

June 1, 2004

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) 2004 Energy and Water Development Appropriations Act, House Report 108-212 and Senate Report 108-105, directed the Nuclear Regulatory Commission (NRC) to continue to provide a monthly report on the status of its licensing and regulatory duties. 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 sixty-fifth report, which covers the month of April 2004. I am also providing more recent information in this cover letter in order to keep you fully and currently informed of NRC's licensing and regulatory activities.

The previous report provided information on a number of significant activities. These activities included the reassignment of a number of senior managers in the agency; extending the operating licenses for an additional 20 years for the Virgil C. Summer Nuclear Station, Unit 1 and the H.B. Robinson Steam Electric Plant; and the resumption of full power operations at the Davis-Besse Nuclear Power Station for the first time since its extended outage began in February 2002.

Since Davis-Besse is now operating, the NRC will provide status updates at six month intervals for the next 18 months, as directed in the Appropriations Committee's report language. Since restart occurred in March 2004, we will provide status updates to you in our September 2004, March 2005, and September 2005 reports. However, should an unusual situation occur, we will keep you informed and include it in our monthly reports.

I responded on May 4, 2004, to the Vermont Public Service Board's request for the NRC to conduct our review of the proposed 20 percent power uprate at the Vermont Yankee Nuclear Power Station in a way that would provide a level of assurance about plant reliability equivalent to an independent engineering assessment. The NRC will conduct a detailed engineering inspection that we believe will be appropriate for addressing our oversight responsibilities regarding public health and safety and is also responsive to the Board's concerns. This inspection will be performed as part of a new engineering inspection program initiative that the NRC has been developing to enhance the Reactor Oversight Process. The intent of the new inspection initiative is to verify that design bases have been correctly implemented for a sampling of components across multiple systems and to identify latent design issues.

The NRC also initiated a special inspection to look into two missing spent fuel segments at Vermont Yankee. NRC resident inspectors, while performing a spent fuel accountability inspection, requested a visual inspection of the storage container for these two fuel segments. Vermont Yankee subsequently formally notified the NRC that two short spent fuel rod segments which had been placed in a special container at the bottom of the spent fuel pool in 1980 were not in the container. The segments are about one-half inch in diameter. One segment is about 7 inches in length and the second is about 17 inches in length. The licensee is undertaking a comprehensive search and also a records review to determine the location of the missing segments. The situation does not pose a threat to public health and safety as it is highly unlikely that the material is in an uncontrolled location. Given the extensive array of radiation detectors at the site, the segments could only have been removed in heavily shielded containers that are typically used for transport to waste disposal sites. The NRC is closely monitoring and assessing Entergy's activities regarding these spent fuel segments. The NRC has been, and will continue to be in contact with the State of Vermont and other officials to keep them apprised of the situation.

In light of the significant public interest in the missing fuel segments and the power uprate activities at Vermont Yankee, the NRC has established a dedicated page on the agency's public website to consolidate information on these matters and to enhance our communications with the public.

The Commission was recently briefed on grid reliability and offsite power issues by the NRC staff and representatives of the Federal Energy Regulatory Commission (FERC), North American Electric Reliability Council (NERC), and the U.S. Department of Energy (DOE). The Commission directed the NRC staff to work with FERC and NERC to develop memoranda of understanding to facilitate interactions with these organizations on grid reliability matters. Also, NRC issued a Regulatory Issue Summary, in anticipation of increased grid loading this summer, to remind nuclear power plant licensees of NRC requirements for offsite power supplies and for risk assessments prior to maintenance on backup systems. The agency is conducting focused inspections of all licensed plants to assess their compliance with these requirements.

Recently, the Commission and the NRC staff also:

- renewed the operating license of the R.E. Ginna Nuclear Power Plant, located 20 miles from Rochester, New York, for an additional 20 years. The plant is owned by Rochester Gas and Electric Corporation.
- approved the purchase and testing of a full-scale, certified transportation rail cask that is designed to transport spent fuel. The cask will be tested in a manner with sufficient instrumentation to collect data to confirm the validity of appropriate key analytical methods and assumptions that serve as the basis for NRC regulations and regulatory review of transportation cask applications.

- dispatched a special inspection to review the circumstances surrounding a failure of a pump which provides cooling water to various safety systems at the Perry Nuclear Power Plant. The plant, located in Perry, Ohio, is operated by FirstEnergy Nuclear Operating Company. The pump, one of three in the emergency service water system, failed during testing on Friday, May 21. Plant personnel shut the plant down on Saturday to investigate the cause of the pump failure and to make necessary repairs. A similar failure of this same pump occurred during testing on September 1, 2003. That problem, the result of improper reassembly of the pump following maintenance in 1997, was determined to be of low to moderate safety significance (“white”) in the NRC oversight process. A broad NRC team follow-up inspection on this and other equipment problems at Perry had just concluded the first week of its inspection when the new pump failure occurred.
- determined that an event at an irradiator at Baxter Healthcare Corporation in Aibonito, Puerto Rico, which uses radioactive material (sources) to sterilize a variety of medical devices, should be inspected by an NRC Augmented Inspection Team (AIT). The NRC decided to upgrade an existing special inspection to an AIT because the event had the potential to cause an exposure greater than 5 rem to an individual. The AIT will assess the health and safety significance of the event. Team members will collect, analyze, and document information to determine the cause, conditions, and circumstances of the event and will also consider the adequacy of the company’s actions during and in response to the event.
- issued a review standard for early site permit applications for possible new nuclear power plants which informs potential applicants and other stakeholders of the information the staff needs to perform its review. The NRC’s early site permit process evaluates site-related issues regarding possible future construction and operation of a nuclear power plant at a site selected by an applicant. The review standard covers issues such as population density, probable maximum floods that could affect a site, stability of subsurface materials and foundations, aircraft hazards, and emergency planning.
- published in the Federal Register, dated May 25, 2004 (69 FR 29772), an announcement regarding the availability of NUREG-1789, “10 CFR Part 52 Construction Inspection Program Framework Document,” dated April 2004. This framework document sets forth the proposed basis for the construction inspection program for reactors built under 10 CFR Part 52. The NUREG details the audits and inspections that will be conducted by the NRC during the Early Site Permit (ESP) and Combined License (COL) phases of 10 CFR Part 52. The document also discusses how the NRC staff will verify satisfactory completion of the inspections, tests, analyses, and acceptance criteria (ITAAC) and review operational programs. NRC staff will use the inspection program descriptions contained in the framework NUREG to guide the development of internal inspection documents including Inspection Manual Chapters and Inspection Procedures.

- published in the Federal Register, dated May 21, 2004 (69 FR 29187), a notice of issuance of the final criteria for the treatment of individual requirements in a regulatory analysis, because aggregating or "bundling" different requirements in a single regulatory analysis could potentially mask the inclusion of an individual requirement that is not cost-justified. As a result of these new criteria, the NRC will issue Revision 4 of its Regulatory Analysis Guidelines, NUREG/BR-0058 in the near future.
- transmitted to Louisiana Energy Services (LES) on April 19, 2004, two Requests for Additional Information (RAI) on its application for a gas centrifuge uranium enrichment plant in Lea County, New Mexico, near the city of Eunice. The RAIs address issues in the Safety Analysis Report, the Emergency Plan, the physical security plan, and the fundamental nuclear material control plan. The staff transmitted another RAI to LES on April 30, 2004, on the environmental report associated with its application.
- conducted an open meeting on April 15, 2004, with staff from the U.S. Enrichment Corporation Inc. (USEC) to discuss a license application they plan to submit in August 2004 for a commercial gas centrifuge uranium enrichment facility (American Centrifuge Plant) proposed to be located at the Portsmouth Gaseous Diffusion Plant site in Piketon, Ohio. During the meeting, USEC provided a brief status of its gas centrifuge deployment effort and described the American Centrifuge Plant license application that it intends to submit.
- eliminated the Site Decommissioning Management Plan (SDMP) designation for sites. The SDMP was developed as a comprehensive action plan to 1) identify criteria that would be used to guide the cleanup of sites; 2) state the NRC's position on finality; 3) describe the NRC's expectation that cleanup would be completed within 3-4 years; 4) identify guidance on site characterization, and 5) describe the process for timely cleanup on a site-specific basis. The elimination of the SDMP designation and the discontinuance of the SDMP as a separate site listing is appropriate because the original intent of the SDMP and SDMP Action Plan has been achieved. The staff has developed a comprehensive decommissioning program that facilitates the cleanup of routine and complex sites in a manner that is consistent with the goals of the SDMP Action Plan; therefore, the level of safety currently in place at SDMP sites will not be diminished. The staff is in the process of notifying all States and affected licensees.
- published in the Federal Register on May 4, 2004 (69 FR24695), a notice of receipt and availability for comment for the License Termination Plan (LTP) for the Yankee (Rowe) Atomic Power Station located in Franklin County, Massachusetts. The application for termination of license must be accompanied or preceded by an LTP to be submitted to NRC for approval. If found acceptable by the NRC staff, the LTP is approved by license amendment, subject to such conditions and limitations as the NRC staff deems appropriate and necessary.

- issued Orders for Interim Safeguards and Security Compensatory Measures to Entergy Nuclear Operations, Inc., for Indian Point Nuclear Plant and to the Tennessee Valley Authority (TVA) for Browns Ferry Nuclear Plant for upcoming construction of Independent Spent Fuel Storage Facilities. The Order to Entergy was published in the Federal Register on May 12, 2004 (69 FR26412), and the Order to TVA was published on May 12, 2004 (69 FR26414).

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

Sincerely,

/RA/

Nils J. Diaz

Enclosure:  
Monthly Report

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 Visclosky

The Honorable James M. Inhofe, Chairman  
Committee on Environmental 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

**APRIL 2004**

Enclosure

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<sup>1</sup>Note: The period of performance covered by this report includes activities occurring between the first and last day of April 2004. 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 staff continues to make progress on tasks involving the use of probabilistic risk information in many areas; however, there were no significant milestones scheduled or completed during the month of April 2004.

## **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 efficacy of the process and consider the feedback in future ROP refinements. Recent activities include the following:

- ! In April 2004, the NRC staff held two public meetings with representatives of Nuclear Energy Institute (NEI), Bechtel, AECL, and Toshiba to discuss the form and content of schedules for new reactor construction as well as the form and content of the reports to document Inspections, Tests, Analysis, and Acceptance Criteria (ITAAC) completion. The information will be used to support the development of the Construction Inspection Program Information Management System (CIPIMS).
- ! On April 14, 2004, the NRC staff supported the Agency Action Review Meeting (AARM) in Leesburg, VA. The meeting of senior Headquarters and Regional managers discussed several plants with significant performance issues using data compiled from the end-of-cycle reviews, industry performance trends, and the results of the reactor oversight process self-assessment. The results of the AARM were discussed with the Commission during a meeting on May 4, 2004.
- ! The NRC staff participated in two activities aimed at ensuring that the construction inspection program (CIP) being developed will reflect current construction techniques and oversight methods. Members of the CIP team visited Browns Ferry to observe work in progress at Unit 1. Additionally, team members met with representatives of the Federal Aviation Administration (FAA) to discuss the methods they use to oversee suppliers (including foreign suppliers) to companies building aircraft in the United States.
- ! The NRC staff hosted an ROP public meeting to discuss Mitigating System Performance Index (MSPI) status and the process for going forward. The staff stated that it plans to document its detailed concerns with the piloted MSPI and share them with all interested stakeholders. Staff's concerns were summarized (at a high level) in SECY-04-0053, "Reactor Oversight Process Self-Assessment for Calendar Year 2003," which is publically available. The goal is to find creative and practical approaches to a risk-informed replacement for the Safety System Unavailability Performance Indicator. The staff stated that it will continue to work with industry to address the issues and concerns with the MSPI and on the arrangements for the next public meeting to be held in late May 2004.

### III Status of Issues in the Reactor Generic Issue Program

Resolution of the issues in the Reactor Generic Issue Program continues 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 FY 2004 NRC Performance Plan incorporates three output measures related to licensing actions -- number of licensing action completions per year, age of the licensing action inventory, and size of 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 2.206 petitions, NRC review of generic topical reports, NRR responses to regional requests for assistance, NRC review of licensee 10 CFR 50.59 analyses and FSAR updates, or other licensee requests not requiring NRC review and approval before they can be implemented by licensees. The FY 2004 NRC Performance Plan incorporates one output measure related to other licensing tasks -- number of other licensing tasks completed.

The actual FY 2002 and FY 2003 results, the FY 2004 goals, and the actual FY 2004 results, as of April 30, 2004, for the four NRC Performance Plan output measures for operating power reactor licensing actions and other licensing tasks are shown in the table below.

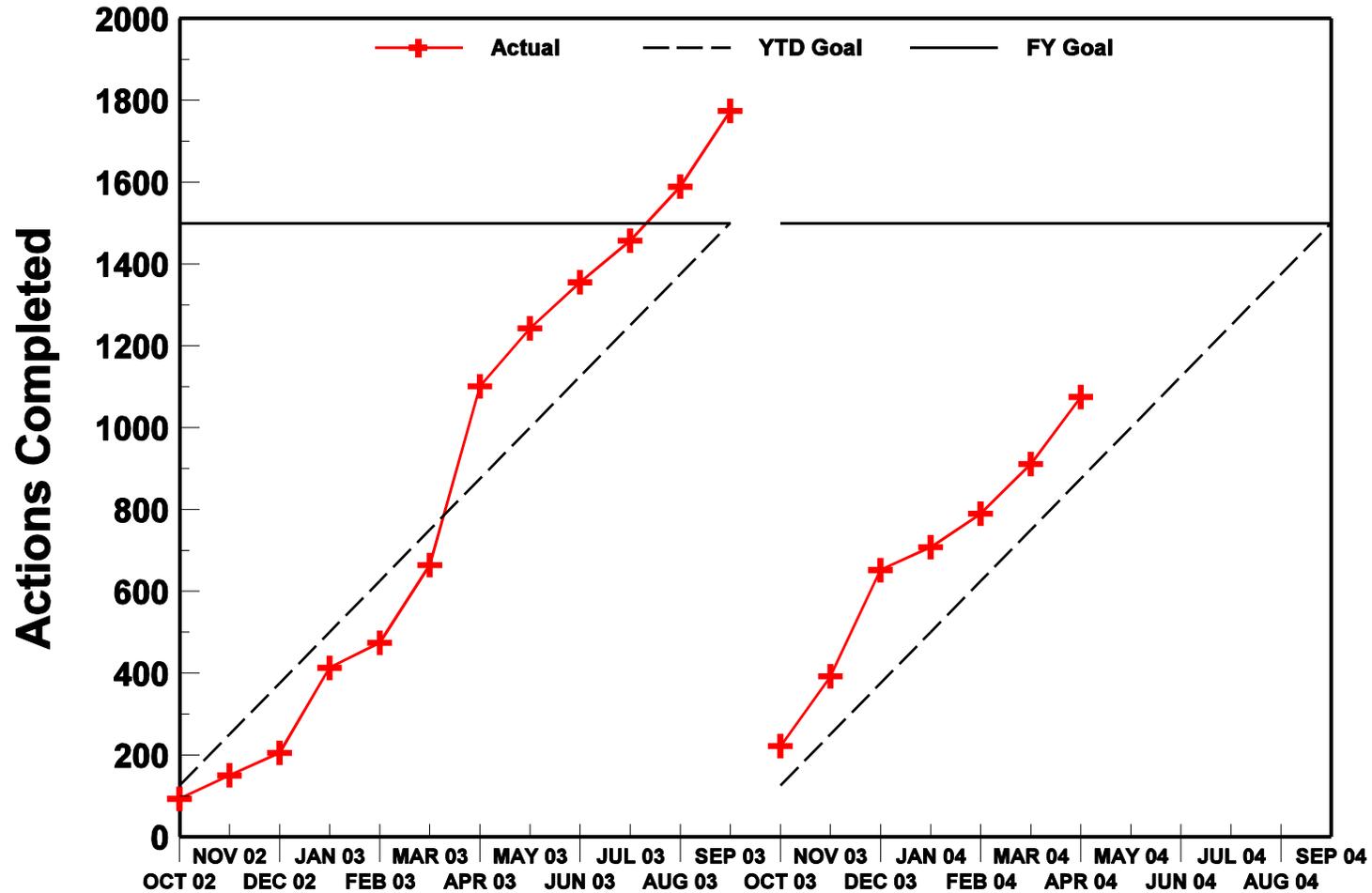
PERFORMANCE PLAN				
Output Measure	FY 2002 Actual	FY 2003 Actual	FY 2004 Goals	FY 2004 Actual (thru 04/30/2004)
Licensing actions completed/year	1560	1774	≥ 1500	1075
Age of licensing action inventory	96.6% ≤ 1 year; and 100% ≤ 2 years	96% ≤ 1 year; and 100% ≤ 2 years	96% ≤ 1 year and 100% ≤ 2 years old	88.0% ≤ 1 year; 100% ≤ 2 years
Size of licensing action inventory	765	1296	≤ 1000	1146
Other licensing tasks completed/year	426	500	≥ 350	393

Several high priority activities, such as those related to power grid stability and changes to nuclear facility security plans, safeguards contingency plans, and guard force training and qualification plans, have resulted in reprogramming resources to accommodate this additional work. The reprogramming of resources from the completion of licensing actions has impacted the staff's ability to meet all of its Performance Plan goals. Through April 30, 2004, the size of the licensing action inventory did not meet the goal of ≤1000 actions. In addition, the length of time to complete licensing actions increased. Through April 30, 2004, 88% of the licensing actions were less than 1 year old which did not meet the performance goal of 96%.

The following charts demonstrate NRC's trends for the four operating power reactor licensing action and other licensing task output measure goals.

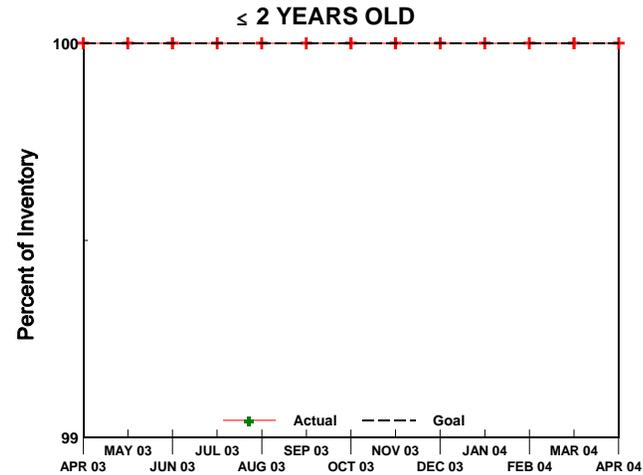
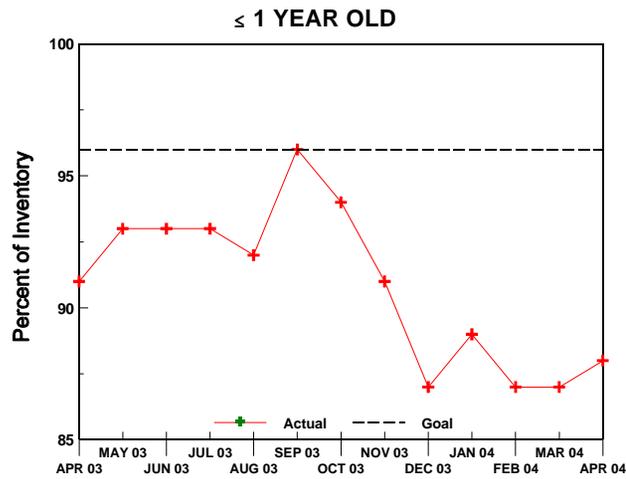
# Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Completed Licensing Actions



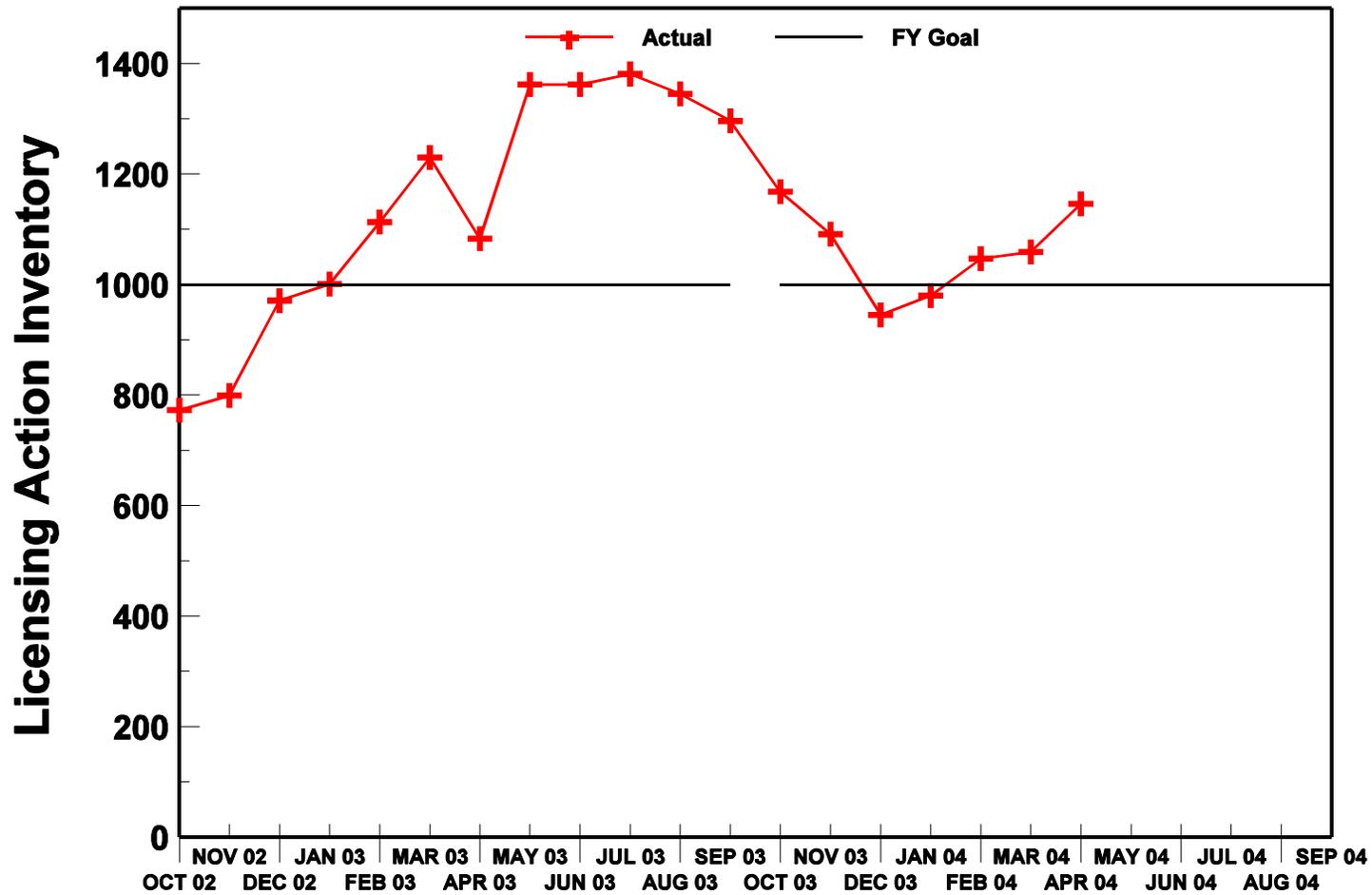
# Nuclear Reactor Safety - Reactor Licensing

## Performance Plan Target: Age of Licensing Action Inventory



# Nuclear Reactor Safety - Reactor Licensing

## Performance Plan: Size of Licensing Action Inventory



## **V      Status of License Renewal Activities**

### Robinson Unit 2 License Renewal Application

The staff issued the renewed license for Robinson Unit 2 on April 19, 2004, completing the NRC's review of the license renewal application (22 months after receipt).

### Summer License Renewal Application

The staff issued the renewed license for Summer on April 23, 2004, completing the NRC's review of the license renewal application (21 months after receipt).

### Ginna License Renewal Application

The staff issued the final supplemental environmental impact statement (SEIS) in January 2004 and the safety evaluation report in March 2004. The staff is completing activities to support a decision on renewing the license in June 2004.

### Dresden, Units 2 and 3, and Quad Cities, Units 1 and 2, Combined License Renewal Application

The staff is addressing comments received on the draft SEISs and is preparing to issue the final SEISs in July 2004 for both Dresden and Quad Cities. The staff issued the safety evaluation report identifying the remaining open items in February 2004, and the applicant's responses to the open items were received in April 2004. The staff is reviewing the applicant's responses and is preparing to issue the safety evaluation report in July 2004.

### Farley, Units 1 and 2, License Renewal Application

The Farley 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 August 2004 and the safety evaluation report, identifying any remaining open items, is scheduled to be issued in October 2004.

### Arkansas Nuclear One, Unit 2, License Renewal Application

The Arkansas Unit 2 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 September 2004 and the safety evaluation report, which will identify any remaining open items, is scheduled to be issued in November 2004.

### Cook, Units 1 and 2, License Renewal Application

The Cook 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 September 2004 and the safety evaluation report, identifying any remaining open items, in December 2004.

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

The Browns Ferry 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 December 2004 and the safety evaluation report, identifying any remaining open items, is scheduled to be issued in August 2005.

### Millstone, Units 2 and 3, License Renewal Application

The Millstone 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 December 2004 and the safety evaluation report, identifying any remaining open items, is scheduled to be issued in February 2005. A request for hearing has been received in response to the NRC's notice of opportunity for hearing.

Point Beach, Units 1 and 2, License Renewal Application

On February 26, 2004, the NRC received an application for renewal of the Point Beach Units 1 and 2 operating licenses. The staff has completed its acceptance review and found the application acceptable for docketing and review. Until it is determined whether a hearing will be conducted, a 30-month review schedule has been established with a final decision on issuance of the renewed licenses scheduled for August 2006.

**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**

Litigation continues on the application by Private Fuel Storage, L.L.C. (PFS) for a license to construct and operate an independent spent fuel storage installation (ISFSI) on the Reservation of the Skull Valley Band of Goshute Indians in Skull Valley, Utah. As noted in previous monthly updates, one issue concerning the consequences of an F-16 aircraft crash at the proposed facility remains to be litigated.

During this reporting period, the NRC staff completed and issued its evaluation of impact angles and speeds associated with potential accidents involving an F-16 aircraft crash at the proposed PFS Facility, and continued its review and analyses of the consequence analyses provided by PFS. The staff expects to complete its review of the PFS consequence analyses and submit its evaluation to the Atomic Safety and Licensing Board (ASLB) and other parties in May 2004.

In addition, during April, the ASLB issued a hearing schedule for litigation of the aircraft crash consequence issue. Per the schedule, depositions will be held in May and June 2004, and hearings will be held in August and possibly September 2004. The ASLB stated that it appears likely that it will issue the decision on crash consequences no later than January 2005.

Finally, the Commission currently has under consideration certain matters raised on appeal from prior ASLB decisions. These involve PFS's petition for review of a January 2004 ASLB ruling on a financial assurance contention and the State of Utah's petition for review of the ASLB's decisions on three environmental contentions.

**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	Apr 2004	0	0	0	0	0
	FY 04 YTD	0	0	0	0	0
	FY 03 Total	0	0	0	0	0
	FY 02 Total	0	0	0	0	0

<b>Reactor Enforcement Actions*</b>						
Severity Level II	Apr 2004	0	1	0	0	1
	FY 04 YTD	0	1	0	0	1
	FY 03 Total	0	0	0	0	0
	FY 02 Total	1	0	0	0	1
Severity Level III	Apr 2004	0	1	1	0	2
	FY 04 YTD	1	1	3	0	5
	FY 03 Total	2	0	4	0	6
	FY 02 Total	2	0	0	0	2
Severity Level IV	Apr 2004	0	0	0	0	0
	FY 04 YTD	1	0	2	0	3
	FY 03 Total	1	0	2	1	4
	FY 02 Total	0	0	2	0	2
Non-Cited Severity Level IV or Green	Apr 2004	12	41	40	8	101
	FY 04 YTD	136	131	195	158	620
	FY 03 Total	211	164	202	184	761
	FY 02 Total	207	89	201	151	648

\* Numbers of violations are based on enforcement action tracking system (EATS) data that may be subject to minor changes following verification. The number of Severity Level I, II, III listed refers to the number of Severity Level I, II, III violations or problems. The monthly totals generally lag by 30 days due to inspection report and enforcement development.

<b>Escalated Reactor Enforcement Actions Associated with the Reactor Oversight Process</b>						
		Region I	Region II	Region III	Region IV	Total
Notices of Violation Related to White, Yellow or Red Findings	4/04 Red	0	0	0	0	0
	4/04 Yellow	0	0	0	0	0
	4/04 White	0	0	0	2	2
	FY 04 YTD	2	1	7	4	14
	FY 03 Total	6	1	7	1	15
	FY 02 Total	5	4	6	8	23

**Description of Significant Actions taken in April 2004**

**Entergy Operations, Inc. (Waterford 3) EA-03-230**

On April 12, 2004, a Notice of Violation was issued for a violation associated with a White Significance Determination Process (SDP) finding involving a May 2003 failure to establish appropriate instructions and accomplish those instructions for installation of a fuel line for the Train A emergency diesel generator.

**Carolina Power & Light Company (Brunswick, Robinson, Harris) EA-04-028**

On April 7, 2004, a Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$88,000 was issued for a Severity Level II violation for discriminating against the former Corporate Superintendent of Site Access Authorization for Carolina Power & Light for raising safety concerns.

**Duke Energy Corporation (Oconee 1, 2, & 3) EA-04-018**

On April 8, 2004, a Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$60,000 was issued for a Severity Level III violation involving the failure to adhere to the requirements of 10 CFR 50.59, in that the licensee made changes to the Oconee facility as described in the Updated Final Safety Analysis Report and referenced analyses without obtaining the necessary NRC approval. In this case, the licensee revised an analysis for high energy line break accidents, which permitted the facility to initiate emergency feedwater up to 30 minutes and initiate high pressure injection up to 8 hours after a high energy line break accident instead of 15 minutes and one hour as was discussed in the Updated Final Safety Analysis Report.

**Entergy Operations, Inc. (Arkansas Nuclear One) EA-03-016**

On April 7, 2004, a Notice of Violation was issued for a violation associated with a White SDP finding involving the use of unapproved operator manual actions for achieving and maintaining hot shutdown conditions in the event of a fire in particular fire zones. The violation cited the licensee's failure to comply with fire protection regulations in 10 CFR Part 50, Appendix R, Section III.G.2 requiring that cables and equipment of redundant trains of systems necessary to achieve and maintain hot shutdown conditions remain free of fire damage.

**FirstEnergy Nuclear Operating Company (Perry) EA-03-208**

On April 1, 2004, a Notice of Violation was issued for a Severity Level III violation involving the willful failure of two key maintenance personnel responsible for testing motor operated valves, a safety-related function, to follow Technical Specification overtime guidelines.

**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 issued to strengthen further the security of NRC-licensed facilities and control of nuclear materials.

Orders were issued on April 29, 2003, to revise the threat against which individual power reactor licensees and category I fuel cycle facilities must be able to defend (design basis threat [DBT]), limit the number of hours that security personnel can work, and enhance training and qualification requirements for security personnel. Licensees are required to implement the Orders no later than October 29, 2004. Implementation of these Orders will include employing revised security plans, revised safeguards contingency plans, and revised guard training and qualification plans, and completing any necessary plant modifications. The NRC staff has endorsed appropriate implementing guidance and provided it to

the industry so plant and program changes can be completed on schedule and in time to implement the Orders by the October 29, 2004 deadline.

Orders were issued on October 23, 2003, to all nuclear reactor licensees and research reactor licensees who transport spent nuclear fuel. The licensees subject to the Order have been issued a specific license by NRC authorizing the possession of spent nuclear fuel and a general license authorizing the transportation of spent nuclear fuel in a transport package approved by the Commission in accordance with the Atomic Energy Act of 1954, as amended, and 10 CFR Parts 50 and 71.

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 purposes of the force-on-force exercises are to assess and improve, as necessary, performance of defensive strategies at licensed facilities. Pilot force-on-force exercises have been completed at fifteen plants in 2003. The staff will present a paper to the Commission shortly summarizing lessons learned from the force-on-force pilot program and how these lessons can be factored into the full implementation of the force-on-force program. In the interim, the NRC plans to continue to conduct force-on-force exercises at a rate of approximately two per month through October 2004. Following implementation of the revised DBT on October 29, 2004, the NRC will implement triennial force-on-force testing at each nuclear power plant site.

During 2003, the staff suspended the physical protection portion of the baseline inspections in the Reactor Oversight Process. Instead, NRC inspections in the reactor security area were focused on licensee implementation of compensatory measures to address the post-9/11 threat environment. These compensatory measures were required by the Commission's February 25, 2002 Order. In late 2003, the staff developed a revised baseline inspection program for reactor security, taking into consideration the enhanced requirements and the higher threat environment. The staff began implementation of the revised baseline inspection program during the first week of March 2004. Until the DBT Orders are fully implemented, the inspections will focus on those elements of the program that have been fully implemented under previous orders, such as access authorization and security force work hour limits. During FY 2005, inspection efforts will focus on verifying implementation of the DBT. Routine implementation of all elements of the baseline inspection program will commence in 2006.

## **IX Power Upgrades**

The staff has assigned power upgrade license amendment reviews a high priority. The staff considers power upgrade applications among the most significant licensing actions and is therefore conducting power upgrade reviews on accelerated schedules.

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

Licensees have been applying for and implementing power upgrades since the 1970s as a way to increase the power output of their plants. The staff has been conducting power upgrade reviews since then and to date has completed 101 such reviews. Approximately 12,537 megawatts-thermal (4179 megawatts-electric) or an equivalent of about four nuclear power plant units has been gained through implementation of power upgrades at existing plants. The staff currently has 5 plant-specific applications under review. On April 28, 2004, the NRC issued a letter to Entergy Nuclear (licensee for Indian Point 2) informing them that the NRC had received sufficient information to allow the NRC staff to proceed with their detailed technical review of the Indian Point 2 stretch power upgrade. Entergy Nuclear

submitted an application, dated January 29, 2004, requesting to uprate the Indian Point 2 plant, 3.3 percent power or 101.6 megawatts-thermal (~46 megawatts-electric). The NRC staff expects to complete this review by October 2004.

There continues to be substantial public interest in the Vermont Yankee extended power uprate and requests for an independent engineering assessment at Vermont Yankee. The NRC received a letter from the Vermont Public Service Board on March 15, 2004, requesting that NRC perform an independent engineering inspection at Vermont Yankee to support the on-going NRC review of the Vermont Yankee application for extended power uprate. The NRC's review of this request is in progress.

In our previous reports, the NRC noted that cracking has been found in the steam dryers at the Quad Cities and Dresden Nuclear Power Stations. The steam dryer is located in the upper region of the reactor vessel and functions to remove moisture from the steam before the steam is delivered to the turbine. The steam dryer does not perform an accident-mitigating role or safety function, but it is required to maintain its structural integrity. On February 24, 2004, Quad Cities, Unit 2, was shut down for a scheduled refueling outage and to perform inspections on the steam dryer. The inspections identified cracking on areas of the steam dryer that had been previously modified to address implementation of the extended power uprate and previous problems identified with the steam dryer. Exelon Generation Company, the licensee for Quad Cities and Dresden, has developed a plan that will be implemented to attempt to identify the mechanism that has been causing unacceptable steam dryer loads and steam dryer cracking. On April 2, 2004, Exelon committed to the NRC to maintain both Quad Cities units at pre-extended power uprate power levels except for testing of the flow effects on the Quad Cities units. The NRC sent Exelon a commitment acknowledgment letter, on April 20, 2004, documenting Exelon's commitments and the NRC's assessment of these commitments.

As reported in last month's report, the NRC has been monitoring the unexpected, small differences in power level indications that have been observed at Braidwood and Byron Stations while using the Westinghouse/AMAG "CROSSFLOW" ultrasonic feedwater flow measurement system. Braidwood and Byron never used the AMAG ultrasonic feedwater flow meter for power uprate and they are no longer using the AMAG to measure feedwater flow. However, there are 12 nuclear units in the United States that have been issued MUR power uprates based on the use of the AMAG feedwater flow meter. The NRC staff has determined that this issue does not pose an immediate safety concern and currently there are no known problems at nuclear units that have implemented MUR power uprates and are using the AMAG feedwater flow meter. The NRC met with Westinghouse on April 22, 2004 to discuss on-going activities related to the AMAG flow meter. Westinghouse has implemented an action plan to perform scale model testing and obtain industry performance data. Additionally, the Westinghouse Owners Group has notified the NRC that they are adopting the AMAG issue as an industry initiative. They are soliciting industry support and will take over the Westinghouse action plan. The NRC continues to evaluate any impact of this issue on power uprates.

In January 2004, the staff completed a survey of nuclear power plant licensees to obtain information regarding industry's plans related to power uprate applications. Based on this survey, licensees plan to submit power uprate applications for 26 nuclear power plant units in the next 5 years. These include 8 measurement uncertainty recapture power uprates, 6 stretch power uprates, and 12 extended power uprates. Planned power uprates are expected to result in an increase of about 5296 megawatts-thermal (1766 megawatts-electric).

#### **X Status of Davis-Besse Nuclear Power Station**

Interim reports to be provided in September 2004, March 2005, and September 2005.