more efficiently.

On September 29-30, the NRC hosted roundtable discussions at a public meeting on issues associated with the use of radioactive cesium chloride sources. Five roundtable sessions on alternative cesium sources, alternative technologies, phase out and transportation issues, additional enhanced security, and potential future requirements were conducted. The workshop concentrated on the use of sources that could pose a significant risk to public health and the environment if not properly handled and secured. The National Academy of Sciences has recently recommended the replacement or elimination of certain cesium chloride sources.

Please contact me for any additional information you may need.

Sincerely,

/RA/

Dale E. Klein

Enclosure:
Semiannual Status Report on the Licensing
Activities and Regulatory Duties of the
U.S. NRC, April – September 2008

cc: Senator George V. Voinovich
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Identical letter 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 Fred Upton

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

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

April - September 2008

Note: The period of performance covered by this report includes activities occurring between the first day of April 2008 and last day of September 2008. 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 and Performance-Based Regulations

The NRC added 10 CFR 50.48(c) to the regulations to allow existing nuclear power plant licensees to adopt voluntarily a risk-informed and performance-based fire protection licensing basis, also known as the National Fire Protection Association (NFPA) Standard 805. As of September 2008, there are 48 reactor units committed to transitioning to the new licensing basis. Two nuclear power stations, Shearon Harris and Oconee, volunteered to pilot their transition. The licensees for Shearon Harris and Oconee submitted their license amendment requests to transition to NFPA 805 on May 29, 2008, and May 30, 2008, respectively. The staff is also working with stakeholders to update the regulatory guidance during this pilot transition period.

II Reactor Oversight Process

The NRC continues to implement the Reactor Oversight Process (ROP) at all nuclear power plants. The NRC also 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 ROP Working Group public meetings on April 16 and 17, May 14, June 18, July 16, August 27, and September 24, 2008. The ROP Working Group is made up of representatives from industry, the Nuclear Energy Institute (NEI), and the NRC staff, who meet with the goal of continuously improving the ROP and reactor safety. The meetings are open to the public and provide a forum for external feedback on staff initiatives. The following topics were included in these meetings:

- mitigating systems performance index (MSPI)
- inspection guidance
- draft changes to ROP safety-culture related guidance
- performance indicator issues
- reactor assessment
- open and new Frequently Asked Questions for the ROP

On April 23, 2008, the Office of Nuclear Reactor Regulation (NRR) and Region III staff participated in an NRC Region III Utility Group non-public meeting, held in Chicago, Illinois, to discuss the ROP supplemental inspections.

On May 15, 2008, NRR and regional Health Physics staff conducted a public meeting, by video teleconferencing, with NEI and nuclear industry representatives to discuss the ROP assessment and screening process for disposition of health physics issues.

On June 18, 2008, an NRC working team, consisting of NRR staff, a representative from each of the NRC four regions, and representatives from the Office of Enforcement, conducted a public meeting to present options and gather industry perspectives related to using traditional

enforcement as an input to assessment. On August 18, 2008, NRR staff held a video-conference with NRC regional division directors to discuss this initiative further. This effort addresses a commitment made in the reactor oversight process self-assessment for Calendar Year (CY) 2007.

As part of the self-assessment process to determine whether the ROP has been effective in meeting program goals and achieving its intended outcomes, as well as to identify areas needing improvement, NRR staff periodically seeks feedback and comments from the public on the ROP. On July 2, 2008, NRR issued its response to these comments: "Consolidated Response to the 2007 Reactor Oversight Process External Survey" (ML081440644).

On August 7, 2008, NRR staff met with FocalPoint (an independent contractor) to kick off the independent evaluation of the reactor oversight and incident response programs to support the Fiscal Year (FY) 2009 Program Assessment Rating Tool reviews.

From August 11 to 13, 2008, NRR staff participated in an NEI-sponsored public workshop on the ROP Process MSPI in San Francisco, California. The purpose of the workshop was to discuss current issues with the MSPI, review recent industry experience from lesson-learned events, refresher training for new MSPI stewards, and training on Institute of Nuclear Power Operation's Consolidated Data Entry database used for transmitting data to the NRC.

From August 11 to 15, 2008, NRR staff and Region II technical staff, participated in an internal NRC audit to evaluate NRC oversight of construction completion for Watts Bar, Unit 2. This was accomplished through selected sampling of various controls and instructions that have been put in place, including the basis for those controls and instructions. Recommendations for enhancing the oversight process will be made as appropriate.

NRR and Region II staff participated in the Corrective Action Program Owners Group (CAPOG) non-public meeting that occurred at Asheville, North Carolina, from August 19 to 21, 2008. CAPOG members include representatives from the U.S. and international nuclear power plant licensees and a number of contractors and vendors. Topics of discussion included draft changes to the NRC problem identification and resolution inspection procedure, recent NRC activities associated with licensee safety culture, and a proposed CAPOG definition of a Significant Condition Adverse to Quality.

On September 10, 2008, NRR staff participated in a public meeting with representatives of NEI and the nuclear power industry to provide the nuclear power industry an opportunity to provide input regarding the following:

- draft Regulatory Issue Summary on Use of Multiple Dosimetry and Compartment Factors In Determining Effective Dose Equivalent from External Radiation Exposure
- draft Regulatory Issue Summary on Interim Low Level Radioactive Waste Storage at NRC Licensed Facilities
- discussion of performance deficiencies

From September 17 to 27, 2008, NRR staff participated in a joint International Atomic Energy Agency (IAEA) / Nuclear Energy Agency (NEA) technical meeting in Vienna, Austria, to exchange experience of recent events in nuclear power plants on incident reporting system activities with IAEA.

III Status of Issues Tracked in the Reactor Generic Issues (GI) Program

GI-163, "Multiple Steam Generator Tube Leakage"

The staff has completed its review of the GI and determined that no additional regulatory actions are necessary. The staff is coordinating the closure of this GI with a broader agency review of Steam Generator issues. Therefore, the staff plans to complete the coordination and document the resolution of this GI, including the supporting technical bases, by July 30, 2009.

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

In April 2008, NEI submitted preliminary guidelines for reactor vessel head drop consequence analyses and to establish a highly-reliable handling system for reactor vessel head lifts. In July 2008, NEI submitted final industry-developed guidelines for the above specified applications and other related applications. The staff issued a safety evaluation endorsing these guidelines, with one exception regarding acceptance criteria for the consequence analysis, on September 5, 2008. The staff also issued supplementary inspection guidance for refueling and other outage activities addressing implementation of the industry initiative on control of heavy loads, which was posted for inspector use and public review on September 18, 2008. The staff plans to issue a closure memorandum to the NRC Executive Director for Operations in April 2009.

GI-193, "BWR ECCS Suction Concerns"

The Task Action Plan activities have been clarified and calculations are envisioned to estimate the contribution of the various factors in creating and transporting voids. Additional information has been requested from the Boiling Water Reactor (BWR) Owners Group to support resolution. The staff expects the BWR Owners Group to review the information request and respond to the staff by December 31, 2008.

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 2008 NRC Performance Plan incorporates one output measure related to licensing actions – age of the licensing action inventory. This output measure was changed in FY 2008 to reflect monthly versus yearly age measurements to make the timeliness measurement more challenging. The number of licensing actions completed per year is not required to be submitted for FY 2008, but has been included due to the fact that it is included as a measure in the FY 2009 budget request.

Other licensing tasks for operating power reactors are defined as licensee responses to NRC

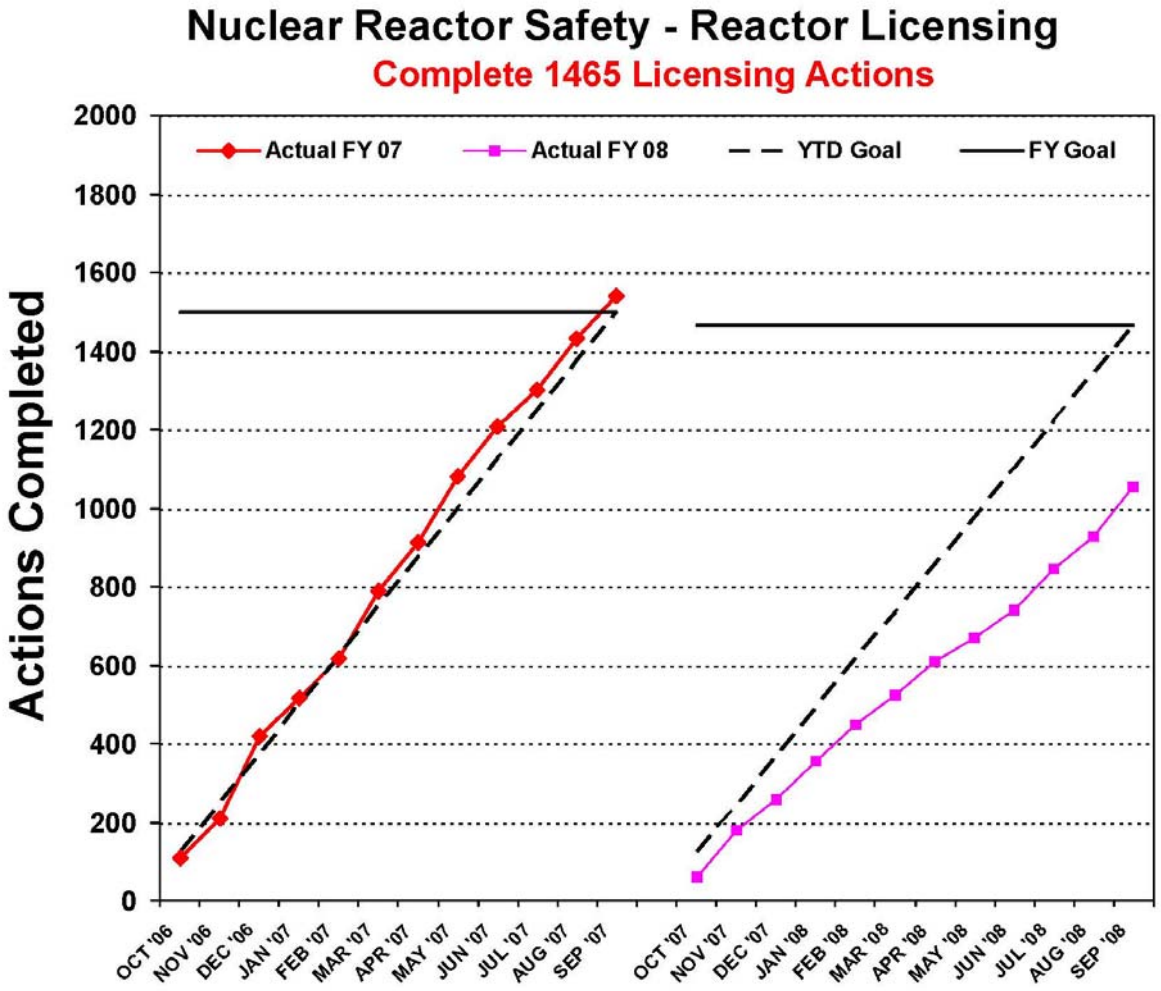
requests for information through Generic Letters or Bulletins, NRC responses to 10 CFR 2.206 petitions, NRC review of generic topical reports, responses by NRR to regional office requests for assistance, NRC review of licensee 10 CFR 50.59 analyses and final safety analysis report updates, or other licensee requests not requiring NRC review and approval before they can be implemented by licensees. The FY 2008 NRC Performance Plan incorporates one output measure related to the age of other licensing tasks inventory. The number of other licensing tasks completed per year is not required to be submitted for FY 2008 but has been included due to the fact that it is included as a measure in the FY 2009 budget request.

The actual FY 2006 and FY 2007 results, the FY 2008 goals, and the actual FY 2008 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.

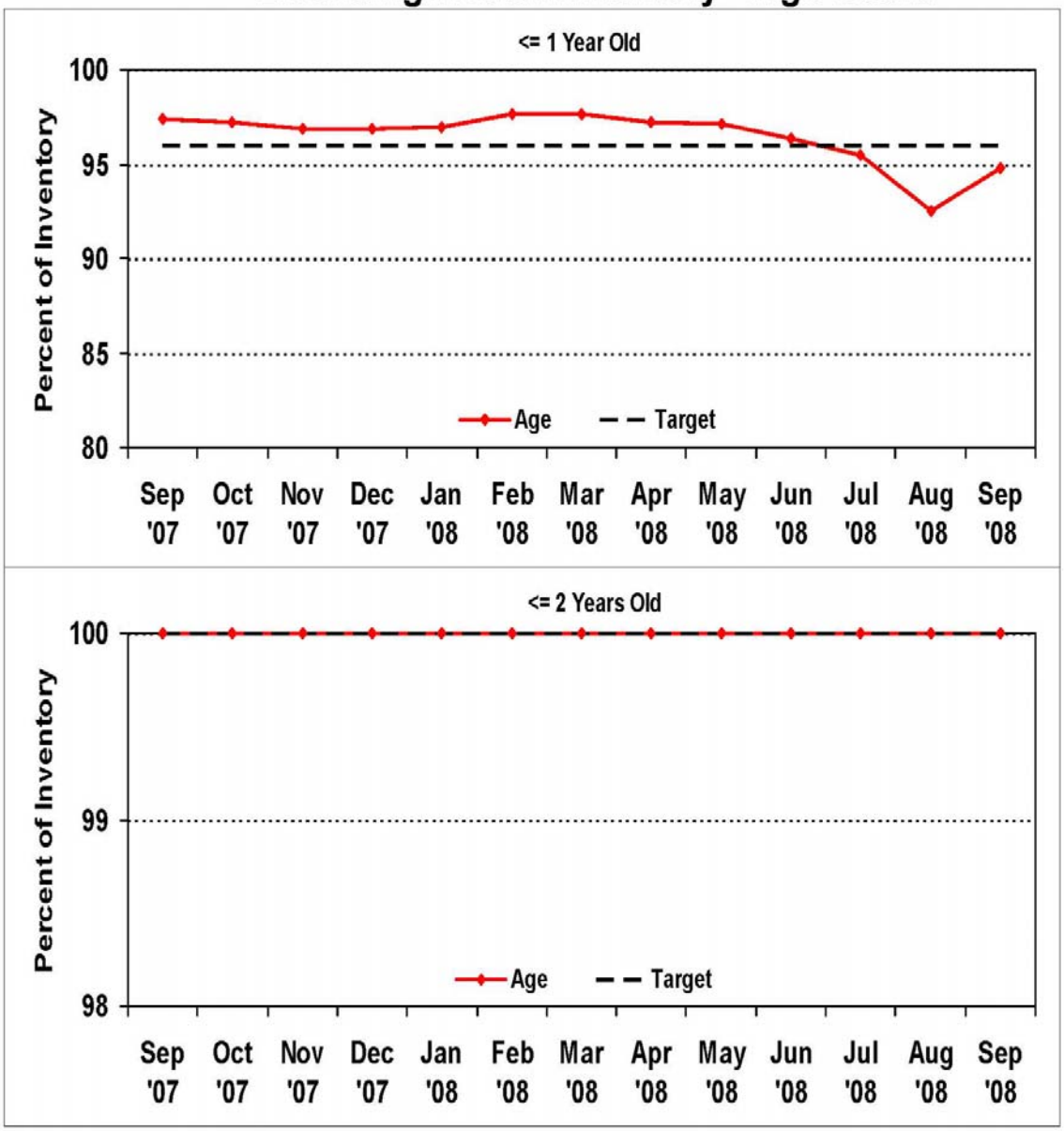
PERFORMANCE PLAN				
Output Measure	**FY 2006 Actual**	**FY 2007 Actual**	**FY 2008 Goals**	**FY 2008 Actual**
Licensing actions completed/year	1659	1542	≥ 1465*	1054
Age of licensing action inventory	97.8% ≤ 1 year and 99.9% ≤ 2 years	97.4%≤ 1 year and 100% ≤ 2 years	96% ≤ 1 year and 100% ≤ 2 years for 8 out of 12 months	96% ≤ 1 year for 9 out of 12 months and 100% ≤ 2 years for 12 out of 12 months
Other licensing tasks completed/year	676	1045	≥ 600	678
Age of other licensing tasks inventory	Not measured	Not measured	90% ≤ 1 year and 100% ≤ 2 years	90% ≤ 1 year and 100% ≤ 2 years for 12 out of 12 months

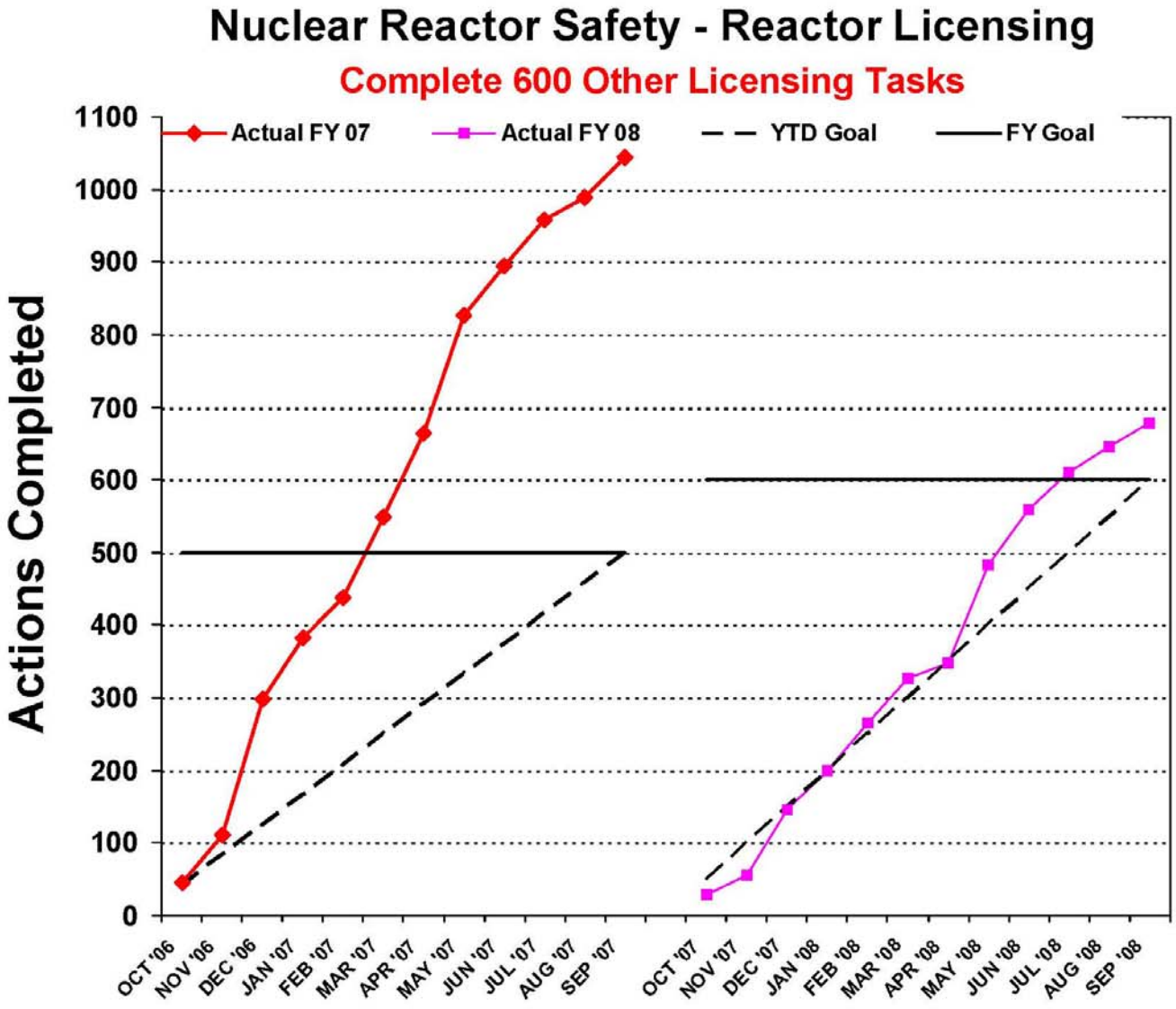
The charts on the following pages show FY 2008 trends for the three operating power reactor licensing actions and other licensing task output measure goals:

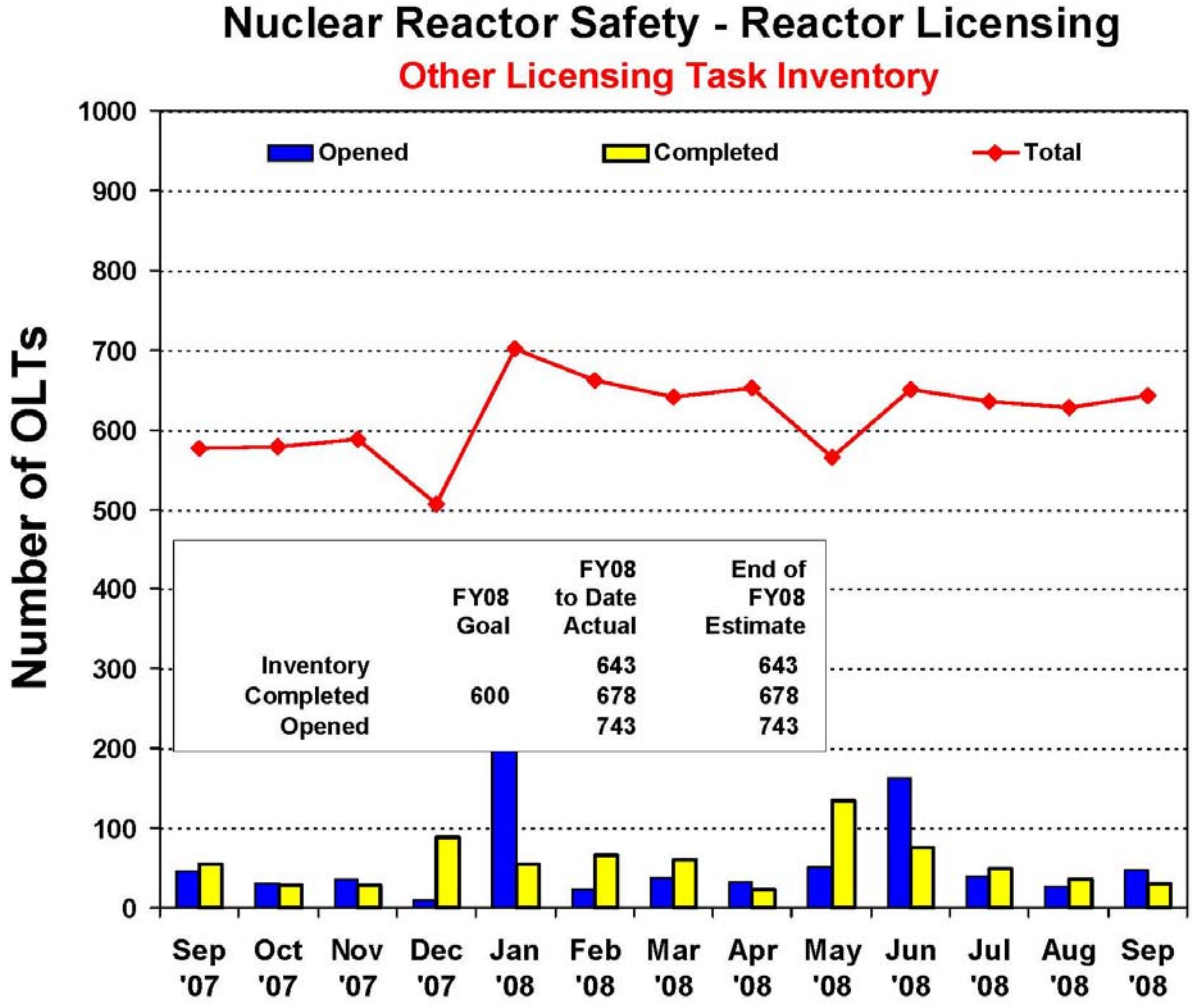
*Over the last few years the number of licensing actions submitted has declined and therefore reduced the overall inventory of pending actions, and the number of complex licensing actions that require more time to resolve has increased.

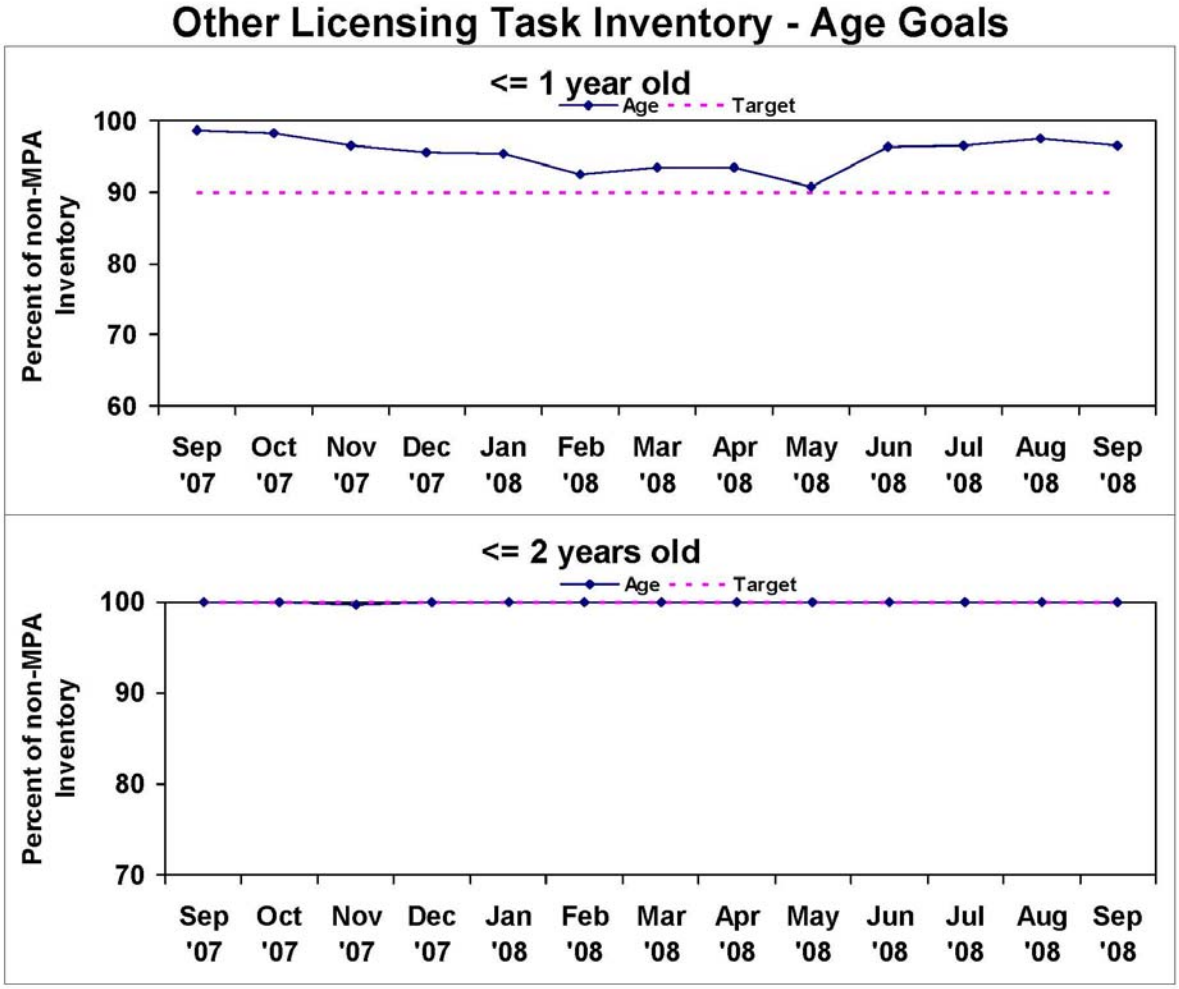

Nuclear Reactor Safety - Reactor Licensing
Complete 1465 Licensing Actions
Actions Completed
Actual FY 07
Actual FY 08
YTD Goal
FY Goal
2000
1800
1600
1400
1200
1000
800
600
400
200
0
OCT '06
NOV '06
DEC '06
JAN '07
FEB '07
MAR '07
APR '07
MAY '07
JUN '07
JUL '07
AUG '07
SEP '07
OCT '07
NOV '07
DEC '07
JAN '08
FEB '08
MAR '08
APR '08
MAY '08
JUN '08
JUL '08
AUG '08
SEP '08

Licensing Action Inventory - Age Goals




Nuclear Reactor Safety - Reactor Licensing
Complete 600 Other Licensing Tasks
Actions Completed
Actual FY 07
Actual FY 08
YTD Goal
FY Goal
1100
1000
900
800
700
600
500
400
300
200
100
0
OCT '06
NOV '06
DEC '06
JAN '07
FEB '07
MAR '07
APR '07
MAY '07
JUN '07
JUL '07
AUG '07
SEP '07
OCT '07
NOV '07
DEC '07
JAN '08
FEB '08
MAR '08
APR '08
MAY '08
JUN '08
JUL '08
AUG '08
SEP '08


Nuclear Reactor Safety - Reactor Licensing
Other Licensing Task Inventory
Number of OLTs
1000
900
800
700
600
500
400
300
200
100
0
Opened
Completed
Total
FY08 Goal
FY08 to Date Actual
End of FY08 Estimate
Inventory 643 643
Completed 600 678 678
Opened 743 743
Sep '07
Oct '07
Nov '07
Dec '07
Jan '08
Feb '08
Mar '08
Apr '08
May '08
Jun '08
Jul '08
Aug '08
Sep '08



V Status of License Renewal Activities

The NRC has completed the review of license renewal applications for 49 of the 104 units licensed to operate. The following is the status of applications currently under review.

On January 14 and May 15, 2008, public interest groups participating in the Oyster Creek, Vermont Yankee, and Pilgrim license renewal proceedings, as well as groups seeking to participate in the Indian Point license renewal proceeding, filed petitions requesting that the Commission suspend on-going license renewal proceedings pending "a comprehensive overhaul of the manner in which the staff reviews license renewal applications." The petitions were prompted by a September 2007 Office of the Inspector General (OIG) Report and a May 2008 OIG memorandum concerning the NRC staff's license renewal review process.

Oyster Creek License Renewal Application

On July 22, 2005, the NRC received an application from AmerGen Exelon Company (AmerGen or Applicant) for renewal of the operating license for the Oyster Creek Nuclear Generating Station.

On September 24-25, 2007, the Atomic Safety and Licensing Board (Board) held an evidentiary hearing on a license renewal related contention filed by a collective of public interest groups calling itself "Citizens." The contention concerned the frequency of the ultrasonic measurements of the thickness of Oyster Creek's drywell shell.

On December 18, 2007, the Board resolved Citizens' contention in AmerGen's favor, concluding that AmerGen had demonstrated that the frequency of its planned ultrasonic measurements, in combination with other elements of its aging management program, provides reasonable assurance that the drywell shell will maintain the necessary safety margin during the period of extended operation.

On January 14, 2008, Citizens appealed the Board's initial decision. The Staff and AmerGen filed responses on January 24, 2008.

On April 18, 2008, Citizens filed with the Commission a motion to reopen the record and add a new contention concerning metal fatigue. On May 9, 2008, the Commission Office of the Secretary (SECY) issued a memorandum referring the motion to the Board for resolution.

On May 28, 2008, the Commission issued an Order requesting briefs from the parties explaining whether the 3-D structural analysis AmerGen planned to perform matched or bounded the sensitivities studies the one Board member would impose and, in any event, whether additional analysis is necessary. The parties filed initial briefs on June 11 and reply briefs on June 18, 2008. On August 21, 2008, SECY issued a memorandum referring the single issue in the Commission's May 28 Order to the Board for expeditious resolution.

On July 24, 2008, the Board issued an Order denying Citizens' motion to reopen the record and add a new contention regarding metal fatigue. On August 1, 2008, Citizens appealed the Board decision to the Commission. On September 5, 2008, SECY issued a memorandum extending the Commission's time for reviewing Citizens' appeal to November 10, 2008.
On September 18, 2008, the Board held oral argument in Toms River, New Jersey, on the Commission-referred issue regarding AmerGen's future 3-D structural analysis.

Pilgrim License Renewal Application

On January 25, 2006, Entergy Nuclear Operations submitted a License Renewal Application for Pilgrim Nuclear Power Station to the NRC to extend Pilgrim's operating license for an additional 20 years beyond the current license period. The final Safety Evaluation Report (SER) was issued on June 28, 2007, and the final Supplemental Environmental Impact Statement (SEIS) was issued on July 27, 2007. The Advisory Committee on Reactor Safeguards (ACRS) Full Committee meeting on the SER was held on September 6, 2007, and the ACRS letter recommending approval of the renewal was issued on September 26, 2007.

The Atomic Safety Licensing Board (ASLB) panel admitted two contentions from Pilgrim Watch

relating to leak detection of radioactively contaminated water from underground piping and tanks and to Pilgrim's Severe Accident Mitigation Alternatives (SAMA) analysis for off-site radiological and economic consequences. The SAMA contention was resolved, leaving only the buried piping and tanks contention for hearing before the Board. That hearing was held on April 10, 2008, in Plymouth, Massachusetts, with a limited appearance session for members of the public the night before. The ASLB has not yet ruled.

One other item potentially affecting Pilgrim is that the Massachusetts Attorney General's (AG's) office has filed an appeal in the U.S. Court of Appeals for the 1st Circuit to a recent decision by the Commission, "Denial of Two Petitions for Rulemaking Concerning the Environmental Impacts of High-Density Storage of Spent Nuclear Fuel in Spent Fuel Pools (PRM-51-10 and PRM-51-12)." As part of this appeal, the AG requests that Entergy not be allowed to operate Pilgrim beyond June 8, 2012, unless a revised Environmental Impact Statement (EIS) is prepared and made available for public comment prior to expiration of the current license.

Vermont Yankee License Renewal Application

In January 2006, the NRC received an application from Entergy Nuclear Operations for renewal of the operating license for the Vermont Yankee Nuclear Power Station (VYNPS). The staff has completed the environmental and safety review of the application in accordance with NRC regulations. The draft SEIS was issued in December 2006. The final SEIS was issued in August 2007. The SER with Confirmatory Items was issued in March 2007. The final SER was issued in February 2008.

Since a request for hearing was received in response to the NRC's notice of opportunity for hearing, an ASLB was established. An evidentiary hearing on three contentions against the VYNPS license renewal application was held by the ASLB July 21 – 24, 2008, in Newfane, Vermont. The ASLB accepted written and oral testimony from witnesses from the New England Coalition, Inc. (intervener), Entergy Nuclear Operations, Inc. (applicant), and the staff. The ASLB closed the record at the conclusion of the hearing and is currently in deliberation. The ASLB's decision is expected prior to the end of 2008. A final decision on whether to grant or deny the renewal application cannot be made until after the ASLB ruling is delivered.

James A. FitzPatrick License Renewal Application

On August 1, 2006, the NRC received an application from Entergy Nuclear Operations for renewal of the operating license for the FitzPatrick Nuclear Power Plant. The staff completed the environmental and safety review of the application in accordance with NRC regulations. The draft SEIS was issued in June 2007 and the final SEIS was issued in January 2008. The SER, with open items, was issued in July 2007, and the final SER was issued in January 24, 2008. The ACRS Full Committee reviewed the SER on March 6, 2008, and issued its letter recommending approval of the renewal on March 20, 2008.

The renewed license was issued on September 8, 2008, after Water Quality Certification and Coastal Zone Consistency Certifications were issued by New York State.

Susquehanna License Renewal Application

On September 13, 2006, the NRC received an application from PPL Susquehanna, LLC, for renewal of the operating licenses for Susquehanna Units 1 and 2. The staff is conducting the environmental and safety review of the application in accordance with NRC regulations. A request for hearing was received in response to the NRC's notice of opportunity for hearing, and an ASLB was established. The 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). Because of the potential impact of the EPU amendment on the plant's licensing basis, the licensee agreed that the license renewal schedule would be established after approval of the EPU. The EPU was approved in January 2008, and PPL submitted a letter to the NRC in February 2008 outlining the impact of the EPU on the license renewal application.

The draft SEIS was issued in early May 2008, and a public meeting on the draft SEIS was held in late May 2008. The preliminary findings on the safety review are scheduled for March 2009.

Wolf Creek License Renewal Application

On September 27, 2006, the NRC received an application from Wolf Creek Nuclear for renewal of the operating license for the Wolf Creek Generating Station. The staff has completed the environmental and safety review of the application in accordance with NRC regulations. The draft SEIS was issued in September 2007. In November 2007, the staff conducted meetings to solicit comments from the public on the draft SEIS. The final SEIS was issued in May 2008. The SER with open items was issued on February 1, 2008. The final SER was issued on July 29, 2008. The ACRS Full Committee meeting was held on September 4, 2008, and the letter recommending approval of the renewal was issued on September 17, 2008.

Shearon Harris License Renewal Application

On November 16, 2006, the NRC received an application from Carolina Power and Light company for renewal of the operating license for the Shearon Harris Nuclear Power Plant. The staff has completed the environmental and safety review of the application in accordance with NRC regulations. The draft SEIS was issued in December 2007. Public meetings on the draft SEIS were held in January 2008. The final SEIS was issued in August 2008.

The SER with open Items was issued in March 2008. An ACRS Subcommittee meeting was held on the SER in May 2008. The final SER was issued in August 2008.

Indian Point License Renewal Application

On April 30, 2007, the NRC received an application from Entergy Nuclear Operations for renewal of the operating licenses for Indian Point Units 2 and 3 for an additional 20 years. The staff is conducting the environmental and safety review of the application in accordance with NRC regulations. Preliminary findings for the environmental review will be issued in December 2008, and for the safety review in January 2009. Several parties have filed requests for a hearing, and an ASLB Panel was established to review contentions. Oral arguments on the admissibility of contentions were held on March 10-12, 2008. On July 31, the ASLB panel

admitted 13 contentions.

Vogtle License Renewal Application

On June 27, 2007, the staff received an application from the Southern Nuclear Operating Company for renewal of the operating license for the Vogtle Electric Generating Units 1 and 2 for an additional 20 years. The NRC conducted its acceptance review and found the application acceptable for docketing and review. The staff is conducting the environmental and safety review of the application in accordance with NRC regulations. The draft SEIS was issued in April 2008, and the staff conducted several public meetings to solicit comments on the draft SEIS.

The staff has completed the safety review of the application and is preparing to present the results to the ACRS subcommittee in November 2008. The inspection of the plant's programs was completed in June 2008. The results of that inspection will also be presented to the ACRS subcommittee at its November 2008 meeting.

Beaver Valley Power Station License Renewal Application

On August 28, 2007, the staff received an application from First Energy Nuclear Operating Company for renewal of the operating licenses for the Beaver Valley Power Station (BVPS), Units 1 and 2. The NRC conducted its acceptance review and found the application acceptable for docketing and review. The staff is conducting the environmental and safety review of the application in accordance with NRC regulations. The staff conducted two public meetings in November 2007 to discuss the license renewal review process and solicit comments on the scope of the environmental review.

The Draft (SEIS) for the BVPS License Renewal Application was issued on September 19, 2008. A public meeting to solicit comments on the draft SEIS is scheduled for October 10, 2008. The staff is currently preparing the SER with open items for this plant.

Three Mile Island Nuclear Station, Unit 1

On January 8, 2008, the staff received an application from AmerGen Energy Company for renewal of the operating license for the Three Mile Island Nuclear Station, Unit 1. The NRC conducted its acceptance review and found the application acceptable for docketing and review. The staff is conducting the environmental and safety review of the application in accordance with NRC regulations. The draft environmental impact statement is scheduled to be issued in December 2008, and the safety evaluation report with open items is scheduled to be issued in February 2009.

Prairie Island License Renewal Unit 1 and 2

On April 15, 2008, the NRC received an application from Nuclear Management Company for renewal of the operating licenses for Prairie Island Units 1 and 2. The NRC completed its acceptance review and found the application acceptable for docketing and review. The staff is conducting the environmental and safety review of the application in accordance with NRC regulations. The agency signed a memorandum of understanding (MOU) with the Prairie Island Indian Community to participate as a cooperating agency in the staff's review of the

environmental impacts of license renewal. Preliminary findings for the environmental review will be issued in March 2009, and for the safety review, in May 2009. Prairie Island Indian Community has filed requests for a hearing, and an Atomic Safety and Licensing Board Panel was established to review the contentions.

Kewaunee Power Station

On August 14, 2008, Dominion Energy Kewaunee submitted an application for renewal of the operating license for the Kewaunee Power Station. The NRC completed its acceptance review and found the application acceptable for docketing and review. The staff is conducting the environmental and safety reviews in accordance with the requirements of 10 CFR Parts 51 and 54. On October 1, the staff published in the *Federal Register* a notice of "Determination of Acceptability for Docketing and Opportunity for Hearing," for the license renewal application.

Cooper Nuclear Power Station

On September 30, 2008, the Nebraska Public Power District submitted an application for renewal of the operating license for the Cooper Nuclear Station for an additional 20 years beyond the current 40-year term. The staff will perform an acceptance review. If the application is deemed acceptable for docketing, the staff will begin the environmental and safety reviews in accordance with the requirements of 10 CFR Parts 51 and 54.

VI Summary of Reactor Enforcement Actions

Reactor Enforcement by Region

The reactor enforcement statistics below are arranged by Region, half year, most recent half-year, fiscal year-to-date, and two previous fiscal years 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 reactor oversight process. The assessment of the significance of a violation generally reflects the severity level assigned to the violation (i.e., traditional enforcement). However, for most violations committed by power reactor licensees, the significance of a violation is assessed using the significance determination process under the ROP, which uses risk insights, where appropriate, to assist the NRC in determining the safety or security significance of inspection findings identified within the ROP.

These tables are followed by brief descriptions of the escalated reactor enforcement actions associated with both traditional enforcement and the reactor oversight process (as well as any other significant actions) taken during the applicable calendar half year.

NON-ESCALATED REACTOR ENFORCEMENT ACTIONS						
		Region I	Region II	Region III	Region IV	TOTAL
Cited Severity Level IV or GREEN	1st Half FY 08	0	0	1	1	2
	2nd Half FY 08	0	0	0	2	2
	FY 08 YTD Total	0	0	1	3	4
	FY 07 Total	3	0	0	5	8
	FY 06 Total	10	0	1	3	14
Non-Cited Severity Level IV or GREEN	1st Half FY 08	105	129	143	144	521
	2nd Half FY 08	130	89	151	172	542
	FY 08 YTD Total	235*	218	294	316	1063
	FY 07 Total	181	147	302	302	932
	FY 06 Total	224	154	256	259	893
TOTAL Cited and Non-Cited Severity Level IV or GREEN	1st Half FY 08	105	129	144	145	523
	2nd Half FY 08	130	89	151	174	544
	FY 08 YTD Total	235	218	295	319	1067
	FY 07 Total	184	147	302	307	940
	FY 06 Total	234	154	257	262	907

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.

* Data input for the Region I FY08 YTD non-escalated-non-cited total has been revised from the First Half Report (ML081000169) due to a tracking error.

ESCALATED REACTOR ENFORCEMENT ACTIONS ASSOCIATED WITH TRADITIONAL ENFORCEMENT						
		Region I	Region II	Region III	Region IV	TOTAL
Severity Level I	1st Half FY 08	0	0	0	0	0
	2nd Half FY 08	0	0	0	0	0
	FY 08 YTD Total	0	0	0	0	0
	FY 07 Total	0	0	0	0	0
	FY 06 Total	0	0	0	0	0
Severity Level II	1st Half FY 08	0	1	0	0	1
	2nd Half FY 08	0	0	0	0	0
	FY 08 YTD Total	0	1	0	0	1
	FY 07 Total	0	1	0	0	1
	FY 06 Total	0	0	0	0	0
Severity Level III	1st Half FY 08	1	1	1	0	3
	2nd Half FY 08	1	0	0	0	1
	FY 08 YTD Total	2	1	1	0	4
	FY 07 Total	2	2	2	0	6
	FY 06 Total	2	1	7	1	11
TOTAL Violations Cited at Severity Level I, II, or III	1st Half FY 08	1	2	1	0	4
	2nd Half FY 08	1	0	0	0	1
	FY 08 YTD Total	2	2	1	0	5
	FY 07 Total	2	3	2	0	7
	FY 06 Total	2	1	7	1	11

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	1st Half FY 08	0	0	0	0	0
	2nd Half FY 08	0	0	0	0	0
	FY 08 YTD Total	0	0	0	0	0
	FY 07 Total	0	0	0	0	0
	FY 06 Total	0	0	0	0	0
Violations Related to YELLOW Findings	1st Half FY 08	0	1	0	0	1
	2nd Half FY 08	0	0	0	0	0
	FY 08 YTD Total	0	1	0	0	1
	FY 07 Total	0	0	1	0	1
	FY 06 Total	0	0	1	0	1
Violations Related to WHITE Findings	1st Half FY 08	0	0	0	2	2
	2nd Half FY 08	0	1	1	2	4
	FY 08 YTD Total	0	1	1	4	6
	FY 07 Total	4	5	2	4	15
	FY 06 Total	3	6	3	2	14
TOTAL Related to RED, YELLOW, or WHITE Findings	1st Half FY 08	0	1	0	2	3
	2nd Half FY 08	0	1	1	2	4
	FY 08 YTD Total	0	2	1	4	7
	FY 07 Total	4	5	3	4	16
	FY 06 Total	3	6	4	2	15

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 Actions (EA) as Well as Any Other Significant Actions Taken

(NOTE: This list also includes security-related actions as well as Confirmatory Actions that are not included in the tables of Part VI, "Enforcement Procession and Summary of Reactors Enforcement by Region" section.)

Exelon Generation Company, LLC (**Byron Station**) EA-08-046 - On April 1, 2008, a Notice of Violation (NOV) was issued for violations associated with a White Significance Determination Finding. The NOV involved violations of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," and 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the licensee failed to take timely corrective actions after the identification of extensive corrosion on essential service water riser pipes and failed to verify the adequacy of the methodology and design inputs in calculations that supported the decision to accept three degraded essential service water riser pipes for continued service.

R. E. Ginna Nuclear Power Plant, LLC (**R. E. Ginna Nuclear Power Plant**) - EA-08-075 - On April 7, 2008, an NOV was issued to R. E. Ginna Nuclear Power Plant for a violation of 10 CFR 50.54 (q), resulting from changes the licensee made to its emergency plan and Emergency Action Level (EAL) scheme that decreased the plan's effectiveness without first obtaining Commission approval. Specifically, between 1996 and 2001, the licensee made changes to its EALs that resulted in non-conservative conditions upon which emergencies would be declared, including those resulting in a Site Area Emergency declaration. Since this matter impacts the regulatory process, the NRC used traditional enforcement to categorize the violation at Severity Level III.

Florida Power & Light Co. (**Turkey Point Nuclear Plant**), EA-07-138 - On April 9, 2008, an NOV and Proposed Imposition of Civil Penalty in the amount of $130,000 was issued for a Severity Level III Issue for violations of security requirements at the Turkey Point nuclear power plant. The fine was proposed because a 2006 investigation found that security officers employed by Wackenhut Nuclear Services were willfully inattentive to duty (sleeping) from 2004 through 2006. All examples of inattentiveness or complicity or facilitation by other security personnel were willful in nature and caused Florida Power & Light to be in violation of NRC security requirements because the officers were not capable of maintaining continuous communication with an individual in each continuously manned alarm station. Escalated enforcement actions were preceded by an investigation conducted by the Office of Investigations and subsequently a criminal conviction was rendered by the Department of Justice.

Exelon Generation Company, LLC (**Three Mile Island, Unit 1**), EA-08-064* - On May 15, 2008, an NOV was issued for a violation associated with a Greater Than Green issue. The details of the issue involve official use only – security-related information.

Entergy Nuclear Operations, Inc. (**Vermont Yankee Nuclear Power Station**), EA-08-134* - On May 15, 2008, an NOV was issued for a violation associated with a Greater Than Green issue. The details of the issue involve official use only – security-related information.

Dominion Energy, Kewaunee, Inc. (**Kewaunee Nuclear Power Plant**) EA-08-062, EA-08-063* On May 29, 2008, an NOV was issued for a violation associated with a Greater Than Green issue. The details of the issue involve official use only – security-related information.

Nebraska Power Public District (**Cooper Nuclear Station**) EA-07-204 - On June 13, 2008, an NOV was issued for a violation associated with a White Significance Determination Finding involving a violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Specifically, between 1997 and June 2007, the licensee failed to ensure that two emergency operating procedures, which were used to bring the plant to a safe shutdown condition in the event of certain postulated fire scenarios, would work as written. Additionally, the licensee failed to verify and validate procedure steps properly to ensure that they would work to accomplish the necessary actions.

Florida Power and Light Company, Inc. (**St. Lucie Nuclear Plant**) EA-07-321 - On June 13, 2008, a Confirmatory Order confirming commitments reached as part of an alternative dispute resolution mediation settlement agreement was issued to the Florida Power and Light Company regarding a low level supervisor at the St. Lucie Nuclear Plant who willfully failed to take action to identify two contract workers as untrustworthy subsequent to their actions to falsify a work order related to maintenance activities.

Tennessee Valley Authority (**Sequoyah Nuclear Plant**) EA-08-120* - On July 30, 2008, an NOV was issued for a violation associated with a Greater Than Green issue. The details of the issue involve official use only – security-related information.

Tennessee Valley Authority (**Watts Bar Nuclear Plant**) EA-08-121* - On July 30, 2008, an NOV was issued for a violation associated with a Greater Than Green issue. The details of the issue involve official use only – security-related information.

Nebraska Power Public District (**Cooper Nuclear Station**) EA-08-124 - On August 1, 2008, an NOV was issued for a violation associated with a White Significance Determination Finding. The NOV involved a violation of Technical Specification 5.4.1.a, which requires that for the activities specified in Regulatory Guide 1.33, Revision 2, written procedures be established, implemented, and maintained. Specifically, the work order employed on December 29, 2000, to facilitate the reassembly of electrical connections on a diesel generator was not appropriate to the circumstances in that it did not include guidance to ensure that thread locking compounds or other measures would be utilized to ensure electrical connections would not loosen during engine operation. Additionally, since September 30, 1988, the licensee failed to use procedures appropriate to the circumstances for performance of periodic electrical inspections to check the tightness of engine-mounted amphenol-type connections, in that the procedure inappropriately excluded engine mounted components from the scope of electrical connection tightness checks. The inadequate instructions and procedure resulted in the failure of the diesel generator during testing on January 15, 2008.

*Actions are security-related. Details of the violation are not publically available. Therefore, these metrics are not included in the tables of Part VI, "Enforcement Procession and Summary of Reactors Enforcement by Region" section.

Southern Nuclear Operating Company, Inc. (**Joseph M. Farley Nuclear Station**) EA-08-192 - On September 4, 2008, an NOV was issued for a violation associated with a White Significance Determination Finding to Southern Nuclear Operating Company, as a result of overhaul of its 1B emergency diesel generator (EDG) at the Joseph M. Farley Nuclear Plant. The violation cited the licensee for failure to install a new exhaust header system correctly as required by vendor documents, causing the 1B EDG to be declared inoperable.

VII Power Reactor Security Regulations

The NRC staff is continuing its security inspection and oversight activities, as well as developing and implementing rules that incorporate applicable security and emergency preparedness (EP) enhancements into the regulations.

Between April and September 2008, NRC staff held public meetings with industry and the public to develop regulatory guides to implement the 10 CFR Part 26 Fitness-for-Duty (FFD) rule requirements. In March 2008, the 10 CFR Part 26 FFD rule to amend existing requirements for nuclear power plant licensees and other entities, including facilities possessing Category IA material, was published in the *Federal Register* (FRN Vol. 73, No. 62 16966 – 17235 [E8-4998]).

The draft final rule, "Power Reactor Security Requirements," was provided to the Commission in July 2008 for consideration. Associated regulatory guides that support this rulemaking, with the exception of an imminent threat regulatory guide, have been published and distributed to appropriate stakeholders. The staff will conduct additional public meetings to clarify rule requirements and solicit comments on implementation guidance documents in the remainder of CY 2008.

The staff has been interacting with the industry to resolve a number of open items on NEI 03-12, Appendix F, "Security during Plant Construction," and will soon begin rulemaking activities to codify the requirements. The Commission directed the staff to establish personnel access authorization and physical security requirements for nuclear power plant construction.

The NRC continues to conduct force-on-force inspections at each site on a normal 3-year cycle using the expanded adversary characteristics that were developed as a result of the current threat environment. The purpose of the force-on-force inspections is to assess and improve, as necessary, performance of defensive strategies at licensed facilities. During the third and fourth quarters of FY 2008, the NRC completed force-on-force inspections at thirteen sites. The current force-on-force cycle ends in December 2010. The NRC remains committed to working with the industry to improve the realism and effectiveness of the force-on-force inspection program and continues to pursue methods to improve simulations.

Since April 2008, a joint NRC/ Federal Emergency Management Agency (FEMA) EP working group has conducted over 25 meetings to inform and update stakeholders of the ongoing emergency preparedness rulemaking effort. Additionally, the NRC is currently working with the nuclear industry on a voluntary initiative to conduct hostile-action based (HAB) emergency plan drills in order to determine how best to address such events and incorporate lessons learned into the future rulemaking. Recently, FEMA has been engaged in these HAB drills in order to inform future revisions to guidance and assessment activities related to off-site response organizations. The proposed EP rule and supporting guidance are expected to be published in

the *Federal Register* in the spring of 2009.

The NRC and the Department of Homeland Security (DHS) continue to meet on a monthly basis to implement the provisions of the Energy Policy Act of 2005 for the consultation of proposed new reactor locations. The DHS has outlined a process to collect and evaluate information that will enable it to identify potential vulnerabilities of proposed new reactor facility locations to a terrorist attack.

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. Extended power uprates (EPU) 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 124 such reviews to date. Approximately 16,919 megawatts-thermal (MWt) or 5,640 megawatts-electric (MWe) in electric generating capacity (an equivalent of about 5.6 nuclear power plant units) have been gained through implementation of power uprates at existing plants. The NRC currently has five plant-specific power uprate applications under review. The five applications include two MUR power uprates and three EPUs.

In March 2008, 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 updates to this survey, licensees plan to request power uprates for 23 nuclear power plants over the next 5 years. If approved, these power uprates will result in an increase of about 5,137 MWt or approximately 1,712 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 (DC), early site permits (ESP), and combined licenses (COL) for nuclear power plants.

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 has developed the infrastructure necessary to support the application reviews. As of September 30, 2008, the staff has received 16 COL applications and is preparing to receive up to 23 more applications for a total of 34 new nuclear units over the next few years.

Early Site Permit Reviews

As reported in April, to date, the NRC has issued three ESPs: System Energy Resources, Inc., for the Grand Gulf site in Mississippi; Exelon Generation Company, LLC, for the Clinton site in Illinois; and Dominion Nuclear North Anna, LLC, for the North Anna site in Virginia.

The NRC is currently reviewing an application submitted by the Southern Nuclear Operating Company for the Vogtle site in Georgia. The staff received the Vogtle ESP application in August 2006 and completed its acceptance review in September 2006. 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, and the Final EIS in August 2008. The issuance date for the Vogtle ESP final safety evaluation report (FSER) is projected to be February 5, 2009.

Design Certifications

Currently, an application for a nuclear power plant can reference four reactor designs for which the staff has previously issued a design certification (DC) 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 AP 600 design, and Westinghouse's Advance Passive 1000 (AP1000) design.

Additionally, the staff is currently performing reviews of the following DCs: GE Hitachi Nuclear Energy's (GEH) Economic Simplified Boiling Water Reactor (ESBWR), Westinghouse's AP1000 Design Certification Amendment, AREVA's Evolutionary Power Reactor (EPR), and Mitsubishi's (MHI) US-Advanced Pressurized Water Reactor (APWR) designs.

The ESBWR DC application was submitted on August 24, 2005. On June 1, 2007, subsequently updated on October 31, 2007, GEH submitted its schedule for submitting major deliverables to support the ESBWR DC. The staff provided its review schedule for the ESBWR DC to GEH on November 27, 2007. GEH informed the staff on February 20, 2008, of a two-month delay in the submittal of ESBWR Design Control Document (DCD) Revision 5, from March 31, 2008, to May 31, 2008. GEH submitted Revision 5 to the ESBWR DCD on June 1, 2008. The staff is currently establishing the schedule for review milestones based on design changes incorporated in DCD Revision 5, the schedule for review of associated topical reports, and the schedule for GEH responses to outstanding requests for additional information (RAI). In addition, the staff is aware of additional design changes under consideration by GEH which will need to be evaluated for schedule impacts when they are submitted for staff review.

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. The staff published its review schedule for the AP1000 Amended DC on February 15, 2008. The final SER is currently scheduled for completion in March 2010. Revision 17 to the AP1000 DCD was submitted during the week of September 22, 2008. In Revision 17, Westinghouse proposed both changes that were expected (Control Room Dose) and that were not expected (Chapter 8 Electrical – DC power system voltage & design). The staff is re-evaluating the schedule for its review of the amendment to the AP1000 Design Certification due to delayed RAI responses and new submittals.

The US-EPR DC was submitted on December 11, 2007. The staff completed its acceptance

review of AREVA's EPR DC on February 25, 2008, and is currently conducting its safety review of the US-EPR DC application. The staff issued an RAI early in the review asking the applicant to provide justification for the proposed EPR containment design. AREVA has stated that it will provide the requested information by January 28, 2009 (end of Phase 1 published schedule). The staff expects to complete its safety review by May 2011.

The US-APWR DC was submitted on December 31, 2007. The staff completed its acceptance review of MHI's US-APWR DC on February 29, 2008, and published its review schedule for the DC application. The staff estimates that the final safety review will be completed by September 2011.

Combined License Application Activities

As of October 1, 2008, the staff has received 16 COL applications for review. These applications are listed below with a brief status of the staff's review activities:

- Calvert Cliffs partial COL application submitted for an EPR on July 13, 2007.
  - The NRC completed its acceptance review of the partial COL application.
  - The second and final part of the COL application was submitted on March 17, 2008.
  - Due to the intake structure location change, numerous open items from RAI, and ongoing negotiations between UniStar and the State of Maryland on environmental impact mitigation issues, the DEIS may be delayed.

- South Texas Project (STP) COL application submitted for two ABWR units on September 20, 2007.
  - The NRC accepted the application for review on November 29, 2007, but noted that a schedule would not be provided until additional information was submitted by STP.
  - By letter dated January 10, 2008, STP informed the NRC it was arranging vendor support for the application and requested that the NRC suspend its review of several sections of its application. As a result, the NRC is conducting a partial review of the STP application.
  - STP has chosen Toshiba, Inc., as the engineering and procurement contractor for the new STP units.
  - STP conducted a due diligence review to assess Toshiba's ability to provide the certified ABWR design. STP submitted the results of its due diligence assessment to the NRC on August 19, 2008.
  - The NRC is reviewing the results of STP's due diligence assessment to determine whether STP has demonstrated that Toshiba is qualified to supply the certified ABWR design.
  - Revision two of the STP application was received on September 24, 2008. The NRC is reviewing revision two to ensure it contains the information necessary to resume a full review and publish a schedule.

- Bellefonte COL application submitted for two AP1000 units on October 30, 2007.
  - The NRC completed its acceptance review, published its review schedule, and is currently conducting the safety and environmental reviews.

- North Anna COL application submitted for an ESBWR on November 27, 2007.
  - The NRC completed its acceptance review, published its review schedule, and is currently conducting the safety and environmental reviews.

- William States Lee III COL application submitted for two AP1000 units on December 13, 2007.
  - The NRC completed its acceptance review, published its review schedule, and is currently conducting the safety and environmental reviews.

- Shearon Harris COL application submitted for two AP1000 units on February 19, 2008.
  - The NRC completed its acceptance review, published its review schedule, and is currently conducting the safety and environmental reviews.

- Grand Gulf COL application submitted for an ESBWR on February 27, 2008.
  - The NRC completed its acceptance review, published its review schedule, and is currently conducting the safety and environmental reviews.

- Vogtle COL application submitted for two AP1000 units on March 31, 2008.
  - The NRC completed its acceptance review, published its review schedule, and is currently conducting the safety and environmental reviews.

- V.C. Summer COL application submitted for two AP1000 units on March 31, 2008.
  - The NRC completed its acceptance review, published its review schedule, and is currently conducting the safety and environmental reviews.

- Callaway COL application submitted for a U.S. EPR on July 29, 2008.
  - The NRC's formal acceptance review began on August 4, 2008. On October 3, 2008, the staff deferred the decision to docket the application due to application deficiencies that the applicant has not yet adequately addressed.

- Levy County COL application submitted for two AP1000 units on July 30, 2008.
  - The acceptance review began on August 4, 2008. On October 6, 2008, the staff accepted the application for docketing and will publish a review schedule pending resolution of key issues.

- Victoria County COL application submitted for two ESBWR units on September 3, 2008.
  - The acceptance review began on September 4, 2008, and is expected to be completed by November 4, 2008.

- Fermi COL application submitted for an ESBWR on September 19, 2008.
  - The acceptance review began on September 19, 2008, and is expected to be completed by November 19, 2008.

- Comanche Peak COL application submitted for two US-APWR units on

September 19, 2008.
    - The acceptance review began on September 22, 2008, and is expected to be completed by November 19, 2008.

- River Bend COL application submitted for an ESBWR on September 25, 2008.
    - The acceptance review began on September 25, 2008, and is expected to be completed by December 3, 2008.

- Nine Mile Point COL application submitted for an EPR (Unit 3) on September 30, 2008.
    - The acceptance review began on October 6, 2008, and is expected to be completed by December 3, 2008.

The following COL application was submitted during October 2008:

- Bell Bend: October 10, 2008.

Regulatory Infrastructure

The staff continues to perform activities to enhance the efficiency and effectiveness of the review processes for new reactor applications. These activities include updating key guidance documents for NRC activities and application preparation, developing strategies and work products for optimizing the review of applications received, developing a construction inspection program for new construction activities, and continuing activities in the pre-application and DC review processes. The staff has successfully implemented processes and performed acceptance reviews on DC and COL applications and established schedules for the review of the applications.

Examples of recent infrastructure activities include:

- Developed a revised safety evaluation template for the AP1000 COL applications;

- Issued a revised MOU between NRC and the U.S. Army Corps of Engineers on September 19, 2008, regarding environmental reviews for proposed nuclear power plants as well as significant actions at existing plants;

- Continued the development of the contents and user interface improvements for SharePoint as the virtual desktop;

- Developed expanded features of the Agencywide Document Access and Management System (ADAMS) Explorer on SharePoint, such as ADAMS find, check-in, check-out, and profile;

- Prepared for the deployment of Dynamics and Enterprise Interface Gateway Software Modules of Enterprise Project Management (EPM) 2007 to complete the implementation of EPM for use in managing licensing projects and standardizing an electronic approach to manage projects, resource allocations, and project collaboration in the Office of New Reactors (NRO);

- Issued schedules in EPM for 5 Subsequent COLs (SCOL) for a total of 15 active schedules. In addition, NRO was working on developing the schedules for one Referenced COL and 5 additional SCOLs.

- Implemented, and revised as necessary, a Contract Master Plan for NRO and committed $73M in licensing resources in FY 2008;

- Developed a process to update staff standard review guidance and issued 7 updates in FY 2008;

- Issued the proposed rulemaking on aircraft impact assessments to the Commission and completed the lean six sigma process to review the design certification rulemaking process; and

- Negotiated and awarded the fifth design center commercial contract for US-APWR with an award value of $11M.

In addition to making major revisions to its regulations to enhance the licensing processes for new reactors, including Limited Work Authorizations, the NRC has issued a proposed rule that would require assessments of the possible impacts of a large commercial airliner on new reactor designs and the implementation of practical design features to mitigate the effects of such impacts. The staff has evaluated public comments and prepared the draft final rule for consideration by the Commission. The staff is also working with industry experts to develop guidance for the assessments. Another rulemaking is underway to codify additional security requirements that were imposed by orders on the operating nuclear power plants. The revised regulations will be applied to all new reactors.

Construction Inspection Program Developments

The staff continues to make significant progress in the development of programs and procedures to support construction inspection. Several milestones were achieved regarding the development of the construction inspection program:

- Two Inspection Manual Chapters and twenty Inspection Procedures to support inspections of construction activities were completed. The staff is progressing on the remaining Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) procedures and is on track to complete the reviews and updates well in advanced of the anticipated need.

- Stakeholder interactions, including public meetings to develop implementation guidance and outreach meetings in the vicinity of potential new reactor sites, are continuing. The staff has conducted an additional 6 public meetings for a total of 11 meetings during this

FY in the Washington, D.C. area to work through the implementation details associated with ITAAC closure, licensee assessment, enforcement, safety culture for new reactors, and the implementation of the Department of Energy (DOE) standby support rule.

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

- Database that will be used for documentation of inspection results and ITAAC is in final testing and is nearly complete.

- Efforts to collect and share construction related operational experience are progressing. In the international arena, bilateral cooperation activities included sharing construction experience with the Finnish regulators and inspectors completing an assignment at an active construction site in Taiwan.

- Creation of a Working Group on Regulation of New Reactors at the Nuclear Energy Agency. As it relates to the construction inspection program, the NRC has the lead to coordinate international efforts on exchange of construction/operational experience information.

Advanced Reactors

In the area of advanced reactors, the staff continued its efforts to focus its pre-application review efforts on advanced reactor designs in a more integrated manner. Increasing the attention of the staff to these future reactor designs will serve to enhance the effectiveness and efficiency of its advanced reactor activities in the following ways:

- providing the information necessary to develop resource estimates for reviewing the designs for advanced reactors;

- allowing the technical review staff sufficient time to become familiar with advanced reactor design concepts;

- providing feedback on key design, technology, safety research, and licensing issues;

- identifying interrelated or cross-cutting regulatory safety issues and beginning to identify reasonable resolution paths for these issues; and

- identifying technical skills necessary to review these designs and, as appropriate, hire staff and identify potential contractors who possess the requisite knowledge, skills, and abilities.

Further, the NRC and the DOE jointly issued the “Next Generation Nuclear Plant Licensing Strategy” to Congress in August 2008, in accordance with Section 644 of the Energy Policy Act of 2005 (PL 109-58, August 8, 2005). The staff also submitted a paper to the Commission recommending criteria for funding the review of future small, grid-appropriate reactors.

The NRC conducted technical and administrative meetings on the following advanced reactor designs:

- Pebble Bed Modular Reactor
- International Reactor Innovative and Secure
- Super-Safe, Small and Secure (4S) Sodium-Cooled Fast Reactor
- NuScale Reactor

In addition, the staff conducted discussions with members on other advanced reactor designs, including the Hyperion Power Reactor, the Advanced Burner Reactor, and other potential reactor designs.

Organization/Design*	Sites under Consideration **	Planned Applications	Date	Basis
AP1000 (52-006) Certified Design				
Duke (52-018/019)	William S. Lee III Nuclear Station (2) (Cherokee)	COL	Submitted 12/13/2007	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) (520-014/015)	Bellefonte (2)	R-COL	Submitted 10/30/2007	Letters 12/7/2004, 11/17/2005, 7/17/06 (RIS), and 5/31/07 (RIS)
Progress Energy (52-022/023)	Harris (2)	COL	Submitted 2/19/2008	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,FL (2)	COL	Submitted 7/30/2008	Letters 8/24/05 2/1/06; 11/1/05 MtgLetter 7/12/06 (RIS), 5/31/07 (RIS), 3/5/08
South Carolina Electric and Gas (743)	Summer (2)	COL	Submitted 3/31/2008	Letters 12/5/05, 2/10/06, 3/27/08, 7/13/06 (RIS), and 5/30/07 (RIS)
Southern Nuclear Operating Co. (755)	Vogtle (2)	COL	Submitted 3/31/2008	Letters 7/26/05, 8/17/05, 10/18/05 (Mtg. Summary);7/17/06 (RIS), and 5/30/07 (RIS)
Florida Power and Light (763)	Turkey Point (2)	COL	3/2009	Letters 4/3/06, 7/2/07 (RIS),10/26/07 (RIS), and 07/22/08 (RIS)
ESBWR (52-010) Design Certification Application submitted 8/24/05				
Dominion (52-017)	North Anna	R-COL	Submitted 11/27/2007	Letters 11/22/05, 7/17/06 (RIS), 5/31/07 (RIS), 08/09/07
Entergy (745)	River Bend	COL	Submitted 9/30/2008	Letters 12/5/05, 7/17/06 (RIS), and 5/31/07(RIS), 8/8/07 and 3/27/08
NuStart Energy (Entergy) (52-024)	Grand Gulf	COL	Submitted 02/27/2008	Letters 12/7/2007, 11/17/2005, 7/17/06 (RIS), 5/31/07 (RIS), 08/08/07 and 8/9/07
Exelon (761)	Victoria County, TX (2)	COL	Submitted 09/03/2008	Letters 09/29/06, 5/31/07 (RIS), 12/20/07, 6/2/08
Detroit Edison Energy (757)	Fermi	COL	Submitted 09/18/2008	Letters 2/15/07, 5/31/07 (RIS), 11/12/07, 5/16/2008, and 6/9/2008
EPR (52-020) Design Certification Application to be submitted 12/2007				
Alternate Energy Holdings (765)	Hammett, ID	COL	12/2009	Letters 12/14/06, 5/14/07 (RIS), 7/23/07, and 8/14/08 (ML082350154)
Amarillo Power (752)	TBD (2)	COL	4th Qtr 2009	Letters 3/13/06, 7/27/06, 3/15/07, 5/31/07 (RIS) and 5/01/08
AmerenUE (750)	Callaway	COL	Submitted 08/04/2008	Letters 7/12/06, 12/15/06, 4/5/07, 6/1/07, 5/31/07 (RIS) and 5/1/08
PPL Generation (762)	Bell Bend	COL	10/15/2008	Letters 5/24/07, 6/13/07, 9/4/2007, 5/01/08, and 6/30/08

Organization/Design*	Sites under Consideration **	Planned Applications	Date	Basis
Calvert Cliffs 3 Nuclear Project, LLC and Unistar Nuclear Operating Services, LLC (52-016)	Calvert Cliffs Nine Mile Point	R-COL COL	Submitted 1/13/2007 and 3/17/2008 Submitted 9/30/2008	Press Release; 11/2/05 Mtg; Letters 11/4/05, 6/8/06, 6/21/06, 7/13/06 (RIS), 5/31/07 (RIS), and 5/1/08
US ABWR (52-001) Certified Design Application to be Submitted 12/31/2007				
NRG Energy (52-012/013)	South Texas Project (2)	R-COL	Submitted 9/20/07	Letters 6/19/06 and 5/29/07 (RIS)
US APWR (751) Design Certification				
Luminant Generation (754)	Comanche Peak (2)	COL	Submitted 9/19/2008	Letter 6/27/06, 9/7/06, 1/18/07, 3/9/07, 4/9/07, 5/30/07 (RIS) and 2/4/08
Unannounced Technology				
Duke	Davie County, NC Oconee County, SC	ESP ESP	TBD TBD	Letter 3/16/06
Unannounced Applicant	TBD	ESP	10/2011 – 9/2012	Letters 4/5/07 and 7/22/08
Mid American (764)	Boise, ID	COL	Cancelled	Letters 8/28/07, 12/5/07, and 1/28/08
Unannounced Applicant	TBD	COL	3/2010	Letter 1/31/08
Unannounced Applicant	TBD	COL	2010-2011	Letter 4/15/08
Transition Power Blue Castle Project (768)	Utah	ESP/COL	4/2010	Letter 1/30/08

* Numbers in parentheses are Docket Number or Project Number
** Numbers in parentheses are the announced number of units to be built at the site
R-COL: Reference COL