

February 10, 2006

The Honorable George V. Voinovich
Chairman, Subcommittee on Clean Air,
Climate Change, 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. Previous reports were provided to you on a monthly basis, in accordance with the FY 2005 Energy and Water Development Appropriations Act, House Reports 108-554 and 108-792. 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 transmit the eighty-fifth report, which covers the month of December 2005. The next report will cover the first quarter of calendar year 2006.

I am also providing in this cover letter the following additional information in order to keep you fully and currently informed of NRC's licensing and regulatory activities:

On January 23, 2006, Progress Energy Carolinas, a Progress Energy subsidiary, announced that it has selected its Harris Nuclear Plant site near New Hill, North Carolina, to evaluate for possible future nuclear generation expansion. The site is about 20 miles southwest of Raleigh in western Wake County. The company also expects to select a site in Florida by the end of March 2006.

On February 1, 2006, the NRC formally presented to Westinghouse the certification for the AP1000 standard plant design. The final AP1000 design certification rule was published in the Federal Register (71 FR 4464) on January 27, 2006, and amends 10 CFR Part 52 to certify the AP1000 standard plant design. Future applicants for a new plant license may reference a certified design. In deciding whether to issue a license, the Commission will treat as resolved those issues settled in the certified design rule making for a more efficient licensing process.

I also want to inform you of the agency's progress in implementing the Energy Policy Act of 2005. On January 31, 2006, the NRC issued a Confirmatory Order to Entergy Corporation, the licensee for the Indian Point Nuclear Power Plant, that requires Entergy to install back-up power to the emergency notification system at its nuclear facility located 25 miles north of New York City. NRC used the Confirmatory Order process in this instance to expedite implementation of the mandatory statutory provisions of the Energy Policy Act of 2005, Section 651(b) - Backup Power for Certain Emergency Notification Systems.

Please do not hesitate to contact me if I may provide additional information.

Sincerely,

/RA/

Nils J. Diaz

Enclosure:
Monthly Status Report on the Licensing Activities
and Regulatory Duties of the U.S. NRC, December 2005

cc: Senator Thomas R. Carper

Identical letter sent to:

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

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

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

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

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

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

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

DECEMBER 2005

Enclosure

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¹Note: The period of performance covered by this report includes activities occurring between the first and last day of December 2005. 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.

I Implementing Risk-Informed Regulations

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

Risk-informed requirements for emergency core cooling systems are also being developed. The NRC published a proposed rule for risk-informing these requirements on November 7, 2005, with a 90-day public comment period. An industry group, the Nuclear Energy Institute (NEI), has requested that the comment period be extended by 30 days. Final rules are usually issued about nine months after a proposed rule.

Broad efforts to transform the overall deterministic structure of NRC regulations into a new format based on the use of risk information are also in progress. Since 2003, the NRC has been working on a regulatory structure for new plant licensing that would result in risk-informed, technology-neutral regulations for licensing of future nuclear power reactor designs. The staff expects the first part of the program, developing the guidance and criteria for establishing the regulations, to be ready for stakeholder review in mid-2006. NRC is also investigating whether this risk-informed, technology-neutral regulatory structure should apply or be available to risk-inform the current regulations on light water reactors in 10 CFR Part 50.

II Reactor Oversight Process

The NRC continues to implement the Reactor Oversight Process (ROP) at all nuclear power plants. The NRC continues to meet with interested stakeholders on a periodic basis to collect feedback on the effectiveness of the process and to consider the feedback for future ROP refinements. Recent activities include the following:

- On December 6, 2005, the staff hosted the monthly Mitigating Systems Performance Index (MSPI) public meeting. Meeting attendees discussed MSPI guidance clarifications and revisions, resolution of several open technical issues, process finalization for the January 2006 industry peer review, and a process for conducting and resolving MSPI component outliers and generic issues. Attendees also discussed a schedule and timeline for completing the remaining milestones and activities before April 1, 2006, the scheduled implementation date of MSPI.

III Status of Issues in the Reactor Generic Issue Program

On December 16, 2005, Generic Issue (GSI)-188, "Steam Generator Tube Leaks/Ruptures Concurrent with Containment Bypass," was closed. GSI-188 addressed the concern for dynamic loads induced in steam generator (SG) tubes from a main steam line break (MSLB) or other secondary side breaches that could lead to growth of cracks and increased SG tube leakage or ruptures outside the range of analyses and experiments. The staff conducted a technical assessment and concluded that dynamic loads and resonance vibrations following an MSLB are low and have little impact on the growth of existing cracks beyond the effects of differential pressure stress. Consequently, the staff determined that the issue would not be pursued further, and GSI-188 was closed with no changes to existing regulations or guidance.

All other GSIs continue to be on track in accordance with the 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) 2006 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 generic letters or bulletins, NRC responses to 10 CFR 2.206 petitions, NRC review of generic topical reports, responses by the Office of Nuclear Reactor Regulation to regional 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 2006 NRC Performance Plan incorporates one output measure related to other licensing tasks -- the number of other licensing tasks completed.

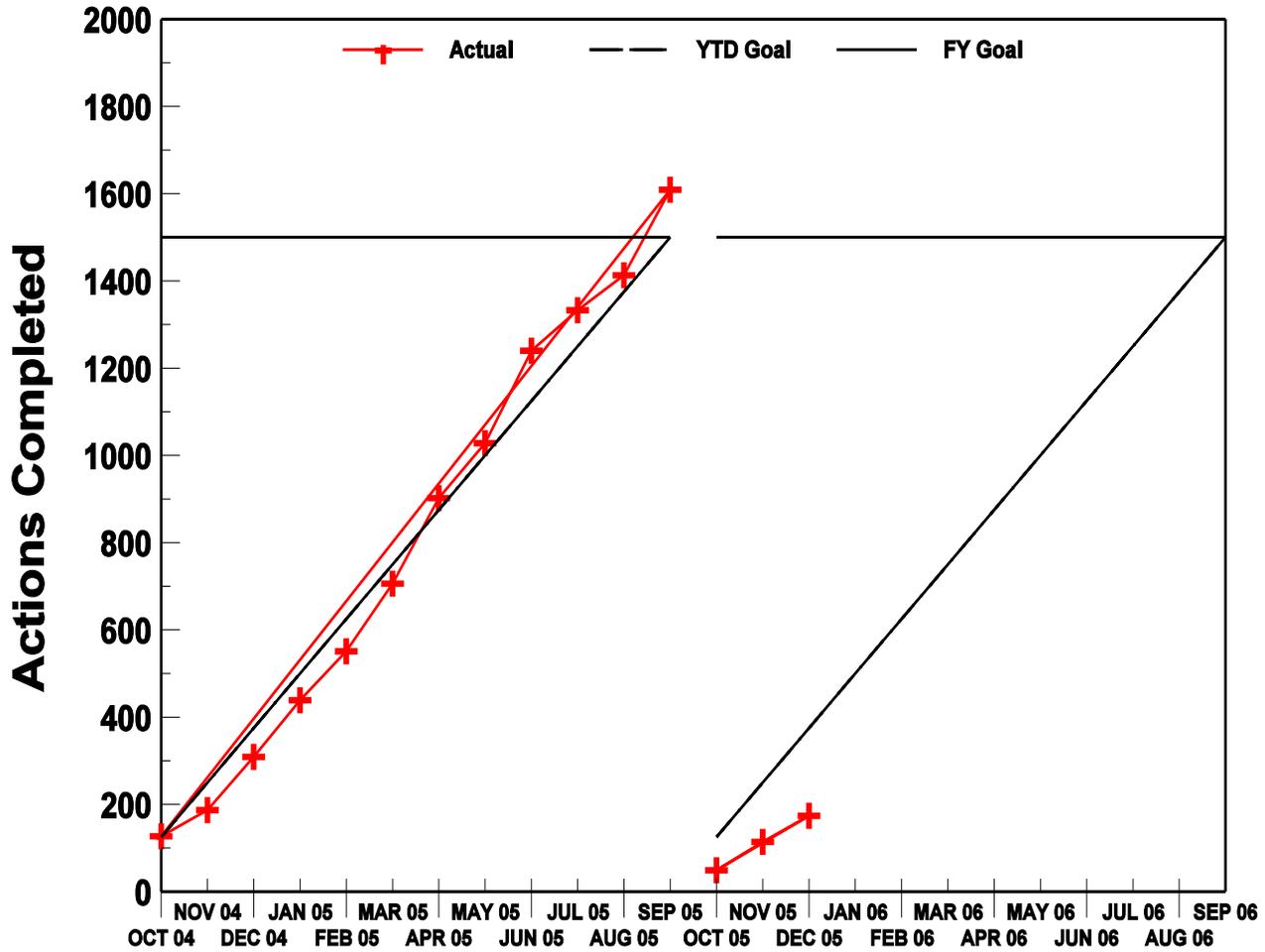
The actual FY 2004 and FY 2005 results, the FY 2006 goals, and the actual FY 2006 results for the three NRC Performance Plan output measures for operating power reactor licensing actions and other licensing tasks are shown in the following table.

| PERFORMANCE PLAN | | | | |
|--------------------------------------|-------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| Output Measure | FY 2004 Actual | FY 2005 Actual | FY 2006 Goals | FY 2006 Actual (thru 12/31/2005) |
| Licensing actions completed/year | 1741 | 1609 | ≥ 1500 | 174 |
| Age of licensing action inventory | 91% ≤ 1 year; and 100% ≤ 2 years | 92.6% ≤ 1 year; and 99.9% ≤ 2 years | 96% ≤ 1 year and 100% ≤ 2 years old | 86.3% ≤ 1 year; and 99.2% ≤ 2 years |
| Other licensing tasks completed/year | 671 | 715 | ≥ 500 | 207 |

The charts on the following pages show NRC's FY 2006 trends for the three operating power reactor licensing action and other licensing task output measure goals:

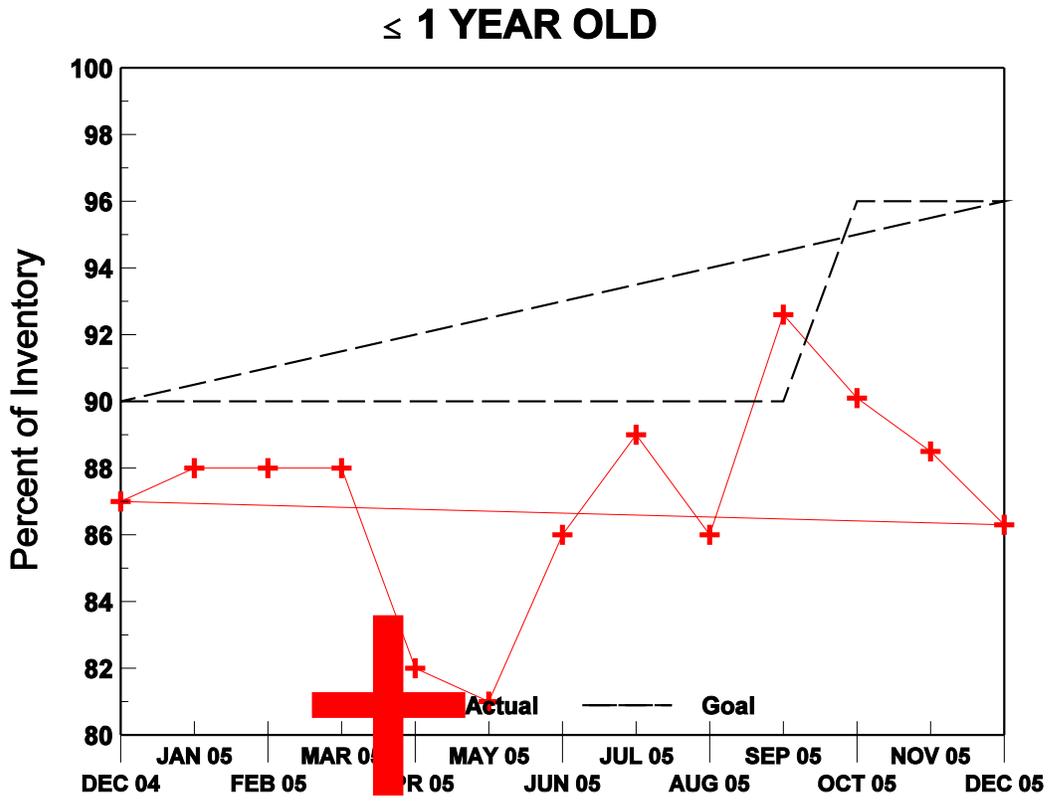
Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Completed Licensing Actions



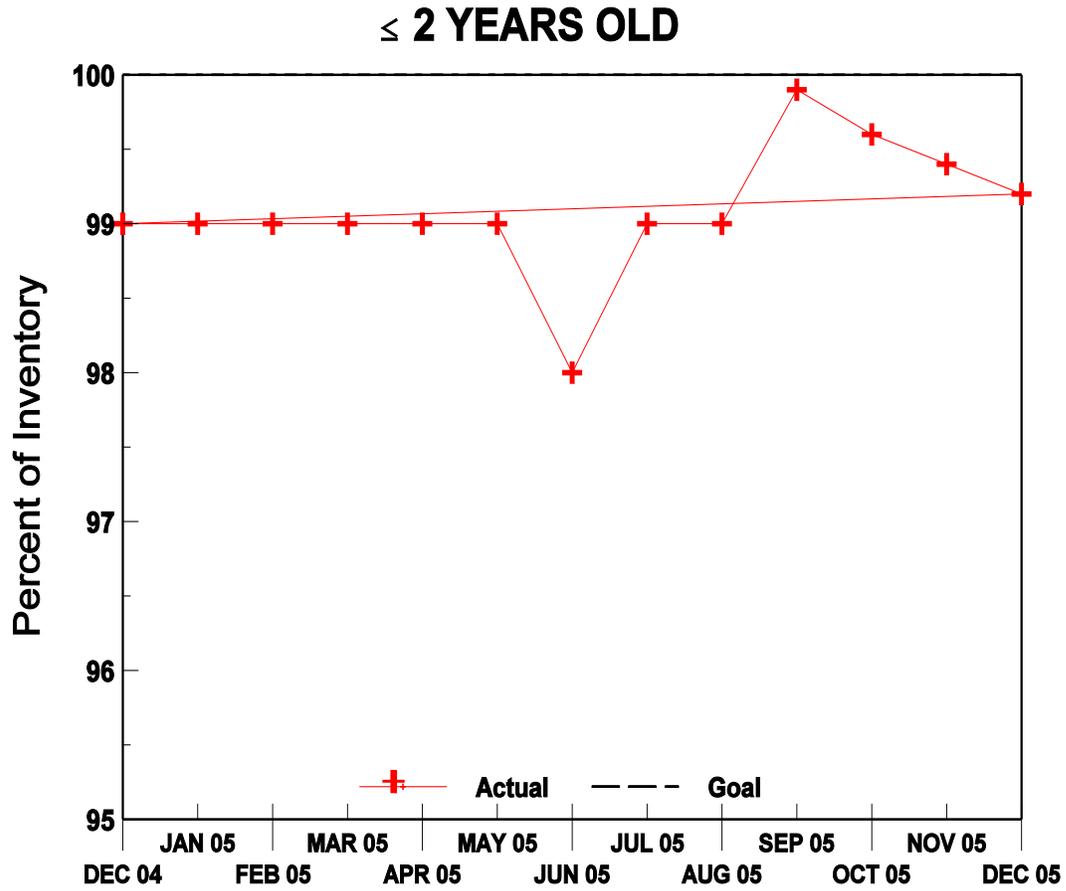
Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Age of Licensing Action Inventory



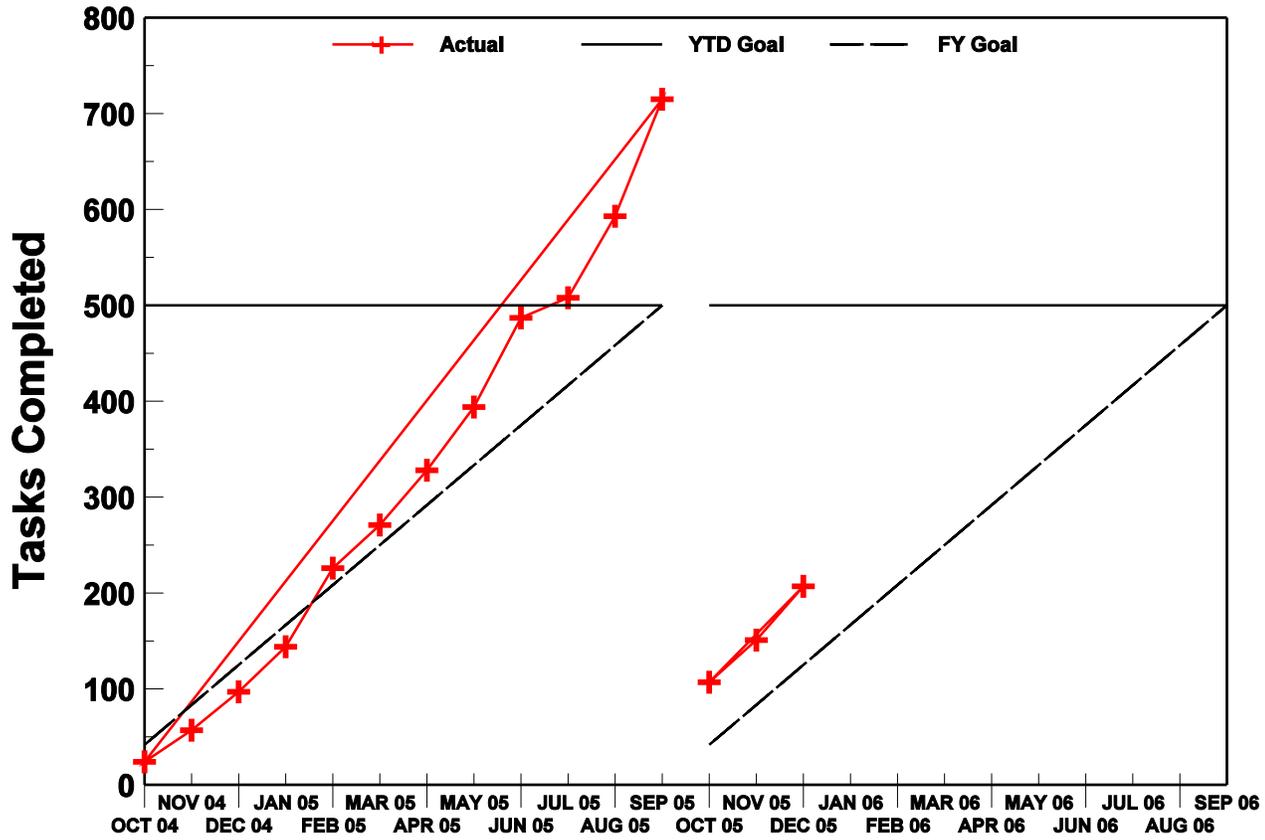
Nuclear Reactor Safety - Reactor Licensing

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

Browns Ferry, Units 1, 2, and 3, License Renewal Application

The staff issued the final supplemental environmental impact statement (SEIS) in June 2005 and the draft safety evaluation report (SER), identifying remaining open items, in August 2005. The applicant's responses to the open items were received in September 2005. The staff is reviewing the applicant's responses and anticipates issuing the final SER in January 2006.

Point Beach, Units 1 and 2, License Renewal Application

The facility operating licenses for Point Beach, Units 1 and 2, were renewed on December 22, 2005, for an additional 20 years. The Point Beach plant is located in Two Rivers, Wisconsin. The licensee, Nuclear Management Company, LLC, submitted the license renewal application for both reactors on February 26, 2004. With the renewal, the licenses for Units 1 and 2 are extended until October 5, 2030, and March 8, 2033, respectively.

Nine Mile Point, Units 1 and 2, License Renewal Application

The staff issued the draft SEIS for public comment in September 2005, and the public comment period ended in December 2005. The staff is addressing the comments received and anticipates issuing the final SEIS in May 2006. As part of the safety review, the staff is preparing requests for additional information and reviewing the licensee's responses. The draft SER, identifying any remaining open items, is scheduled to be issued in March 2006.

Brunswick, Units 1 and 2, License Renewal Application

The staff issued the draft SEIS for public comment in August 2005, and the public comment period ended in December 2005. The staff is addressing the comments received and anticipates issuing the final SEIS in April 2006. The draft SER was issued in December 2005, and the licensee's comments are due in February 2006.

Monticello License Renewal Application

The Monticello license renewal application is currently under review, and the staff is preparing requests for additional information and reviewing the licensee's responses. The draft SEIS is scheduled to be issued in February 2006, and the draft SER, identifying any remaining open items, is scheduled to be issued in April 2006. A request for hearing has been received in response to the NRC's notice of opportunity for hearing, and an Atomic Safety and Licensing Board (ASLB) has been established.

Palisades License Renewal Application

The Palisades license renewal application is currently under review, and the staff is preparing requests for additional information. The draft SEIS is scheduled to be issued in February 2006 and the draft SER, identifying any remaining open items, is scheduled to be issued in June 2006. A request for hearing has been received in response to the NRC's notice of opportunity for hearing and an ASLB has been established.

Oyster Creek License Renewal Application

The Oyster Creek license renewal application is currently under review, and the staff is preparing requests for additional information and reviewing the licensee's responses. The draft SEIS is scheduled to be issued in June 2006, and the draft SER, identifying any remaining open items, is scheduled to be issued in October 2006. A request for hearing has been received in response to the NRC's notice of opportunity for hearing.

VI Status of Review of Private Fuel Storage, Limited Liability Corporation's Application for a License to Operate an Independent Spent Fuel Storage Installation on the Reservation of the Skull Valley Band of Goshute Indians

This proceeding involves the application of Private Fuel Storage, L.L.C. (PFS) to construct and operate an independent spent fuel storage installation on the reservation of the Skull Valley Band of Goshute Indians in Skull Valley, Utah. On September 9, 2005, the Commission issued a Memorandum and Order, CLI-05-19, in which it (a) denied the State of Utah's petition for review of ASLB's February 24, 2005 Final Partial Initial Decision and other decisions on aircraft crash issues, and (b) authorized the NRC staff, upon making the requisite findings on all non-contested issues, to issue a license to PFS to construct and operate its proposed facility.

On November 3, 2005, the State of Utah filed a motion with the Commission to reopen the record and to amend late-filed Contention Utah UU, based upon recent statements by officials within the U.S. Department of Energy (DOE) concerning DOE's current intention to accept spent fuel in multipurpose canisters at the proposed Yucca Mountain repository. PFS and the NRC staff have filed responses in opposition to the State's motion.

Petitions for review of the NRC's September 9, 2005 decision and certain other decisions in the PFS proceeding have been filed before the U.S. Court of Appeals for the District of Columbia Circuit by the State of Utah and another Intervener in the NRC's adjudicatory proceeding. The NRC recently filed an unopposed motion to hold the case in abeyance until after the Commission acts on Utah's motion to reopen.

The NRC, the Bureau of Land Management (BLM), the Bureau of Indian Affairs, and the Surface Transportation Board have worked together to fulfill each agency's National Historic Preservation Act Section 106 obligations, leading to the development of a Memorandum of Agreement (MOA) for the protection of historic and cultural resources, and draft treatment and discovery plans to ensure the mitigation of any adverse impact to such resources. All necessary parties have signed the MOA, with the exception of BLM and the Utah State Historic Preservation Officer, who have declined to sign the MOA at this or any time in the foreseeable future. Accordingly, the NRC, by letter dated November 22, 2005, notified the Advisory Council on Historic Preservation (ACHP) that NRC is terminating the Section 106 consultation process, pursuant to 36 C.F.R. § 800.7, and will continue with the licensing process in keeping with these regulations.

VII Enforcement Process and Summary of Reactor Enforcement by Region

Reactor Enforcement by Region

| Reactor Enforcement Actions* | | | | | | |
|--------------------------------------|-----------------|----------|-----------|----------------|-----------|-------|
| | | Region I | Region II | Region III | Region IV | TOTAL |
| Severity Level I | December 05 | 0 | 0 | 0 | 0 | 0 |
| | FY 06 YTD Total | 0 | 0 | 0 | 0 | 0 |
| | FY 05 Total | 0 | 0 | 2 | 0 | 2 |
| | FY 04 Total | 0 | 0 | 0 | 0 | 0 |
| Severity Level II | December 05 | 0 | 0 | 0 | 0 | 0 |
| | FY 06 YTD Total | 0 | 0 | 0 | 0 | 0 |
| | FY 05 Total | 0 | 0 | 2 | 0 | 2 |
| | FY 04 Total | 0 | 1 | 0 | 0 | 1 |
| Severity Level III | December 05 | 0 | 0 | 1 | 0 | 1 |
| | FY 06 YTD Total | 0 | 0 | 3 ² | 0 | 3 |
| | FY 05 Total | 2 | 1 | 3 | 2 | 8 |
| | FY 04 Total | 1 | 2 | 4 | 0 | 7 |
| Cited Severity Level IV or GREEN | December 05 | 0 | 0 | 0 | 0 | 0 |
| | FY 06 YTD Total | 0 | 0 | 0 | 0 | 0 |
| | FY 05 Total | 6 | 0 | 4 | 0 | 10 |
| | FY 04 Total | 1 | 0 | 2 | 3 | 6 |
| Non-Cited Severity Level IV or GREEN | December 05 | 5 | 2 | 4 | 3 | 14 |
| | FY 06 YTD Total | 42 | 34 | 80 | 55 | 211 |
| | FY 05 Total | 239 | 197 | 300 | 282 | 1018 |
| | FY 04 Total | 271 | 175 | 290 | 301 | 1037 |

* Numbers of violations are based on enforcement action tracking system data that may be subject to minor changes following verification. The numbers shown as Severity Level I, II, III

² The FY 06 YTD Total for Region III was increased by one in order to reflect a correction in the November 2005 data. A description of the applicable event is also included the Addition to Description of Significant Actions Taken During November 2005 section.

or IV refer to the number of Severity Level I, II, III, and IV violations or problems. The monthly totals generally lag by 30 days due to inspection report and enforcement development.

| Escalated Reactor Enforcement Actions Associated with the Reactor Oversight Process | | | | | | |
|------------------------------------------------------------------------------------------------|--------------------|----------|-----------|------------|-----------|-------|
| | | Region I | Region II | Region III | Region IV | TOTAL |
| Notices of Violation Related to RED, YELLOW, or WHITE Findings | December 05 RED | 0 | 0 | 0 | 0 | 0 |
| | December 05 YELLOW | 0 | 0 | 1 | 0 | 1 |
| | December 05 WHITE | 0 | 0 | 1 | 0 | 1 |
| | FY 06 YTD Total | 0 | 0 | 2 | 0 | 2 |
| | FY 05 Total | 5 | 4 | 5 | 1 | 15 |
| | FY 04 Total | 3 | 4 | 7 | 6 | 20 |

Description of Significant Actions Taken During December 2005

Dominion Energy Kewaunee, Inc. (Kewaunee Power Station) EA-05-176 - On December 21, 2005, a Notice of Violation was issued for a violation associated with a Yellow Significance Determination Process (SDP) finding involving the licensee’s failure to ensure that the safety-related function of the auxiliary feedwater pumps, the 480-volt safeguards buses, the safe shutdown panel, the emergency diesel generators, and the 4160-volt safeguards buses (each Class 1 systems or components) would be protected from serious flooding or excessive steam releases as a result of random or seismically induced failures of non-Class 1 systems in the turbine building. The violation cited the licensee’s failure to implement design control measures as specified in 10 CFR Part 50, Appendix B, Criterion III, “Design Control.”

Pacific Gas & Electric Company (PG&E) (Humboldt Bay Unit 3) EA-05-166 - On December 20, 2005, NRC staff proposed a \$96,000 civil penalty against Pacific Gas & Electric Company (PG&E) for violations of NRC requirements related to the storage of spent radioactive fuel and other radioactive material in the spent fuel storage pool at the decommissioned Humboldt Bay Unit 3 nuclear power plant near Eureka, California. The violations originated from a July 2004 PG&E report to the NRC, which indicated that the company could not locate three 18-inch segments of fuel rod removed from the reactor in 1968 and could not account for radioactive incore detectors after some were cut in 1973. The NRC identified three violations: (1) failure to keep adequate records of nuclear material inventory, transfer or disposal, (2) failure to establish adequate procedures for control and accounting of special nuclear material, and (3) failure to conduct adequate physical inventories of special nuclear material. NRC staff determined that it was highly unlikely that the missing fuel or incore detectors were stolen or pose any public risk. NRC staff also concluded that the materials had most likely been shipped to a licensed low-level waste disposal site in the United States.

Nuclear Management Company, LLC (Point Beach Nuclear Plants, Units 1 and 2) EA-05-192 - On December 16, 2005, a Notice of Violation was issued for a violation associated with a White SDP finding. The violation of 10 CFR 50.47 associated with a White finding involved the licensee's failure to self-identify the untimely declaration of an Alert classification during an August 2002 emergency preparedness drill.

Nuclear Management Company, LLC (Point Beach Nuclear Plants, Units 1 and 2) EA-05-191 - On December 16, 2005, a Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$60,000 was issued for a Severity Level III violation of 10 CFR 50.9 involving the licensee's failure to provide accurate information to the NRC associated with a critique of an August 2002 emergency preparedness drill.

Addition to Description of Significant Actions Taken During November 2005³

Indiana Michigan Power (D.C. Cook 1 & 2) EA-05-171 - On November 23, 2005, a Notice of Violation and Proposed Imposition of a Civil Penalty in the amount of \$60,000 was issued for a Severity Level III problem involving the licensee's failure to provide complete and accurate information and failure to meet reporting requirements regarding NRC-licensed operators at the D.C. Cook Nuclear Plant. Specifically, the licensee: (1) failed to provide complete and accurate information to the NRC concerning corrective actions associated with a previous Severity Level III violation (EA-04-109); (2) failed to notify the NRC within 30 days of NRC-licensed operators experiencing a permanent disability or illness; and (3) failed to provide complete and accurate information concerning the medical condition of individuals on new or renewal NRC reactor operator license applications.

VIII 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 the security at nuclear power plants. A series of Advisories, Orders, and Regulatory Issue Summaries have been and, as needed, continue to be issued to strengthen further the security of NRC-licensed facilities and control of nuclear materials.

In March 2003, the NRC initiated a pilot program for full force-on-force exercises, which used expanded adversary characteristics that were developed as a result of the increased post 9/11 threat. The pilot was completed, and NRC is now implementing exercises at each site on a three-year cycle. The purpose of the force-on-force exercises is to assess and improve, as necessary, performance of defensive strategies at licensed facilities. The NRC retains responsibility for oversight of the mock adversary force and evaluation of licensee performance. Measures have been established to minimize any possibility for a conflict of interest with respect to responsibilities for physical protection. To date, mock adversary force personnel have performed adequately in the force-on-force exercises in which they have participated.

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,

³This event description was added in order to reflect a correction in the November 2005 data. The FY 06 YTD Total for Region III was also increased by one in order to reflect the same correction.

and others to develop plans to address recommended actions. Working closely with licensees and DHS, the staff also developed Emergency Action Levels specifically for events involving credible imminent threats.

The NRC has completed the site-specific spent fuel pool assessments that were begun on July 5, 2005, and issued the last of the assessment reports on December 16, 2005. Responses to the reports from each facility are due to the NRC by February 14, 2006. The NRC conducted these assessments to identify additional mitigation strategies to enhance the spent fuel pool cooling safety function under severe circumstances challenging the functional capabilities of the plant. In addition, the NRC has completed structural analysis on one spent fuel pool and is continuing with the structural analysis of an additional pool to provide further insight into spent fuel pool structural safety margin. The remaining analysis will be completed in January 2006.

On August 26, 2005, the NRC published for public comment (70 FR 50442) a proposed rule on fitness-for-duty (10 CFR Part 26), including both drug/alcohol testing and fatigue-related provisions. The comment period ended on December 27, 2005. The principal reason for the rulemaking is to update the rule and enhance consistency with advances in other relevant Federal rules and guidelines. The proposed rulemaking would update the drug and alcohol testing provisions and establish enforceable requirements of the management of worker fatigue. On September 21, 2005, the NRC conducted a public workshop on the proposed rule. On November 7 and 9, NRC conducted public meetings in Morris, Illinois, and Charlotte, North Carolina, to receive public comments on the proposed Part 26 rulemaking. On December 15, NRC conducted a public meeting at NRC headquarters to obtain clarifications on an industry proposal for an alternative approach to the work hour portion of the proposed rule. Comments from the public will be addressed during development of the final rule.

On November 7, 2005, the NRC published a proposed rule on the Design Basis Threat (DBT) (10 CFR 73.1). The rule was published for public comment with the comment period ending on January 23, 2006. This rulemaking specifies the adversary characteristics that nuclear power plants and certain related facilities must be able to defend against with high assurance. The proposed rule would amend the NRC's regulations to, among other things, include the supplemental security requirements previously imposed by the Commission's DBT Orders of April 29, 2003.

In December 2005, the NRC staff completed the review of Nuclear Energy Institute (NEI) 04-04, "Cyber Security Program for Power Reactors," Revision 1, dated November 18, 2005, and prepared a letter to NEI endorsing NEI 04-04 as an acceptable method for establishing and maintaining a cyber security program at nuclear power plants.

IX 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 (SPUs) 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 (EPUs) are power uprates beyond the design capacity of the plant and, thus, require major plant modification.

Licensees have been applying for and implementing power uprates since the 1970s as a way to increase the power output of their plants. The NRC staff has been conducting power uprate reviews since then and has completed 107 such reviews to date. Approximately 13,478 megawatts-thermal (MWt) or 4,492 megawatts-electric (MWe) to the Nation's electric generating capacity or an equivalent of about four nuclear power plant units has been gained through implementation of power uprates at existing plants. The NRC staff currently has 12 plant-specific power uprate applications under review. The 12 applications under review include four MUR power uprates, no SPUs, and eight EPUs.

The Vermont Yankee (VY) EPU was submitted on September 10, 2003. The NRC did not complete this review by the end of FY 2005 and, therefore, did not meet the goal of completing 100 percent of its reactor licensing actions within 2 years. The scheduled review of the VY EPU was extended to allow a thorough review of key technical issues associated with the safe operation at the new power levels. On October 21, 2005, the NRC staff provided its draft SER of the VY EPU application to the NRC Advisory Committee on Reactor Safeguards (ACRS) and to the licensee in support of ACRS subcommittee meetings on the VY EPU that took place in November 2005 and an ACRS full-committee meeting on the VY EPU in December 2005. After the NRC staff issues a final SER, currently scheduled for February 24, 2006, the ASLB will hold a hearing to address litigation issues.

Regarding the Calvert Cliffs 1 & 2 and Fort Calhoun MUR power uprates, which were submitted on January 31 and March 31, 2005, respectively, the NRC did not complete the reviews within six months, which is the timeliness goal for MUR power uprates that are based on the use of NRC-approved methodologies for feedwater flow measurement. The scheduled reviews have been extended because the licensees chose not to use NRC-approved methodologies.

In June 2005, the NRC staff surveyed all licensees to obtain information on whether they planned to submit power uprate applications over the next 5 years. Based on this survey and information obtained since the survey, licensees plan to request power uprates for 18 nuclear power plant units over the next 5 years. If approved, these power uprates will result in an increase of about 3,832 MWt or approximately 1,277 MWe.

X New Reactor Licensing

The NRC expects to license the next generation of nuclear power plants using Part 52 to Title 10 of the *Code of Federal Regulations*, (10 CFR Part 52). 10 CFR Part 52 governs the issuance of standard design certifications, early site permits (ESP) and combined licenses for nuclear power plants.

Design Certifications and Pre-Application Meetings

On August 24, 2005, General Electric (GE) submitted its design certification application for the Economic Simplified Boiling Water Reactor (ESBWR) design. By letter dated September 23, 2005, the NRC staff informed GE that the acceptance review for the ESBWR design certification application was complete, that the staff concluded that portions of the application are not sufficiently complete for the staff to begin its review of those areas, and that the application will not be formally accepted for docketing until additional information is provided. On October 24, 2005, GE responded to the deficiencies identified by the NRC staff. By letter

dated December 1, 2005, the NRC staff informed GE that the ESBWR design certification application, as supplemented, is considered sufficiently complete to be accepted formally as a docketed application for design certification. The NRC staff also informed GE that a schedule has been established for the design certification review. Based on GE's commitments to provide additional supporting information, a milestone of October 11, 2007, was established for issuance of the SER with open items. Based on experience with previous design certifications, a 15 month period is assumed for closure of the open items and issuance of the final design approval, and a 12 month period is assumed for the design certification rulemaking.

On January 10, the NRC staff is scheduled to meet with representatives of Framatome ANP to discuss the pre-application review for the EPR.

Pebble-bed modular reactor (PBMR) (Pty) Ltd. continues to engage the NRC staff in planning discussions to prepare for the PBMR design. PBMR (Pty) Ltd. intends to pursue a design certification under 10 CFR Part 52. The company has also stated that it intends eventually to seek deployment of the PBMR in the U.S. PBMR (Pty) Ltd. expects to submit detailed white papers on a number of technical topics and support the submittals with educational sessions and topical workshops for NRC staff. PBMR (Pty) Ltd.'s most recent schedule projections show the pre-application phase to extend to the end of 2007 or early 2008, followed by a design certification application in 2008. The NRC staff met with PBMR (Pty) Ltd.'s on December 12, 2005, to discuss the detailed scope and schedules for topical reports submittals and workshops in support of pre-application.

On December 30, 2005, the Commission voted unanimously to approve the final design certification rule for the AP1000 standard plant design. The rule is currently under review by the Office of Management and Budget and when approved, will be sent to Office of the Federal Register for publication in the *Federal Register*. The rule certifying the design will become effective 30 days after it is published in the *Federal Register*. The certification will be the fourth issued under Part 52 and will be valid for 15 years.

Early Site Permits

The staff is currently reviewing three ESP applications. Dominion Nuclear North Anna, LLC (Dominion) submitted an ESP application in September 2003 for its North Anna site, located in Louisa County, Virginia. The final SER for the North Anna ESP was issued on June 16, 2005. On October 25, 2005, Dominion notified the staff that it was changing the design of the cooling system for proposed Unit 3 from a once through cooling system to a closed cooling system. The change was made to address the water usage concerns expressed by the Commonwealth of Virginia and local citizens. The change will require revisions to the application, the environmental impact statement (EIS), and the final safety evaluation report. On December 5, the staff notified Dominion by letter that the staff will not issue the final environmental impact statement on December 23, 2005, due to Dominion's recent change to the cooling water system. As noted in their November 22, 2005 letter to the staff, Dominion is planning to submit a supplement to the application on January 13, 2006, with the cooling water system change. The staff will provide Dominion a new schedule shortly after receipt of the supplement.

In September 2003, Exelon Generation Company, LLC, submitted an ESP application for its Clinton site, located in Harp Township, DeWitt County Illinois. The NRC staff issued the draft SER for the Exelon ESP application for the Clinton site on February 10, 2005. The staff issued

the supplemental draft SER with open items on August 26, 2005. The final SER is scheduled to be issued on February 17, 2006.

System Energy Resources Inc. (SERI) submitted an ESP application in October 2003 for its Grand Gulf site located in Claiborne County, Mississippi. On October 21, 2005, the staff issued the final SER for the Grand Gulf ESP application. On December 8, 2005, the staff briefed the Full Committee of the ACRS regarding the staff's safety review of the SERI ESP application.

All three applications require an EIS. The North Anna draft EIS was issued on December 10, 2004, the Clinton draft EIS was issued on March 2, 2005, and the Grand Gulf draft EIS was issued on April 21, 2005. The staff is scheduled to issue the final EIS for the Grand Gulf site in April 2006 and for the Clinton site in July 2006.

Combined License

On August 17, 2005, Southern Nuclear Operating Company notified the NRC staff that Georgia Power Company had directed them to pursue an ESP/Combined License (COL) at the Vogtle Electric Generating Plant site, located near Waynesboro, Georgia. Southern is scheduled to submit an ESP application in August 2006 and their COL application in March 2008.

AREVA and Constellation Energy announced on September 15, 2005, the formation of UniStar Nuclear. This joint enterprise is intended to provide a single source for design, construction, and operation of new nuclear plants. UniStar Nuclear will market the EPR reactor design. AREVA and Constellation each own half of Unistar. By letter dated November 4, 2005, Constellation Energy and Framatome notified the NRC staff that an application for certification of the EPR is planned at the end of 2007, with a combined license application referencing EPR following about 6 months later. An additional COL application is planned about a year later. An announcement of the site for the first application is planned for early 2006. On January 25, 2006, the staff will meet with UniStar - Constellation to discuss pre-application activities.

By letter dated August 24, 2005, Progress Energy notified the NRC staff that they expect to identify both a site and a vendor by the end of calendar year 2005, with the potential submittal of an application for a Combined License in the first quarter of calendar year 2008. Progress Energy stated that they had not yet selected a technology or the specific sites, which could be greenfield or existing sites. They would use the same technology at both sites, and the applications would be for dual units at both sites. On December 19, 2005, Progress Energy issued a press release stating that their decision has been delayed and may not occur until March 2006.

On November 15, 2005, the NRC staff met with Entergy Nuclear to discuss planning related to COL applications for their Grand Gulf and River Bend sites. The Grand Gulf application is scheduled to be submitted in either fourth quarter 2007 or first quarter 2008, and the River Bend application is scheduled for approximately 6 weeks after the Grand Gulf submittal. The Grand Gulf application will be a joint venture with NuStart and will be referencing their ESP, and both submittals will be referencing the GE ESBWR. Entergy stated that they are working with Dominion Nuclear, which is also referencing the ESBWR design, to submit a standardized COL application, and are working with GE on the certification of the ESBWR design. On December 5, 2005, Entergy Nuclear submitted a letter to the NRC staff to initiate pre-application activities.

On September 22, 2005, NuStart Energy announced that it had selected Grand Gulf and Bellefonte as the two sites it will use for applications for combined licenses for new nuclear plants. The Grand Gulf site was designated for the GE ESBWR design and the Bellefonte site for the Westinghouse Advanced Passive 1000 reactor design. In its letter dated November 17, 2005, NuStart announced that it would be preparing a dual unit COL application for the Bellefonte site, which is scheduled to be submitted during the fourth quarter 2007, and a single unit COL application for Grand Gulf site, which is scheduled for fourth quarter 2007 or first quarter 2008.

On December 5, 2005, South Carolina Electric and Gas (SCE&G) submitted a letter of intent to pursue new nuclear capacity. SCE&G plans to identify a site and select a reactor technology very early in 2006. A COL application will be for two units, and is targeted for submittal in the third quarter of 2007.

Regulatory Infrastructure

On November 3, 2005, the Executive Director for Operations issued SECY-05-0203, "Revised Proposed Rule to Update 10 CFR Part 52, Licenses, Certifications, and Approvals for Nuclear Power Plants." SECY-05-0203 requests Commission approval to publish in the *Federal Register* proposed revisions to 10 CFR Part 52 as well as changes throughout the NRC's regulations to enhance the NRC's regulatory effectiveness and efficiency in implementing the licensing and approval processes in Part 52 and to clarify the applicability of various requirements to each of the regulatory processes in Part 52. This rulemaking to enhance 10 CFR Part 52 is based on lessons learned during design certification and ESP reviews and on discussions with stakeholders about the ESP, design certification, and combined license review processes. This revised proposed rule would withdraw and supersede the Commission's July 3, 2003 (68 FR 40026) proposed rule on 10 CFR Part 52.

On December 1 and 2, 2005, NRC staff participated in a public meeting with the NEI Combined License Task Force. During the meeting, staff stated that they are developing a COL application regulatory guide based on Regulatory Guide 1.70, "Standard Form and Content of Safety Analysis Reports for Nuclear Power Plants." A draft of the regulatory guide is scheduled to be issued in June 2006 and the final in early 2007. Work-in-progress versions of each chapter of the regulatory guide will be placed on the NRC website between February and June 2006. The NEI Combined License Task Force has requested to have periodic meetings to discuss draft chapters after they are placed on the NRC website.

On December 13, 2005, NRC staff met with the New Plant Oversight Committee (NPOC) in a public meeting. The members of NPOC are the Chief Nuclear Officers of companies with expressed interest in new plant construction, currently including Constellation Generation, Dominion, Duke Energy, Entergy, Exelon, Progress Energy, Scana (SCE&G), and TVA. NEI is an ex-officio member. The discussion covered proposed strategies for managing the large workload associated with new reactor applications. Both NRC staff and NPOC agreed on the importance of standardization of designs and applications, and on mechanisms for early resolution of issues.

The NRC staff hosted the inspection, test, analysis, and acceptance criterion/criteria (ITAAC) Matrix Population expert panel on December 12-16, 2005, to populate the ITAAC inspection

matrix for two certified designs, the ESBWR and the AP1000. The matrix groups individual ITAACs based on construction processes and NRC inspection activities. This effort is a major component of the construction inspection program for new reactors because it supports the NRC determination of the successful completion of all ITAACs.

In January 2006, the NRC staff is scheduled to issue to the Commission the staff's plan for development and implementation of a new 10 CFR Part 50 that is risk-informed and performance-based. The plan will include the issuance of an Advance Notice of Proposed Rulemaking (ANPR) for this new Part 50. It is anticipated that this ANPR will be issued in 2006.

**New Reactor Licensing Activities
As of December 31, 2005**

| Organization | Designs endorsed or under consideration | Sites under Consideration | Planned Applications | Date | Basis |
|------------------------|------------------------------------------------|--------------------------------------------|-----------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------|
| GE | ESBWR | | Design Certification | 8/25/2005 | 8/25/05 Application Submitted |
| Framatome ANP | EPR | | Design Certification | 12/2007 | Letter 11/4/05 |
| SNC | AP1000/ESBWR | Vogtle | ESP and COL | 8/2006: ESP 3/2008: COL | Letters 7/26 and 8/17/05 Mtg Summary (ML052710018) |
| Constellation | EPR | Nine Mile Point and Calvert Cliffs, plus 2 | COL | 6/2008 and 6/2009 | Press Release 11/2/05 Mtg Letter 11/4/05 |
| Dominion | ESBWR | North Anna | COL | 9/2007 | DOE solicitation award and press release Letter 11/22/05 |
| Duke | AP1000 (2) | TBD | COL | Late 2007 or Early 2008 | Letters 3/4/05 and 10/25/05 |
| Progress Energy | AP1000, ESBWR, or EPR | Carolina (2) Florida (2) | COL | Late 2007 | Letter 8/24/05 11/1/05 Mtg |
| NuStart Energy | AP1000 ESBWR | Bellefonte (2) Grand Gulf | COL COL | 4 th Qtr 2007 4 th Qtr 2007 or 1 st Qtr 2008 | Letters 12/7/2004 and 11/17/2005, press release |
| Entergy | ESBWR | River Bend | COL | Early 2008 | Press release 11/15/05 Mtg |
| SCE&G | AP1000, ESBWR, or EPR | TBD | COL | 3 rd Qtr 2007 | Letter 12/5/05 |