

March 9, 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 U.S. 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 sixtieth, sixty-first, and sixty-second reports, which cover the months of November 2003, December 2003, and January 2004, respectively. 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. Although I regret that delays have caused three monthly reports to be included in this letter, it is my expectation that monthly letters will resume.

The previous report provided information on a number of significant activities. These activities included: (1) issuance of an amendment to 10 CFR Part 2, the regulations governing the conduct of hearings to make them more effective, efficient, and understandable to the public; (2) receipt of a license application from Louisiana Energy Services (LES) to build a gas centrifuge uranium enrichment plant in Eunice, New Mexico, to be known as the National Enrichment Facility, and (3) dispatch of an inspection team to the Honeywell International fuel processing plant near Metropolis, Illinois, following a gaseous chemical release containing radioactivity.

I would like to provide follow-up information on (2) and (3) above. With regard to LES' application for the National Enrichment Facility, the Commission established a 30-month milestone schedule for reviewing the application. As described in the Federal Register notice of February 6, 2004 (69 FR 5873), the agency will hold a hearing on the application as part of its review and invites persons whose interest may be affected by the proceeding to file a written petition for permission to participate in the hearing. LES is an international consortium of companies in the nuclear industry consisting of two general partners, Urenco Investments, Inc., and Westinghouse Enrichment Company, and six limited partners. The NRC has determined that the application, which was submitted on December 15, 2003, contains sufficient information for the agency to begin its detailed review and has formally "docketed," or accepted, the application. The Commission believes that it is obligated to make sure that its adjudicatory processes are conducted in a manner that would achieve sound and timely decisions. Consequently, the Commission will endeavor to identify efficiencies and provide the resources the agency needs to complete reviews and reach timely decisions in licensing uranium enrichment facilities.

With regard to the Honeywell event, NRC staff conducted a public exit meeting of the Augmented Inspection Team (AIT), on January 6, 2004, with representatives of Honeywell International, Inc. The AIT's report was issued on February 4, 2004. Significant AIT findings were that communications with local emergency responders were not maintained and were incomplete, there was a lack of adherence to procedures, and some activities were not covered by procedures. The AIT also concluded that the release of uranium hexafluoride had minimal impact on worker health and safety. Exposures were below NRC regulatory limits. On February 11, 2004, at a public meeting at NRC Headquarters, Honeywell presented a status of their corrective actions since the event. When appropriate, an inspection team will be sent to Honeywell to verify that the corrective actions are complete. Honeywell will not restart its operations until NRC is satisfied with their corrective actions. Licensee restart activities will be closely monitored by NRC inspectors. The NRC will also conduct a separate inspection in the near future to determine if there were violations of NRC rules and regulations.

Since the last report, the NRC issued a license to the U.S. Enrichment Corporation, Inc., for the American Centrifuge Lead Cascade Facility (Lead Cascade) on February 24, 2004. The staff completed an Environmental Assessment for the Lead Cascade, which was provided to the State of Ohio for comment and published in the Federal Register on January 27, 2004 (69 FR 3956), a Notice containing the Finding of No Significant Impact and an announcement of the availability of this Environmental Assessment. The U.S. Enrichment Corporation submitted an application for the Lead Cascade on February 11, 2003. The Lead Cascade is a test and demonstration facility that will be located at the Portsmouth Gaseous Diffusion Plant site in Piketon, Ohio. The facility will be authorized to possess up to 250 kilograms of uranium hexafluoride and will consist of up to 240 operating, full-scale centrifuge machines. The facility will be operated in recycle mode -- no enriched product will be withdrawn except in the form of samples. The staff completed its safety and safeguards review of the license application and has documented its findings in a Safety Evaluation Report which was issued on January 28, 2004.

Also, since the last report, the Commission established an Emergency Preparedness Project Office within the Office of Nuclear Reactor Regulation (NRR) to enhance the effectiveness of emergency preparedness activities for commercial nuclear reactors. Since the events of September 11, 2001, the NRC has been reviewing the way it is organized to address security and emergency preparedness issues involving its licensees. Establishment of the new Emergency Preparedness Office in NRR follows the earlier creation of the Office of Nuclear Security and Incident Response and the appointment of a Deputy Executive Director for Homeland Protection and Preparedness.

With regard to Davis-Besse, the Regional Administrator, after conferring with other senior NRC officials, authorized the restart of the plant on March 8, 2004. The NRC staff had continued to monitor closely the licensee's preparation for restart and onsite activities. The NRC began a follow-up Restart Readiness Assessment Team Inspection on Monday, February 2, 2004. The follow-up restart readiness inspection evaluated the performance of the plant staff and equipment to determine if the plant was ready to resume operation. In addition, the inspectors assessed the effectiveness of corrective actions taken by FirstEnergy as a result of issues identified by NRC inspectors during a previous restart readiness inspection in December. The NRC held two public meetings with FirstEnergy Nuclear Operating Company officials on February 12. At the first meeting, NRC and First Energy discussed the preliminary results of two inspections -- the Restart Readiness Inspection and the ongoing follow-up

Management and Human Performance Inspection, which began January 12. In the second meeting, FirstEnergy officials presented to the NRC Davis-Besse Oversight Panel their basis for concluding their readiness to restart the plant. On February 26, 2004, the NRC sent to the licensee a proposed Confirmatory Order that would require the licensee to conduct annual independent assessments for five years in the areas of operations, engineering, corrective actions, and safety culture and require inspections of key reactor coolant system pressure boundary components during a mid-cycle outage. In a letter dated February 26, 2004, the licensee responded to the NRC's proposed Confirmatory Order by agreeing to the incorporation of the conditions into a Confirmatory Order that would be immediately effective upon issuance and waived its right to a hearing on all or any part of the Order. The Order is effective as of March 8, 2004.

Recently, the Commission and the NRC staff also:

- issued on January 12, 2004, an immediately effective Order for Additional Security Measures for Source Manufacturers and Distributors of High Risk Radioactive Sources. Some of the requirements formalize a series of security measures that NRC licensees had taken in response to advisories issued by the NRC in the aftermath of the September 11, 2001 terrorist attacks. Additional security enhancements, developed during our ongoing security review, are also provided in the Orders. The specific security measures addressed by the Orders, which supplement existing regulatory requirements, are classified as Safeguards Information under Section 147 of the Atomic Energy Act, as amended. The Orders will remain in effect until the Commission determines otherwise.
- published a final rule in the Federal Register, dated January 30, 2004 (69 FR 4439), that amends NRC regulations to remove the requirement that non-electric utility power reactor licensees submit financial qualifications information in their license renewal applications and to add a new requirement that electric utility licensees of nuclear power reactors who become non-electric utility entities without a license transfer must notify the NRC and submit information on their financial qualifications. The final rule will reduce unnecessary regulatory burden on licensees seeking renewal of operating licenses and ensure that licensees that become non-electric utility entities continue to be financially qualified to operate their facilities and maintain public health and safety.
- published a final rule in the Federal Register, dated January 26, 2004 (69 FR 3698), that amends NRC regulations governing transportation of radioactive material (10 CFR Part 71). This rule makes the NRC transportation regulations compatible with the latest version of the International Atomic Energy Agency standards, as well as with the regulations of the U.S. Department of Transportation. The rule also codifies other applicable requirements.
- received an application dated January 20, 2004, from Dominion Nuclear Connecticut, Inc., to renew the operating licenses for the Millstone Power Station, Units 2 and 3, respectively. The Millstone Power Station Unit 2 is a pressurized-water reactor designed by Combustion Engineering, and Unit 3 is a pressurized-water reactor designed by Westinghouse Electric Corporation. Both units are located in Waterford, Connecticut.

- issued “Review Standard for Extended Power Uprates (RS-001).” The purpose of the review standard is to provide guidance for the NRC staff’s review of extended power uprate (EPU) applications to enhance consistency, quality, and completeness of reviews. Extended power uprates result in increases generally between 10 percent and 20 percent of the licensed power level and usually require significant modifications to major plant equipment. The review standard also informs licensees of the guidance documents and acceptance criteria used by NRC staff when reviewing EPU applications. The review standard is available through the NRC’s web site.
- approved a request by the Omaha Public Power District to increase the generating capacity of the Fort Calhoun nuclear power facility, located near Omaha, Nebraska, by 1.6 percent. The power uprate increases the generating capacity of the plant from 1500 to 1524 megawatts, resulting in an output of 485 megawatts electric.
- issued a report on the agency’s programs for evaluating and learning from operating experience at commercial nuclear power reactors. An NRC task force found the functional portions of NRC’s current operational experience programs -- such as short- and long-term efforts to identify and address reactor safety issues -- are working well. However, several recommendations were developed to improve these programs. More than 20 specific recommendations for improving the agency’s reactor operating experience activities. The document, “Reactor Operating Experience Task Force Report,” is available through the NRC’s web site.
- completed an audit at the Ames Laboratory, a Department of Energy (DOE) Office of Science facility. This was the tenth and final DOE National Laboratory to be audited by the NRC. The NRC’s audit results have been provided to DOE for their use in estimating the costs to DOE of NRC external regulation of DOE laboratories.
- implemented the E-rule effective January 1, 2004. The E-rule allows licensees and other members of the public to use electronic means to communicate with the NRC. The E-rule also allows, in nearly all instances, that only one copy of a document be submitted. The NRC was prepared to implement this rule since the agency has had experience with receiving electronic documentation since 2000.
- issued renewed Certificates of Compliance on December 29, 2003, for the U.S. Enrichment Corporation, Paducah, Kentucky, and the Portsmouth, Ohio, Gaseous Diffusion Plant, for an additional 5-year period. Also, on December 17, 2003, NRC issued a Report to Congress on the Health, Safety, and Environmental Conditions at the Gaseous Diffusion Plants.
- published in the Federal Register, on December 9, 2003 (63 FR 68549), a proposed rule on “Medical Use of Byproduct Material - Recognition of Specialty Boards” to amend 10 CFR 35. The proposed amendments would revise NRC regulations to change requirements for recognition of specialty boards whose certifications may be used to demonstrate the adequacy of the training and experience of individuals to serve as

radiation safety officers, authorized medical physicists, authorized nuclear pharmacists, or authorized users. The proposed rule would also revise the requirements for demonstrating the adequacy of training and experience pathways other than the board certification pathway.

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

Sincerely,

*/RA/*

Nils J. Diaz

Enclosures:

1. November 2003 Monthly Report
2. December 2003 Monthly Report
3. January 2004 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 Joe Barton, 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

**NOVEMBER 2003**

Enclosure 1

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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 November 2003. 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**

Although the staff continues to make progress on tasks involving use of probabilistic risk information in many areas, there were no significant milestones accomplished during the month of November 2003.

## **II Revised 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:

- On October 31, 2003, the public comment period closed on “Draft 10 CFR Part 52 Construction Inspection Program Framework Document” and the Inspection Program Branch staff will be evaluating the comments received.
- On November 18, 2003, NRC staff participated in a public meeting with representatives from the Licensing Action Task Force and the Institute of Nuclear Power Operations (INPO) to discuss possible changes to the submittal of monthly operating reports. They discussed the use of INPO's Consolidated Data Entry as a possible alternative method for submitting the monthly operating reports.

## **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**

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 it can be implemented by the licensee. 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 are defined as licensee responses to NRC requests for information through generic letters or bulletins, NRC responses to 2.206 petitions, NRC review of licensee 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 it can be implemented by the licensee. The FY 2004 NRC Performance Plan incorporates one output measure related to other licensing tasks -- number of other licensing tasks completed.

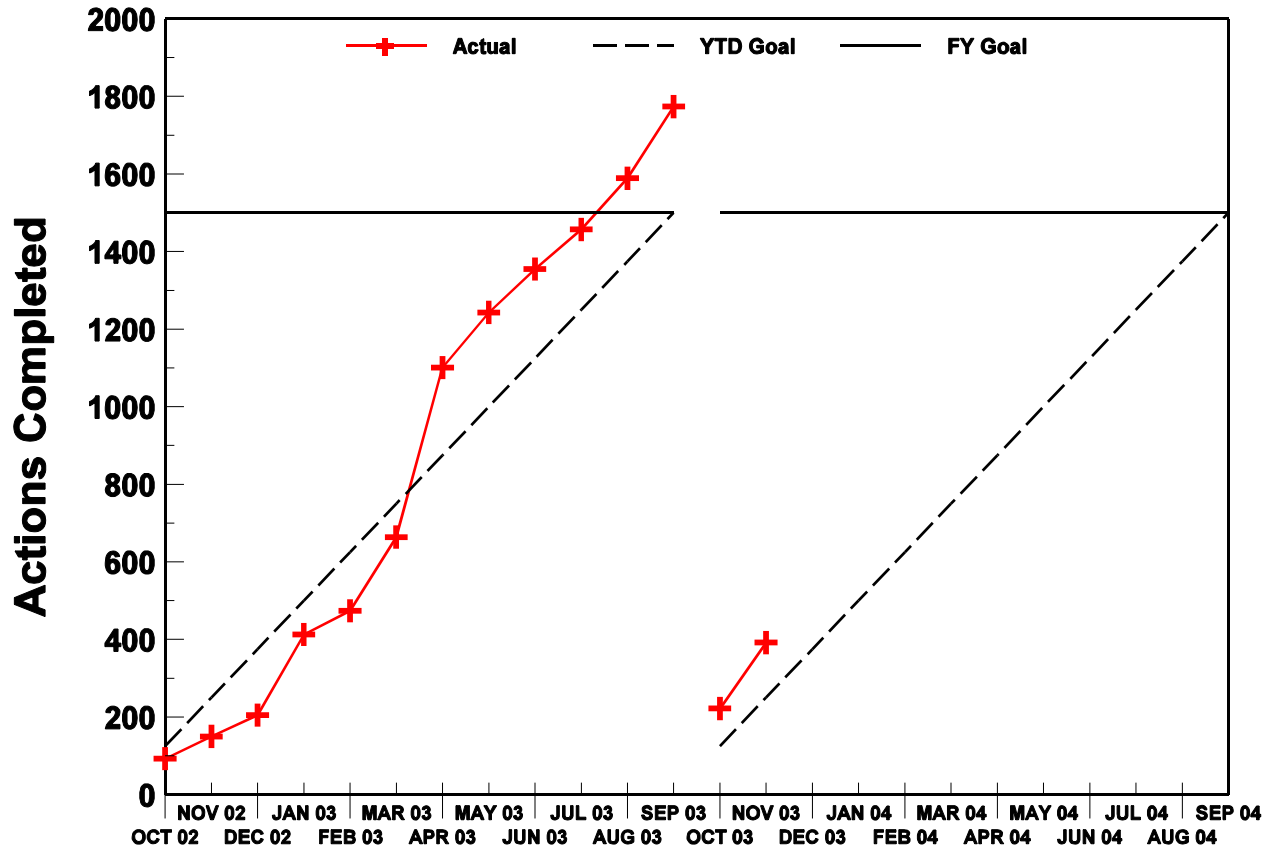
The actual FY 2002 and FY 2003 results, the FY 2004 goals, and the actual FY 2004 results, as of November 30, 2003, for the four NRC Performance Plan output measures for licensing actions and other licensing tasks are shown in the table below.

PERFORMANCE PLAN				
Output Measure	FY 2002 Actual	FY 2003 Actual	FY 2004 Goals	FY 2004 Actual (thru 11/30/2003)
Licensing actions completed/year	1560	1774	≥ 1500	392
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	91.0% ≤ 1 year; 100% ≤ 2 years
Size of licensing action inventory	765	1296	≤ 1000	1091
Other licensing tasks completed/year	426	500	≥ 350	129

The following charts demonstrate NRC's FY 2004 trends for the four licensing action and other licensing task output measure goals.

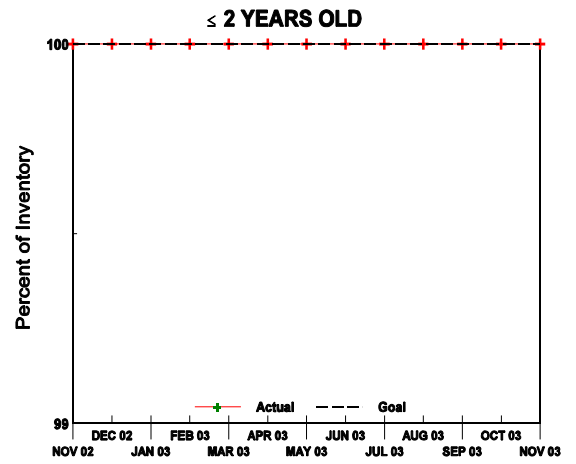
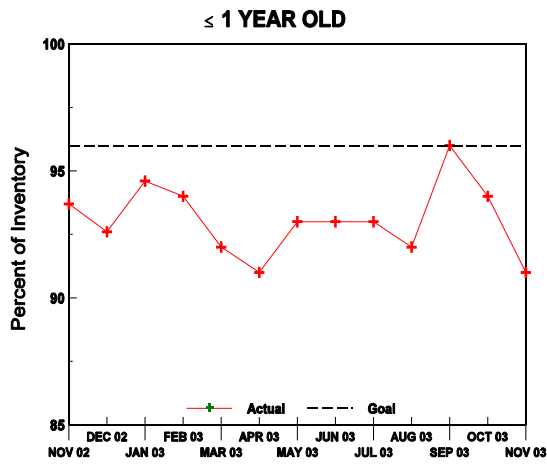
# Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Completed Licensing Actions



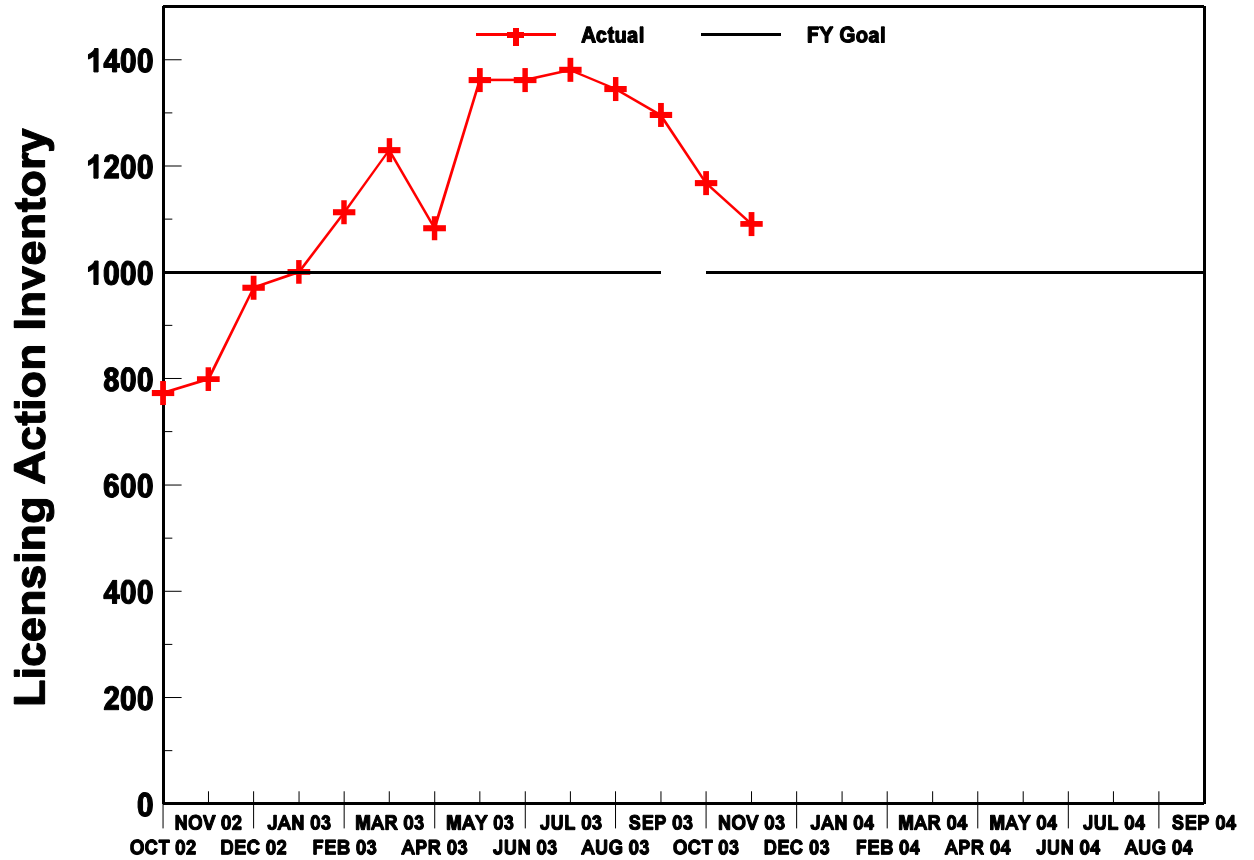
# Nuclear Reactor Safety - Reactor Licensing

## Performance Plan Target: Age of Licensing Action Inventory



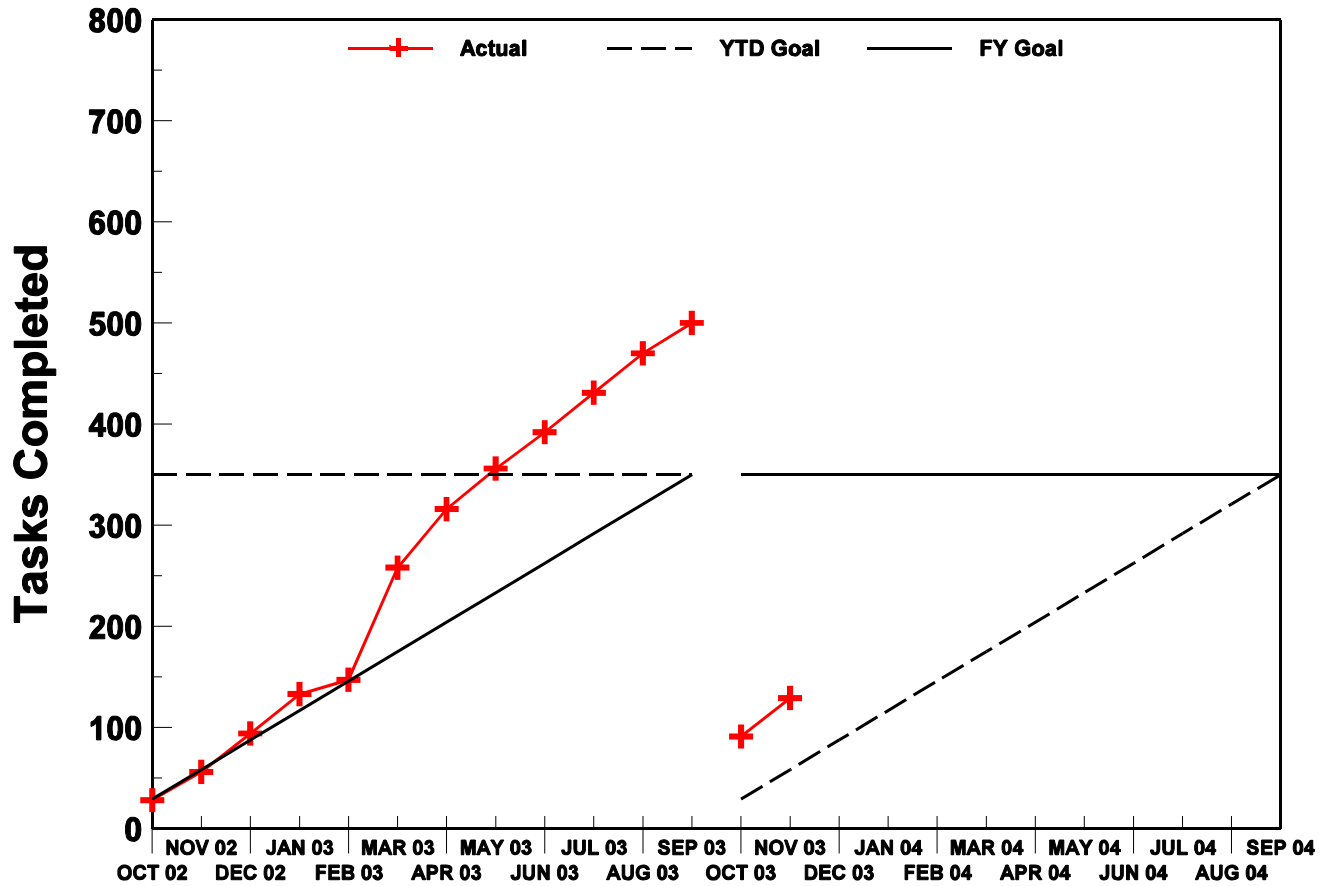
# Nuclear Reactor Safety - Reactor Licensing

## Performance Plan: Size of Licensing Action Inventory



# Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Completed Other Licensing Tasks



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

### McGuire, Units 1 and 2, and Catawba, Units 1 and 2, Combined Renewal Applications

The staff issued the final supplemental environmental impact statements (SEISs) for McGuire and Catawba in December 2002 and the safety evaluation report in January 2003.

In January 2002, the Atomic Safety and Licensing Board (ASLB) admitted contentions filed by two petitioners in the Catawba and McGuire license renewal proceeding. In October 2003, the ASLB denied the petitioners' contentions and request for hearing and terminated the proceeding. One of the petitioners has subsequently petitioned the Commission to reverse the ASLB decision. The staff's recommendation on issuing the renewed licenses has been submitted to the Commission.

### Fort Calhoun Renewal Application

The renewed licenses for Fort Calhoun were issued on November 4, 2003, completing the NRC's review of the license renewal application (22 months after receipt).

### Robinson Unit 2 Renewal Application

The staff issued the draft SEIS for public comment in May 2003, and the comment period ended in July 2003. The staff is addressing the comments received and is preparing to issue the final SEIS in December 2003. The staff issued the safety evaluation report identifying the remaining open items in August 2003, and the applicant's responses to the open items were received in September 2003. The staff is reviewing the applicant's responses and is preparing to issue the safety evaluation report in January 2004.

### Ginna Renewal Application

The staff issued the draft SEIS for public comment in June 2003, and the comment period ended in September 2003. The staff is addressing the comments received and is preparing to issue the final SEIS in February 2004. The staff issued the safety evaluation report identifying the remaining open items in October 2003, and the applicant's responses to the open items are due in December 2003.

### Summer Renewal Application

The staff issued the draft SEIS for public comment in July 2003, and the comment period ended in October 2003. The staff is addressing the comments received and is preparing to issue the final SEIS in February 2004. The staff issued the safety evaluation report in October 2003. The applicant's comments on the safety evaluation report are due in December 2003.

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

Environmental requests for additional information were issued in May 2003, and the responses were received in July 2003. The staff has reviewed the responses and issued the draft SEIS for Quad Cities in November 2003, and will issue the draft SEIS for Dresden in December 2003.

The safety requests for additional information were issued in August 2003, and the applicant's responses were received in October 2003. The staff is reviewing the applicant's responses and preparing to issue the safety evaluation report, which will identify any remaining open items, in February 2004.

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

The Farley renewal application is currently under review, and the staff is preparing requests for additional information. The environmental review and scoping process has begun, and a public scoping meeting is scheduled in the vicinity of Farley in January 2004.

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

On October 15, 2003, the NRC received an application for renewal of the Arkansas Nuclear One, Unit 2, operating license. In November 2003, the staff 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 April 2006.

#### Cook Renewal Application

On November 3, 2003, the NRC received an application for renewal of the Cook operating license. The staff is currently performing the required acceptance review of the application and, if found acceptable, will docket the application, notice an opportunity for hearing, and issue the review schedule.

### **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. The NRC staff issued a request for additional information (RAI) on October 1, 2003, requesting supplemental analyses and information from PFS. A revised schedule for the adjudication of the consequence analysis will be developed after this information is provided by PFS.

On November 13, 2003, the Commission issued an Order requiring the filing of appeals on any closed issues (otherwise appealable only at the conclusion of the underlying Atomic Safety and Licensing Board proceeding) by December 4, 2003, in order to expedite the conclusion of the proceeding.



## 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	Nov 2003	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
Severity Level II	Nov 2003	0	0	0	0	0
	FY 04 YTD	0	0	0	0	0
	FY 03 Total	0	0	0	0	0
	FY 02 Total	1	0	0	0	1
Severity Level III	Nov 2003	0	0	0	0	0
	FY 04 YTD	0	0	0	0	0
	FY 03 Total	2	0	4	0	6
	FY 02 Total	2	0	0	0	2
Severity Level IV	Nov 2003	0	0	0	0	0
	FY 04 YTD	1	0	0	0	1
	FY 03 Total	1	0	2	1	4
	FY 02 Total	0	0	2	0	2
Non-Cited Severity Level IV or Green	Nov 2003	29	6	4	22	61
	FY 04 YTD	34	35	49	44	162
	FY 03 Total	220**	164	202	184	770
	FY 02 Total	207	89	202	151	649

\* 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.

\*\* This number was corrected to account for violations that were not included in the count submitted in September. The violations were entered into the database used to calculate the number of enforcement actions after the September report was filed.

<b>Escalated Reactor Enforcement Actions Associated with the Reactor Oversight Process</b>						
		Region I	Region II	Region III	Region IV	Total
NOVs* Related to White, Yellow or Red Findings	11/03 Red	0	0	0	0	0
	11/03 Yellow	0	0	0	0	0
	11/03 White	0	0	0	0	0
	FY 04 YTD	0	0	1	0	1
	FY 03 Total	6	1	7	1	15
	FY 02 Total	5	4	6	8	23

\*Notices of Violations

### **Description of Significant Actions taken in November 2003**

No significant action was taken in the reactor arena in November.

### **VIII Power Reactor Security Regulations**

In response to the terrorist attacks on September 11, 2001, the NRC and the nuclear industry have taken a number of 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 1 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 Order revising the DBT 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 is currently working to ensure appropriate guidance is available to the industry so plant and program changes can be completed on schedule and in time to implement the DBT Order 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 use 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. As of the end of November, pilot force-on-force exercises have been completed at fourteen plants. The staff will present a paper to the Commission in early 2004 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. 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 design basis threat on October 29, 2004, the NRC will implement triennial force-on-force testing at each nuclear power plant site.

## **IX Power Uprates**

The staff has assigned a high priority to power uprate license amendment reviews and is therefore conducting power uprate reviews on accelerated schedules.

Licensees have been applying for and implementing power uprates since the 1970s as a way to increase the power output of their plants. The staff has been conducting power uprate reviews since then and to date has completed 99 such reviews. Approximately 12,414 MWt (4138 MWe) or an equivalent of about four nuclear power plant units has been gained through implementation of power uprates at existing plants. There are three types of power uprates. Measurement uncertainty recapture power uprates are power uprates of less than 2 percent and are based on the use of more accurate feedwater flow measurement techniques. Stretch power uprates are power uprates that are typically on the order of less than 7 percent and are within the design capacity of the plant. Stretch power uprates require only minor plant modification. Extended power uprates are power uprates beyond the design capacity of the plant and, thus, require major plant modification.

In June 2003, 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 and information obtained since the survey, licensees plan to submit power uprate applications for 27 nuclear power plant units in the next 5 years. These include 11 measurement uncertainty recapture power uprates, 5 stretch power uprates, and 11 extended power uprates. Planned power uprates are expected to result in an increase of about 5384 MWt (1794 MWe). The staff currently has 5 plant-specific applications under review, including an 8% extended power uprate (275 MWt increase) from Waterford 3 submitted on November 13, 2003.

On November 12, 2003, Quad Cities Nuclear Power Station, Unit 1, was shut down to perform inspections and repairs to the steam dryer. 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. The unit had been operating at a reduced power level since November 3 due to indications of higher-than-expected moisture carryover in the reactor steam. During inspections following reactor disassembly, on November 13, the steam dryer was found damaged. The damage occurred in the ½ inch thick upper dryer hood cover plate. The cover plate had cracks approximately 51 inches in total length, and a 6 inch by 9 inch portion of the plate broke off the steam dryer. The licensee conducted extensive inspections in an effort to locate the lost steam dryer piece(s), but none

were recovered; however, the licensee has found indications on a recirculation pump impeller. Based on these indications, the material is most likely in the bottom of the reactor vessel. The licensee has not determined what additional actions they will take to retrieve the missing material. Repairs and modifications, similar to those completed on the Unit 2 steam dryer earlier this year, have been completed on Unit 1. The NRC is following the event at Quad Cities Nuclear Power Station and is actively engaged with industry regarding industry's plans for addressing this issue generically.

During the October and November 2003 refueling outage at Dresden 2, the licensee found cracking on the steam dryer, but it was not through-wall. There were no indications of higher than-expected moisture carryover in the reactor steam at Dresden 2 during the previous operating cycle. Repairs and modifications, similar to those performed on the dryers at Quad Cities Units 1 and 2, were completed on the steam dryer for Dresden 2 during the refueling outage. The NRC is evaluating these conditions and is actively engaged with industry regarding industry's plans for addressing this issue generically.

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

The plant completed fuel load in late February 2003, and at the end of November was in Cold Shutdown (average coolant temperature less than 200 degrees Fahrenheit). FirstEnergy Nuclear Operating Co. (FENOC) and the NRC completed inspection and evaluation of the new reactor vessel head, vessel bottom nozzles, and control rod drive mechanism flanges and identified no indication of reactor coolant system leakage. Significant work items that need to be accomplished prior to restart include installation and testing of high pressure injection pumps that were refurbished and modifying thirty-one circuit breakers in 480 Volt alternating current load centers.

During the month of November, NRC continued inspections evaluating issues on the Oversight Panel's Restart Checklist. The NRC issued no inspection reports in November 2003; however, three inspections ended in November, and reports will be issued in December. All of the Davis-Besse inspection reports associated with the reactor vessel head degradation event can be viewed on the NRC's Davis-Besse web pages.

The Oversight Panel closed three Restart Checklist Items this month. One concerned the status of structures, systems, and components inside containment. Another concerned the licensee's process for ensuring completeness and accuracy of required records and submittals to the NRC. The third concerned review of licensee's Restart Action Plan. At the end of November, 23 of 31 Restart Checklist Items have been closed.

The Oversight Panel conducted two public meetings in November. The two public meetings were held in Oak Harbor, Ohio, on November 12, 2003. The first meeting was held with the licensee to discuss the status of its restart plan and the second meeting was held with the public to hear comments and answer questions.

On November 10, 2003, the NRC began sending responses to several thousand letters and several hundred e-mails received from citizens who have written or e-mailed the NRC. Most of the correspondence expresses concern or opposition to the possible startup of the plant, but

some support restart. The NRC plans to continue to send responses as additional letters come in.

Detailed information on NRC activities associated with the Davis-Besse reactor vessel head degradation event can be found at:

<http://www.nrc.gov/reactors/operating/ops-experience/vessel-head-degradation.html>

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

**DECEMBER 2003**

Enclosure 2

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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 December 2003. 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 completed during the month of December 2003.

## **II Revised Reactor Oversight Process**

The NRC continues to implement the Reactor Oversight Process (ROP) at all nuclear power plants. To balance all stakeholder input in our decision-making process, the NRC continues to meet with all interested stakeholders on a periodic basis to collect feedback on the efficacy of the process and consider the feedback in future ROP refinements. The discussions with industry and the public stakeholders are valuable because it permits a number of new or frequently asked questions (FAQs) to be identified and openly discussed.

In addition, the staff continues to openly discuss technical issues, ongoing staff activities, and timeliness of potential Mitigating Systems Performance Index (MSPI) issues. MSPI is a potential replacement for the Safety System Unavailability performance indicator.

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

Resolution of the issues in the Reactor Generic Issues program continues to be on track in accordance with 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 it can be implemented by the licensee. 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.

Operating power reactor other licensing tasks are defined as licensee responses to NRC requests for information through generic letters or bulletins, NRC responses to 2.206 petitions, NRC review of licensee 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 it can be implemented by the licensee. The FY 2004 NRC Performance Plan incorporates one output measure related to other licensing tasks -- number of other licensing tasks completed.



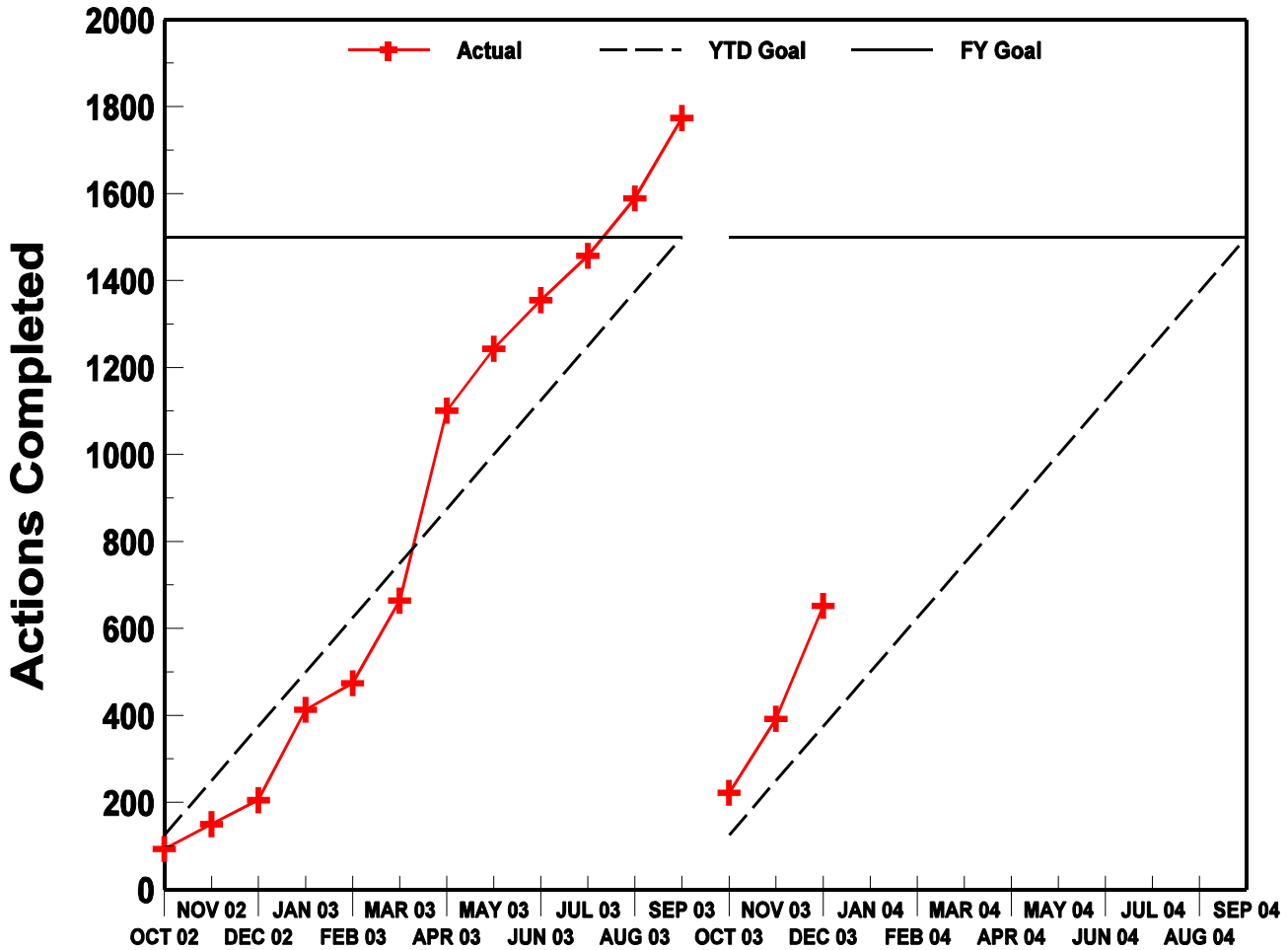
The actual FY 2002 and FY 2003 results, the FY 2004 goals, and the actual FY 2004 results, as of December 31, 2003, for the four NRC Performance Plan output measures for operating power reactor licensing actions and other licensing tasks are shown in the table below.

PERFORMANCE PLAN				
Output Measure	FY 2002 Actual	FY 2003 Actual	FY 2004 Goals	FY 2004 Actual (thru 12/31/2003)
Licensing actions completed/year	1560	1774	≥ 1500	652
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	87.0% ≤ 1 year; 100% ≤ 2 years
Size of licensing action inventory	765	1296	≤ 1000	945
Other licensing tasks completed/year	426	500	≥ 350	259

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

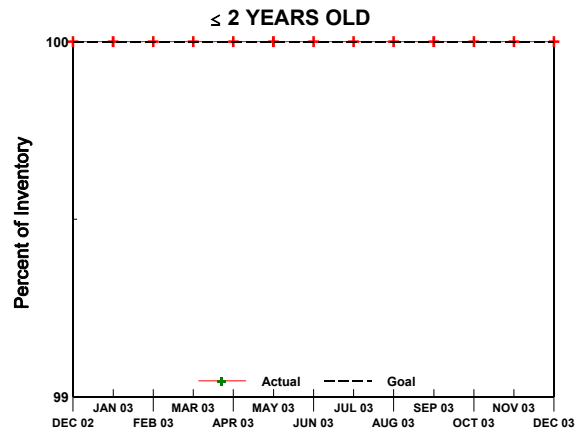
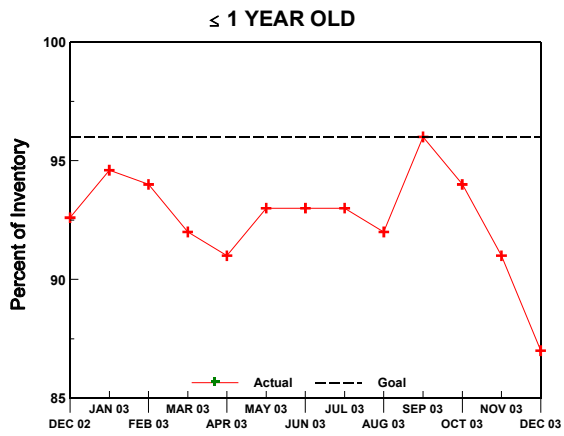
# Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Completed Licensing Actions



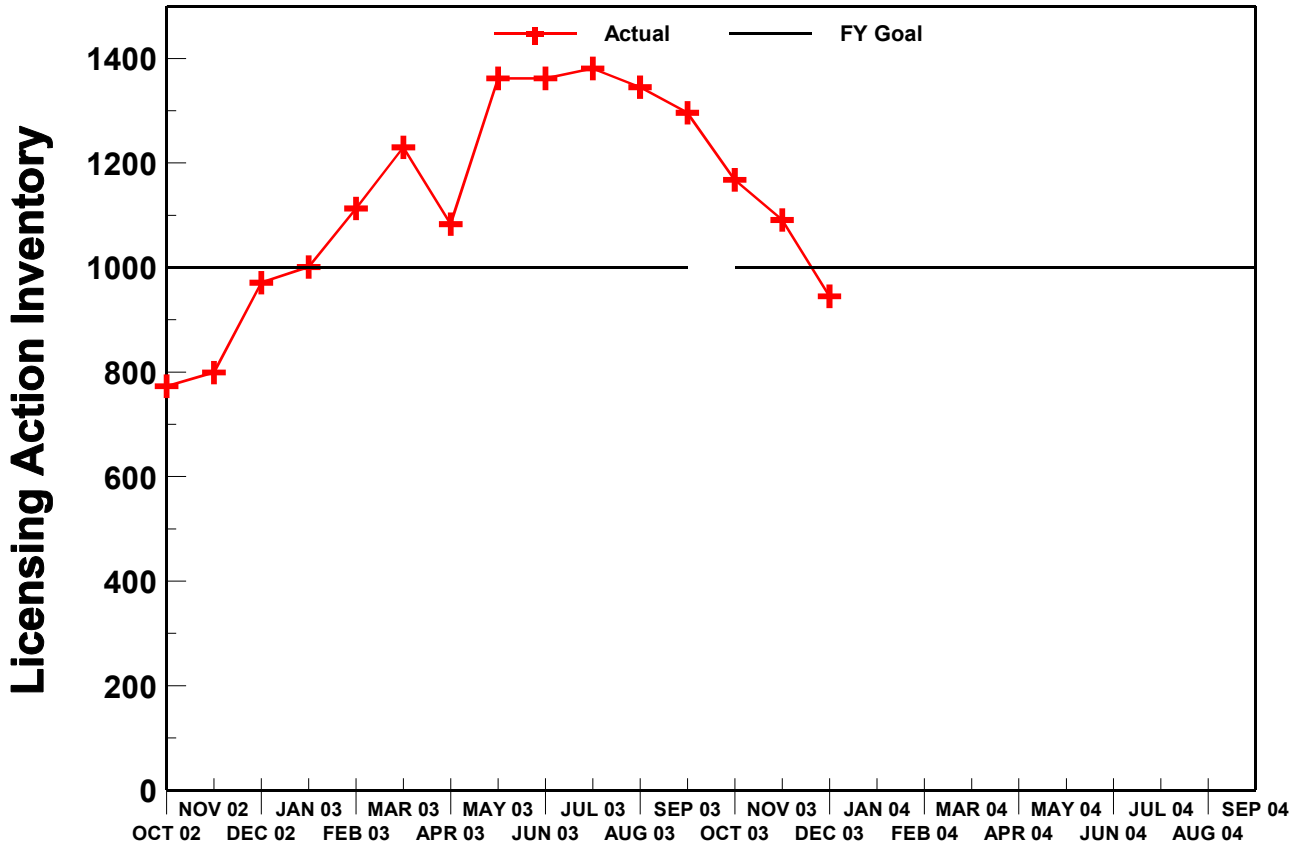
# Nuclear Reactor Safety - Reactor Licensing

## Performance Plan Target: Age of Licensing Action Inventory



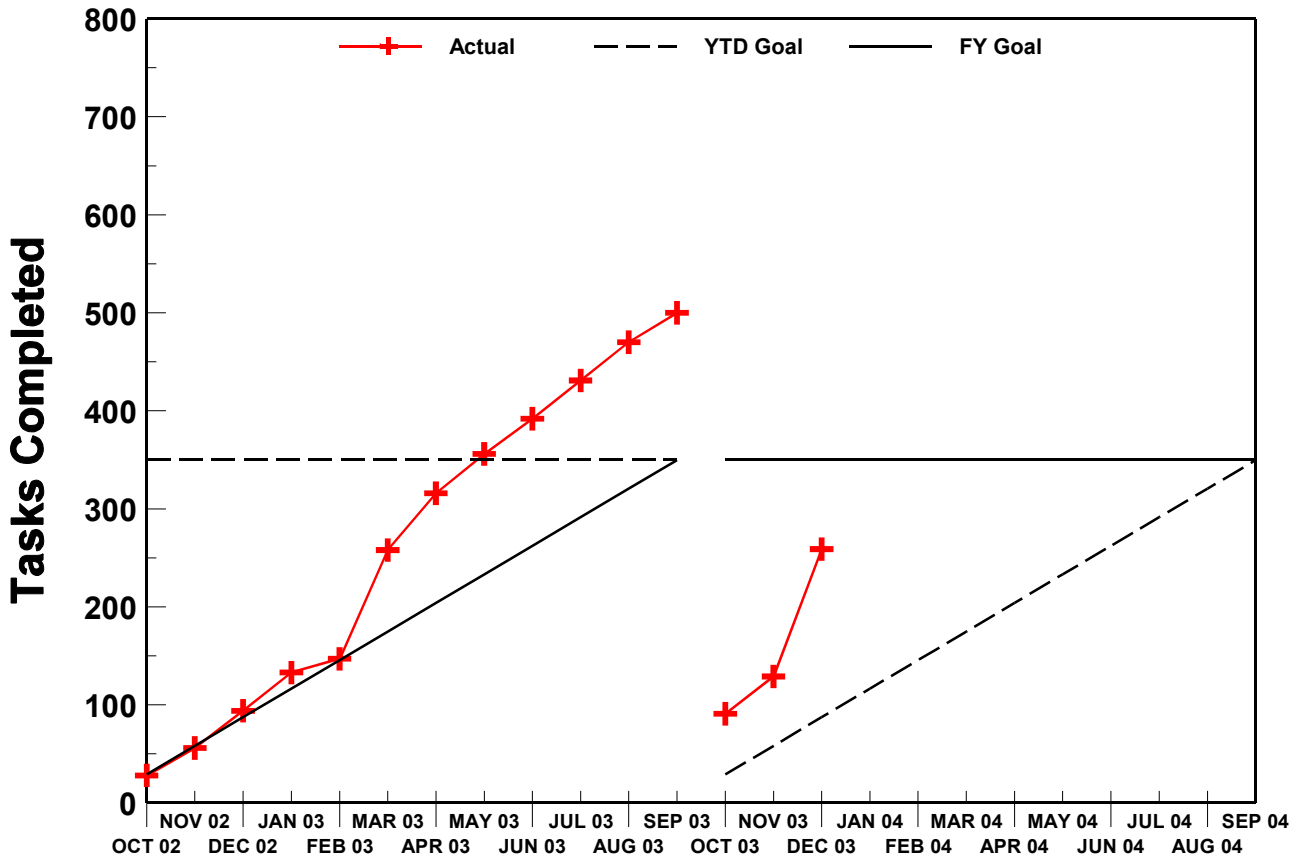
# Nuclear Reactor Safety - Reactor Licensing

## Performance Plan: Size of Licensing Action Inventory



# Nuclear Reactor Safety - Reactor Licensing

**Performance Plan Target: Completed Other Licensing Tasks**



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

### McGuire, Units 1 and 2, and Catawba, Units 1 and 2, Combined Renewal Applications

The renewed licenses for McGuire and Catawba were issued on December 5, 2003, completing the NRC's review of the license renewal application (30 months after receipt due to the hearing process).

In January 2002, the Atomic Safety and Licensing Board (ASLB) had admitted contentions filed by two petitioners in the Catawba and McGuire license renewal proceeding. In October 2003, the ASLB denied the petitioners' contentions and request for hearing and terminated the proceeding. A petitioner subsequently appealed to the Commission to reverse the ASLB decision. On December 9, 2003, the Commission issued its order finding there was no basis to revisit the ASLB's conclusion and denied the petition for review.

### Robinson Unit 2 Renewal Application

The staff issued the draft Supplemental Environmental Impact Statement (SEIS) for public comment in May 2003, and the comment period ended in July 2003. The staff addressed the comments received and issued the final SEIS in December 2003. The staff issued the safety evaluation report identifying the remaining open items in August 2003, and the applicant's responses to the open items were received in September 2003. The staff is reviewing the applicant's responses and is preparing to issue the safety evaluation report in January 2004.

### Ginna Renewal Application

The staff issued the draft SEIS for public comment in June 2003, and the comment period ended in September 2003. The staff is addressing the comments received and is preparing to issue the final SEIS in February 2004. The staff issued the safety evaluation report identifying the remaining open items in October 2003, and the applicant's responses to the open items were received in December 2003. The staff is reviewing the applicant's responses and is preparing to issue the safety evaluation report in March 2004.

### Summer Renewal Application

The staff issued the draft SEIS for public comment in July 2003, and the comment period ended in October 2003. The staff is addressing the comments received and is preparing to issue the final SEIS in February 2004. The staff issued the safety evaluation report in October 2003. The applicant's comments on the safety evaluation report were received, and the staff is preparing to issue the safety evaluation report in March 2004.

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

Environmental requests for additional information were issued in May 2003, and the responses were received in July 2003. The staff has reviewed the responses and issued the draft SEIS for Quad Cities in November 2003 and for Dresden in December 2003. The safety requests for additional information were issued in August 2003, and the applicant's responses were received

in October 2003. The staff is reviewing the applicant's responses and preparing to issue the safety evaluation report, which will identify any remaining open items, in February 2004.

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

The Farley renewal application is currently under review, and the staff is preparing requests for additional information. The environmental review and scoping process have begun, and a public scoping meeting is scheduled in the vicinity of the plant in January 2004.

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

The Arkansas Unit 2 renewal application is currently under review and the staff is preparing requests for additional information. The environmental review and scoping process have begun, and a public scoping meeting is scheduled in the vicinity of the plant in February 2004.

#### Cook Renewal Application

On November 3, 2003, the NRC received an application for renewal of the Cook operating license. In December 2003, the staff 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 May 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. On December 10 and 15, 2003, PFS submitted its response to the NRC staff's October 1, 2003 Request for Additional Information (RAI). The NRC staff is in the process of reviewing the responses. A discussion by the parties and the Atomic Safety and Licensing Board (ASLB) on the revised schedule for adjudicatory hearings is expected during January 2004.

On December 31, 2003, the ASLB issued a Partial Initial Decision (Regarding "Rail-Line Alternatives") in favor of PFS on an environmental contention brought by the Southern Utah Wilderness Alliance concerning a proposed 32-mile rail spur which PFS seeks to construct from the main east-west rail line to its facility. On December 4, 2003, the State of Utah and one other intervenor filed petitions for Commission review on previous rulings by the ASLB; those petitions are pending before the Commission.

## 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	Dec 2003	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
Severity Level II	Dec 2003	0	0	0	0	0
	FY 04 YTD	0	0	0	0	0
	FY 03 Total	0	0	0	0	0
	FY 02 Total	1	0	0	0	1
Severity Level III	Dec 2003	0	0	1	0	1
	FY 04 YTD	0	0	1	0	1
	FY 03 Total	2	0	4	0	6
	FY 02 Total	2	0	0	0	2
Severity Level IV	Dec 2003	0	0	0	0	0
	FY 04 YTD	1	0	0	0	1
	FY 03 Total	1	0	2	1	4
	FY 02 Total	0	0	2	0	2
Non-Cited Severity Level IV or Green	Dec 2003	8	0	7	9	24
	FY 04 YTD	42	35	56	53	186
	FY 03 Total	220	164	202	184	770
	FY 02 Total	207	89	202	151	649

\* 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
NOVs* Related to White, Yellow or Red Findings	12/03 Red	0	0	1	0	1
	12/03 Yellow	0	0	0	0	0
	12/03 White	0	1	0	1	2
	FY 04 YTD	0	1	2	1	4
	FY 03 Total	6	1	7	1	15
	FY 02 Total	5	4	6	8	23

\*Notices of Violations

### **Description of Significant Actions taken in December 2003**

#### **Duke Energy Corporation (Oconee) EA-03-145**

On December 30, 2003, a Notice of Violation was issued for a violation associated with a White Significant Determination Process (SDP) finding involving pressurizer ambient heat losses in all three Oconee units that exceeded the capacity of the pressurizer heaters powered from the standby shutdown facility. The violation cited the licensee's failure to identify promptly and correct the condition adverse to quality.

#### **Nuclear Management Company, LLC (Kewaunee) EA-03-105**

On December 30, 2003, a Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$60,000 was issued for a Severity Level III violation. The violation involved the licensee's failure to implement effective monitoring procedures to provide reasonable assurance that personnel with access are fit for duty and the failure to conduct an investigation of the circumstances or evaluate the risk involved in continued unescorted access of an employee after detecting evidence of behavior which may have impaired the job performance of an employee who had unescorted access to the Kewaunee Nuclear Plant.

#### **Entergy Operations, Inc. (River Bend 1) EA-03-077**

On December 29, 2003, a Notice of Violation was issued for a violation associated with a White SDP finding involving a loss of feedwater flow to the reactor. The violation cited the licensee's failure to lock open the Condensate Prefilter Vessel Bypass Flow Control Valve as required by their Technical Specifications.

#### **Nuclear Management Company, LLC (Point Beach 1 & 2) EA-03-057**

On December 11, 2003, a Notice of Violation was issued for a violation associated with a Red SDP finding involving the potential common mode failure of all trains of the auxiliary feedwater

(AFW) system. The violation cited the licensee's failure to establish adequate measures to assure that the AFW system design bases were correctly translated into specifications, drawings, procedures, and instructions.

## **VIII Power Reactor Security Regulations**

In response to the terrorist attacks on September 11, 2001, the NRC and the nuclear industry have taken a number of 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 1 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 Order revising the DBT 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 is currently working with licensees to ensure appropriate guidance is available to the industry so plant and program changes can be completed on schedule and in time to implement the DBT Order 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 use 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. As of the end of December, pilot force-on-force exercises have been completed at fifteen plants. The staff will present a paper to the Commission in early 2004 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. The NRC plans to continue to conduct force-on-force exercises at a rate of approximately two per month from mid-February through October 2004. There will be no force-on-force exercises in January because the staff is closing out issues identified in the force-on-force pilot program and is developing the process to do the force-on-force program transition. Following implementation of the revised Design Basis Threat 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 have 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. The staff has now developed a revised baseline inspection program for reactor

security taking into consideration the enhanced requirements and the higher threat environment. The revised baseline program will be implemented in January 2004.

## **IX Power Uprates**

The staff has assigned a high priority to power uprate license amendment reviews and is therefore conducting power uprate reviews on accelerated schedules.

Licensees have been applying for and implementing power uprates since the 1970s as a way to increase the power output of their plants. The staff has been conducting power uprate reviews since then and to date have completed 99 such reviews. Approximately 12,414 MWt (4138 MWe) or an equivalent of about four nuclear power plant units have been gained through implementation of power uprates at existing plants. There are three types of power uprates. Measurement uncertainty recapture power uprates are power uprates of less than 2 percent and are based on the use of more accurate feedwater flow measurement techniques. Stretch power uprates are power uprates that are typically on the order of less than 7 percent and are within the design capacity of the plant. Stretch power uprates require only minor plant modification. Extended power uprates are power uprates beyond the design capacity of the plant and, thus, require major plant modification.

In June 2003, 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 and information obtained since the survey, licensees plan to submit power uprate applications for 27 nuclear power plant units in the next 5 years. These include 11 measurement uncertainty recapture power uprates, 5 stretch power uprates, and 11 extended power uprates. Planned power uprates are expected to result in an increase of about 5384 MWt (1794 MWe). The staff currently has 5 plant-specific applications under review.

On December 24, 2003, Review Standard (RS)-001, "Review Standard for Extended Power Uprates," was issued. The purpose of this first-of-a-kind document is to provide guidance for the NRC staff's review of extended power uprate (EPU) applications to enhance consistency, quality, and completeness of reviews. The RS also informs licensees of the guidance documents that provide acceptance criteria that the NRC staff use when reviewing EPU applications. This should help licensees prepare EPU applications that are complete with respect to the areas within the NRC staff's scope of review. The final RS fully addressed the public comments received on the draft RS.

On December 15, 2003, the NRC issued a letter to Entergy Nuclear notifying them that the approval of the proposed amendment to allow an extended power uprate at Vermont Yankee Nuclear Power Station would be delayed. This delay was due a lack of information in several areas in the initial application and subsequent submittals needed to allow the NRC staff to complete the acceptance review of the application.

In our previous reports, the NRC noted that cracking has been found in the steam dryers at Quad Cities and Dresden. 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. The NRC continues to evaluate these steam dryer

cracking issues and consider the generic implications to other plants. The NRC remains engaged with industry regarding industry's plans for addressing these issues generically.

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

The plant completed fuel load in late February 2003. At the end of December, the licensee was beginning preparatory activities to heat up the reactor coolant system. NRC approval is required to restart the plant. Once the Oversight Panel has concluded that the Restart Checklist items have been adequately addressed, it will submit its restart recommendation to the Regional Administrator. The Regional Administrator will make his restart decision after conferring with other senior NRC officials.

During the month of December, NRC continued inspections evaluating issues on the Oversight Panel's Restart Checklist. Inspection Report 50-346/03-23 was issued for a special inspection involving a reactor coolant system leak test. Inspection Report 50-346/03-22 was issued documenting the results of a six-week resident inspection. All of the Davis-Besse inspection reports associated with the reactor vessel head degradation event can be viewed on the NRC's Davis-Besse web pages.

The Oversight Panel closed one Restart Checklist Item this month. This concerned test program development and implementation. At the end of December, 24 of 31 Restart Checklist Items have been closed.

The Oversight Panel conducted five public meetings in December. On December 3, 2003, a local public meeting was held with the licensee to discuss the status of its restart plan, and another local public meeting was held to hear comments and answer questions. On December 10, 2003, a public meeting was held at the NRC Region III Office to discuss the licensee's improvement plans relating to corrective action program implementation weaknesses identified during an NRC corrective action team inspection. On December 19, 2003, a local public meeting was held to discuss the results of the restart assessment team inspection and the results of management and human performance team inspection. On December 29, 2003, a local public meeting was held to discuss the licensee's activities associated with assessment and actions to address operational performance, safety culture, and safety conscious work environment issues.

On December 9, 2003, Ohio Governor Taft was updated on the status of Davis-Besse activities by the Director of NRC's Office of Nuclear Reactor Regulation, Mr. James Dyer, and by the NRC Region III Administrator, Mr. James Caldwell. A prior briefing of the Governor was conducted in February 2003.

During the weeks of December 8 and December 15, 2003, the NRC conducted a restart readiness assessment team inspection to verify that the plant was ready to be operated safely and in conformance with regulatory requirements. The inspection was conducted by seven experienced inspectors from NRC Regions II, III, and IV. Six of the inspectors are current or former senior resident inspectors assigned to nuclear plants throughout the NRC. The inspectors examined plant operations, maintenance, testing, engineering, and quality assurance activities.

The restart assessment team concluded that the licensee was not ready to start up the plant because of failures to implement licensee management expectations and standards consistently. The team found several examples of operators' lack of preparation for plant activities and awareness of plant equipment and status, a lack of project oversight to ensure proper rigor in the work control process, concerns regarding the traceability of test equipment, examples of procedure quality and adherence inadequacies, and some corrective actions resulting from operational performance issues that were not tracked and were ineffective.

On December 19, 2003, the Management and Human Performance Inspection Team concluded an inspection of safety culture and safety conscious work environment at Davis-Besse. The team concluded that the assessment tools and programs that Davis-Besse has implemented to address safety culture and safety conscious work environment are adequate and have been appropriately implemented. However, the team noted an increase in negative responses in the areas of safety culture and safety conscious work environment as a result of internal surveys taken in March and November 2003. The negative responses were from personnel in plant operations, engineering, quality assurance, and to a lesser extent, maintenance. Because of this, preparations are being made to conduct a followup inspection of Management and Human Performance.

Detailed information on NRC activities associated with Davis-Besse can be found at:  
<http://www.nrc.gov/reactors/operating/ops-experience/vessel-head-degradation.html>

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**JANUARY 2004**

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## **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 completed during the month of January 2004.

## **II Revised 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:

- On January 21, 2004, the NRC staff hosted a Mitigating Systems Performance Index (MSPI) public meeting. No decision has been reached by the staff regarding the future of the MSPI. Discussion during the MSPI meeting included reviews and studies for generic multipliers that account for common cause risk contributions. In addition, updates were provided for ongoing activities of comparison studies of MSPI, Safety System Unavailability (SSU), and Significance Determination Process (SDP) results, and with sensitivity studies of the effect of Probabilistic Risk Assessment (PRA) model differences and their effects on MSPI outcomes.
- On January 22, 2004, the NRC staff hosted an ROP public meeting to discuss several significance determination processes (SDPs) under development, including Containment Integrity SDP, Shutdown Risk SDP, and Steam Generator Tube Integrity SDP. In addition, with regard to Performance Indicators, a number of new or open frequently asked questions (FAQs) were discussed.
- On January 29, 2004, the NRC staff hosted a public meeting on the Construction Inspection Program (CIP) with Nuclear Energy Institute (NEI) and other public stakeholders. Major topics discussed included revisions to the 10 CFR Part 52 construction inspection program framework document and establishment of a working group to test the Construction Inspection Program Information Management System (CIPIMS).

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

The following Generic Issues have a change in status:

- Generic Safety Issue 189 “Susceptibility of Ice Condenser and BWR MARK III Containments to Early Failure from Hydrogen Combustion During a Severe Accident”

This issue was identified when it was discovered that the early containment failure probability in ice condensers is dominated by hydrogen combustion events rather than direct containment heating scenarios. The issue was extended to include BWR MARK III containments since their relatively low free volume and strength are comparable to PWR ice condensers. Staff recently concluded that rulemaking may be warranted to provide back-up power to one train of igniters for plants with ice condenser or MARK III



containments. This rulemaking is expected to be completed by 2007. Completion of this issue, including implementation and verification of modifications at the affected plants, is expected by 2010.

- Generic Issue 191 “Assessment of Debris Accumulation on PWR Sump Performance”

This issue addresses the possibility of debris accumulating on the emergency core cooling system (ECCS) sump screen, resulting in the loss of net positive suction head (NPSH) margin. The PWR industry, with NRC oversight, is developing technical guidance for plant-specific analyses to determine whether debris accumulation will impede or prevent ECCS operation. NRC Bulletin 2003-01 was issued to PWR licensees on June 9, 2003, requesting licensees to (1) confirm their compliance with 10 CFR 50.46(b)(5) and other existing applicable regulatory requirements, or (2) describe any compensatory measures that have been implemented to reduce the potential risk due to post-accident debris blockage as evaluations to determine compliance proceed. Staff expects to complete plant-specific analyses by May 2005. Licensee activities in response to NRC regulations related to this issue are expected to be completed by 2007.

#### **IV Licensing Actions and Other Licensing Tasks**

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Operating power reactor other licensing tasks are defined as licensee responses to NRC requests for information through generic letters or bulletins, NRC responses to 2.206 petitions, NRC review of licensee 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 it can be implemented by the licensee. The FY 2004 NRC Performance Plan incorporates one output measure related to other licensing tasks -- number of other licensing tasks completed.

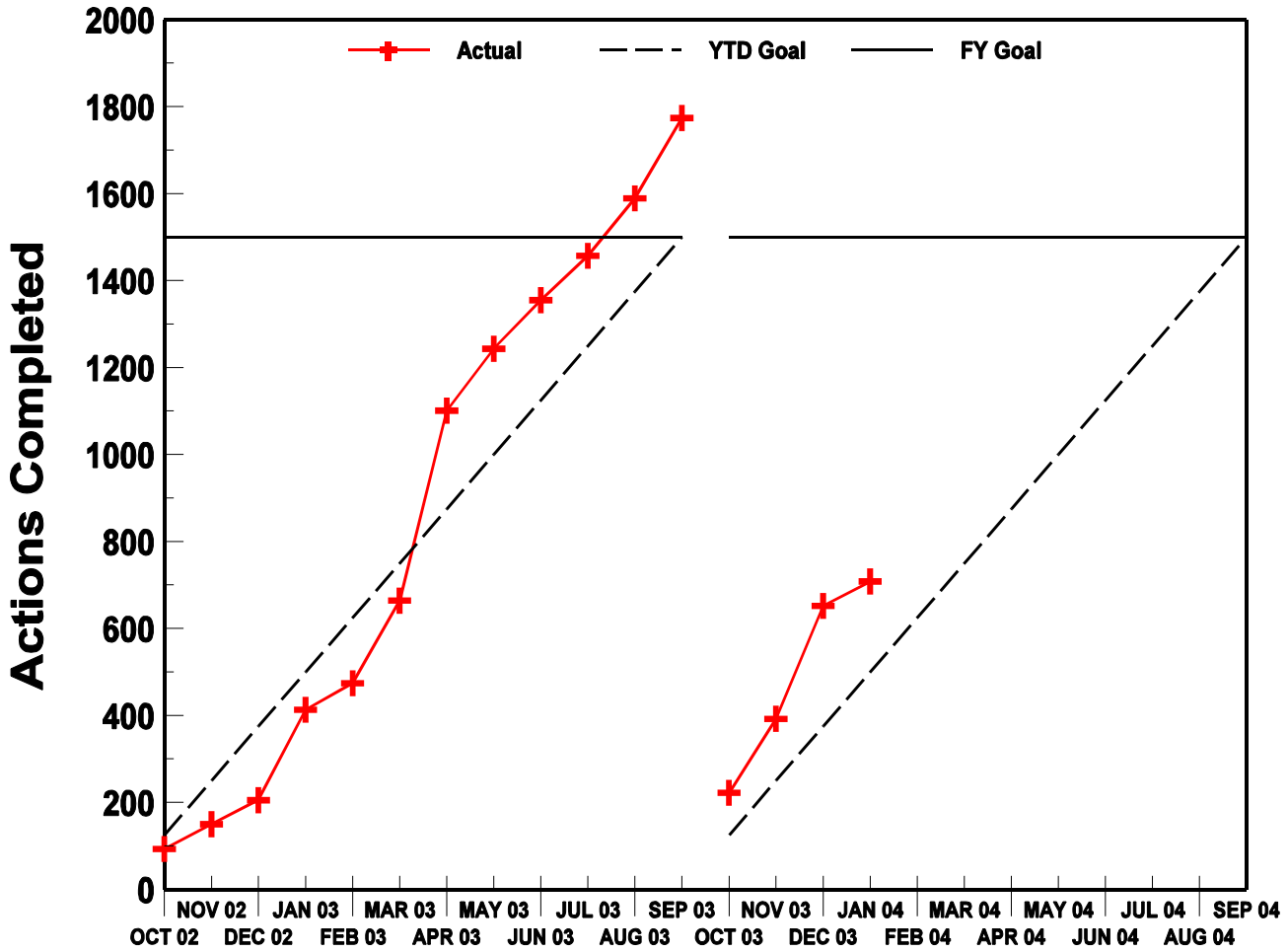
The actual FY 2002 and FY 2003 results, the FY 2004 goals, and the actual FY 2004 results, as of January 31, 2004, for the four NRC Performance Plan output measures for operating power reactor licensing actions and other licensing tasks are shown in the table below.

<b>PERFORMANCE PLAN</b>				
<b>Output Measure</b>	<b>FY 2002 Actual</b>	<b>FY 2003 Actual</b>	<b>FY 2004 Goals</b>	<b>FY 2004 Actual (thru 01/31/2004)</b>
<b>Licensing actions completed/year</b>	<b>1560</b>	<b>1774</b>	<b>≥ 1500</b>	<b>708</b>
<b>Age of licensing action inventory</b>	<b>96.6% ≤ 1 year; and 100% ≤ 2 years</b>	<b>96% ≤ 1 year; and 100% ≤ 2 years</b>	<b>96% ≤ 1 year and 100% ≤ 2 years old</b>	<b>89.0% ≤ 1 year; 100% ≤ 2 years</b>
<b>Size of licensing action inventory</b>	<b>765</b>	<b>1296</b>	<b>≤ 1000</b>	<b>980</b>
<b>Other licensing tasks completed/year</b>	<b>426</b>	<b>500</b>	<b>≥ 350</b>	<b>293</b>

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

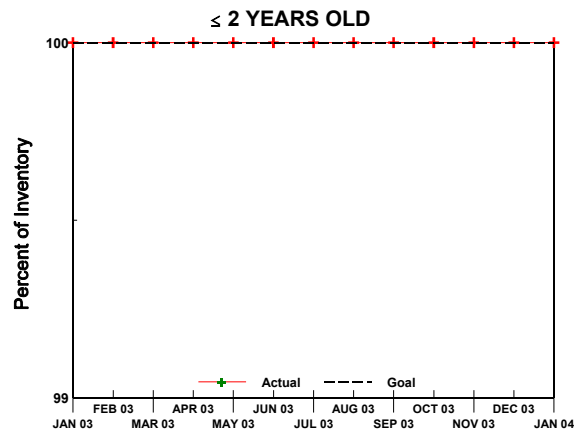
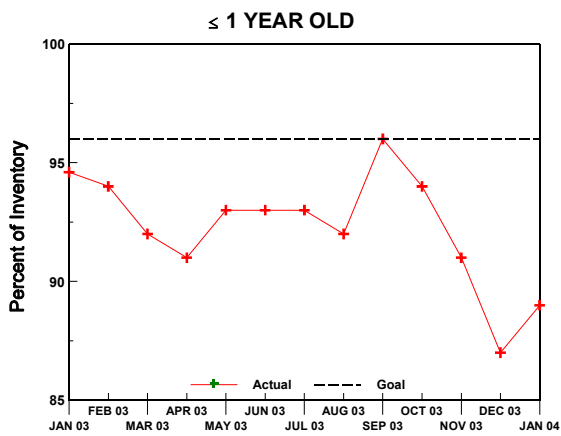
# Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Completed Licensing Actions



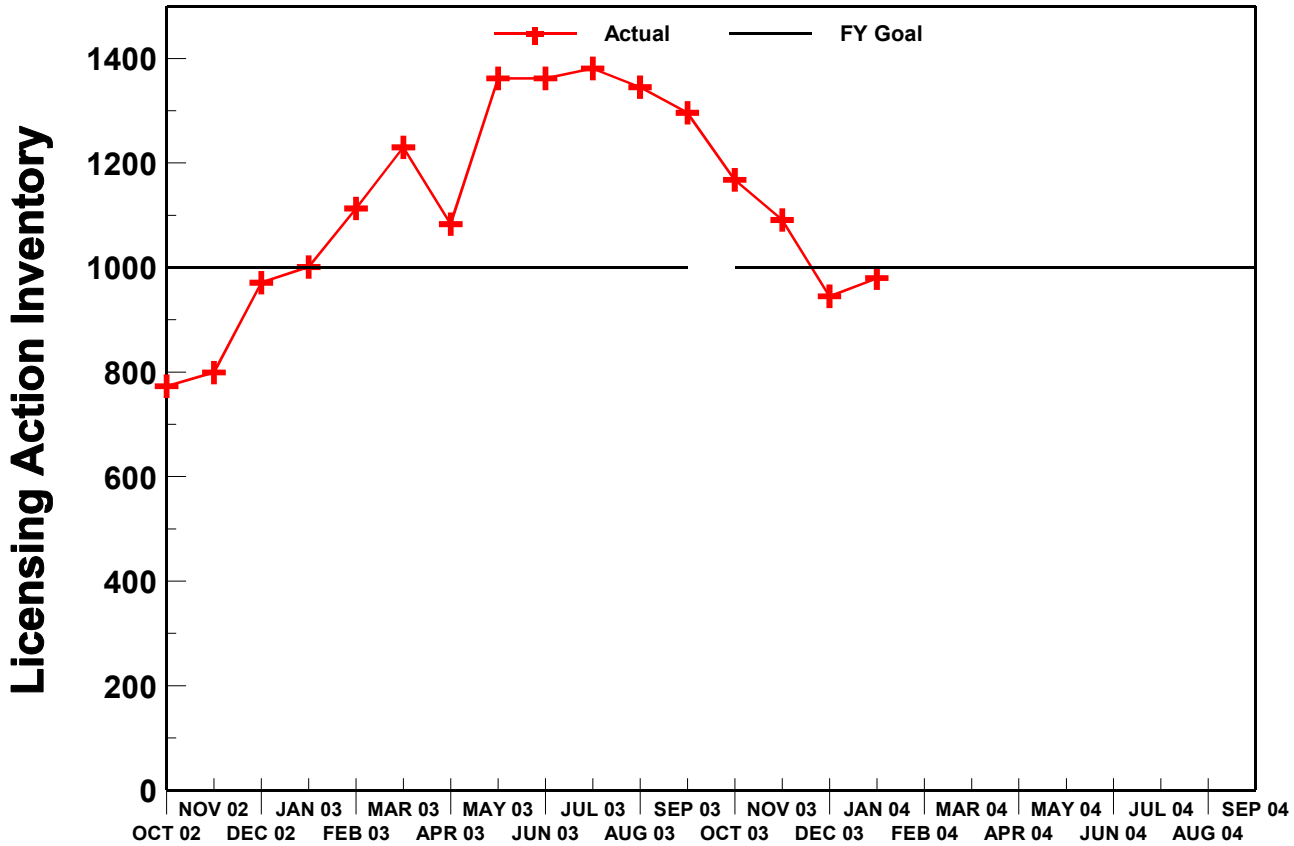
# Nuclear Reactor Safety - Reactor Licensing

## Performance Plan Target: Age of Licensing Action Inventory



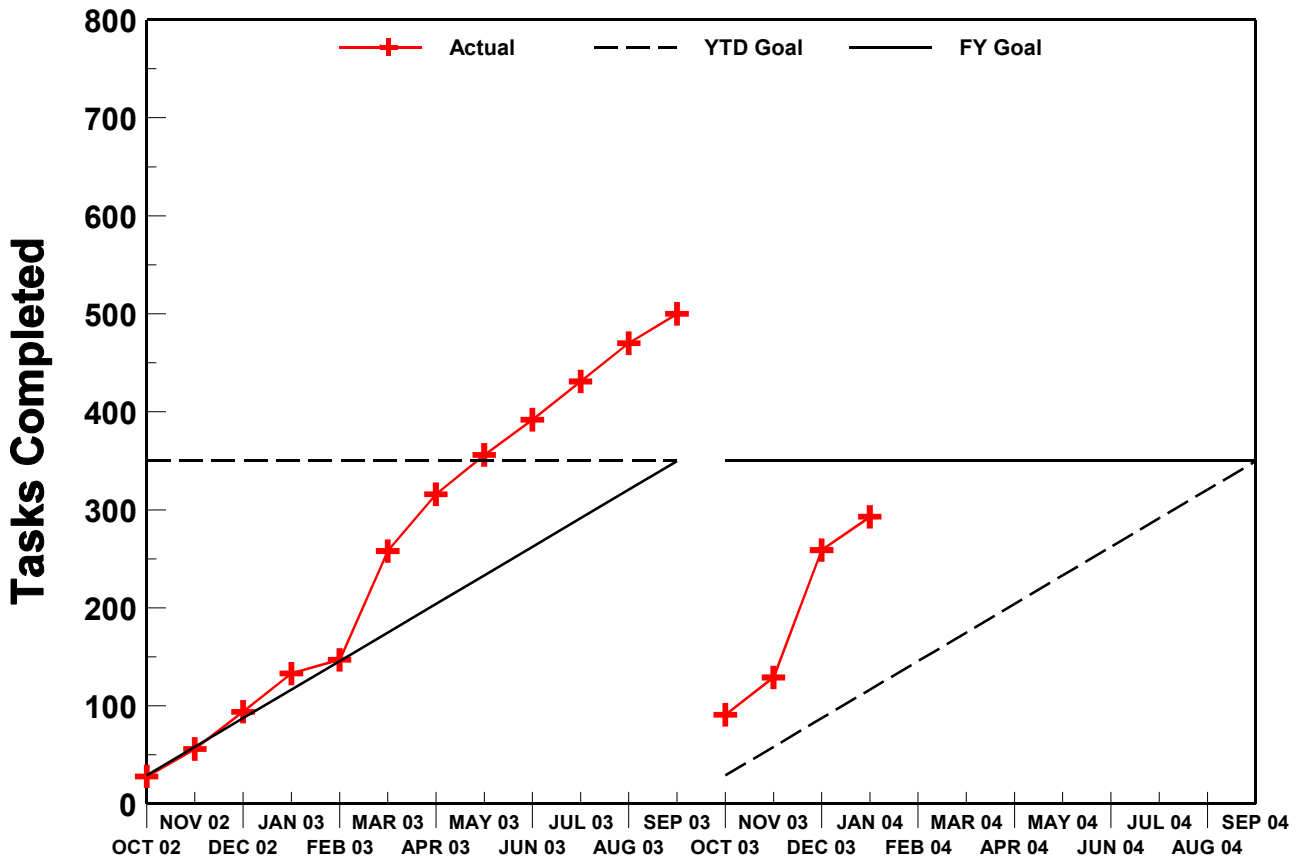
# Nuclear Reactor Safety - Reactor Licensing

## Performance Plan: Size of Licensing Action Inventory



# Nuclear Reactor Safety - Reactor Licensing

**Performance Plan Target: Completed Other Licensing Tasks**



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

### Robinson Unit 2 License Renewal Application

The staff issued the final supplemental environmental impact statement (SEIS) in December 2003 and the safety evaluation report in January 2004. The staff is completing activities to support a decision on renewing the licenses in April 2004.

### Ginna License Renewal Application

The staff issued the draft SEIS for public comment in June 2003, and the comment period ended in September 2003. The staff is addressing the comments received and is preparing to issue the final SEIS in February 2004. The staff issued the safety evaluation report identifying the remaining open items in October 2003, and the applicant's responses to the open items were received in December 2003. The staff is reviewing the applicant's responses and is preparing to issue the safety evaluation report in March 2004.

### Summer License Renewal Application

The staff issued the draft SEIS for public comment in July 2003, and the comment period ended in October 2003. The staff is addressing the comments received and is preparing to issue the final SEIS in February 2004. The staff issued the safety evaluation report in October 2003. The applicant's comments on the safety evaluation report were received, and the staff is preparing to issue the safety evaluation report in March 2004.

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

The staff issued the draft SEIS for public comment for Quad Cities in November 2003 and for Dresden in December 2003. The safety requests for additional information were issued in August 2003 and the applicant's responses were received in October 2003. The staff is reviewing the applicant's responses and preparing to issue the safety evaluation report, which will identify any remaining open items, in February 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, which will identify any remaining open items, 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, identifying any remaining open items, 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

On January 6, 2004, NRC received an application for renewal of the Browns Ferry Units 1, 2, and 3 operating licenses. The staff is currently performing the required acceptance review of the application and, if found acceptable, will docket the application, notice an opportunity for hearing, and issue the review schedule.

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

On January 22, 2004, NRC received an application for renewal of the Millstone Units 2 and 3 operating licenses. The staff is currently performing the required acceptance review of the application and, if found acceptable, will docket the application, notice an opportunity for hearing, and issue the review schedule.

## **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 requested that PFS update and revise certain of its consequence analysis reports to include information developed as part of the PFS response to the staff's two requests for additional information (RAI). The staff believes that consolidation of information in these reports is necessary and that it will expedite the staff's review. PFS has indicated that all reports will be provided to the staff by February 2, 2004. The State of Utah has filed an additional contention concerning new information provided in the PFS responses to the staff's RAI. A schedule for litigation of the aircraft crash consequence issue is expected to be developed shortly.

During January 2004, the State of Utah and PFS filed petitions seeking Commission review of the Atomic Safety and Licensing Board's (ASLB) May 2003 Partial Initial Decision on contentions involving financial assurance and decommissioning issues and the ASLB's January 2004 ruling on their motions for reconsideration of that decision. Finally, the Commission has under consideration two petitions for review of the ASLB's rulings on other contentions issued during the course of the proceeding.



## 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	Jan 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
Severity Level II	Jan 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	1	0	0	0	1
Severity Level III	Jan 2004	0	0	0	0	0
	FY 04 YTD	0	0	1	0	1
	FY 03 Total	2	0	4	0	6
	FY 02 Total	2	0	0	0	2
Severity Level IV	Jan 2004	0	0	0	0	0
	FY 04 YTD	1	0	0	0	1
	FY 03 Total	1	0	2	1	4
	FY 02 Total	0	0	2	0	2
Non-Cited Severity Level IV or Green	Jan 2004	51	45	45	65	206
	FY 04 YTD	93	80	101	118	392
	FY 03 Total	220	164	202	184	770
	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.

\*\* Transcription error - "202" should have been "201".

<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	1/04 Red	0	0	0	0	0
	1/04 Yellow	0	0	0	0	0
	1/04 White	0	0	2	0	2
	FY 04 YTD	0	1	4	1	6
	FY 03 Total	6	1	7	1	15
	FY 02 Total	5	4	6	8	23

### **Description of Significant Actions taken in January 2004**

#### **FirstEnergy Nuclear Operating Company (Perry) EA-03-197**

On January 28, 2004, a Notice of Violation was issued for a violation associated with a White SDP finding involving the failure of the Essential Service Water Pump A shaft on September 1, 2003, due to improper reassembly. The violation cited the licensee's failure to have adequate procedures for assembly of the pump.

#### **FirstEnergy Nuclear Operating Company (Perry) EA-03-194**

On January 23, 2004, a Notice of Violation was issued for a violation associated with a White SDP finding involving an undue delay in declaring an actual emergency condition on April 24, 2003. The shift manager did not follow the emergency classification and action level scheme as required by the emergency plan when damage to irradiated fuel caused a high alarm in the fuel handling building ventilation exhaust gaseous radiation monitor. The violation cited the licensee's failure to promptly declare the Alert as a violation of 10 CFR 50.47(b)(4).

### **VIII Power Reactor Security Regulations**

In response to the terrorist attacks on September 11, 2001, the NRC and the nuclear industry have taken a number of 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 1 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 Order revising the DBT 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 is currently working to ensure appropriate guidance is available to the industry so plant and program changes can be completed on schedule and in time to implement the DBT Order 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. The staff will present a paper to the Commission in early 2004 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 from mid-February through October 2004. There were no force-on-force exercises in January because the staff was closing out issues identified in the force-on-force pilot program and was developing the process to do the force-on-force program transition. 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 have 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 revised baseline program will be implemented in 2004.

## **IX Power Uprates**

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

There are three types of power uprates. Measurement uncertainty recapture power uprates are power uprates of less than 2 percent and are based on the use of more accurate feedwater flow measurement techniques. Stretch power uprates are power uprates that are typically on the order of less than 7 percent and are within the design capacity of the plant. Stretch power uprates require only minor plant modification. Extended power uprates 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 staff has been conducting power uprate reviews since then and to date has completed 100 such reviews. Approximately 12,438 MWt (4146 MWe) or an equivalent of about four nuclear power plant units has been gained through implementation of power uprates at existing plants. The staff currently has 5 plant-specific applications under review.

During the month of January, the staff approved a request by the Omaha Power District to increase the generating capacity of the Fort Calhoun nuclear power facility by 1.6 percent. The power uprate at the plant, located near Omaha, Nebraska, increases the generating capacity of the plant from 1500 to 1524 megawatts, resulting in an output of 485 megawatts electric. The staff received an application from Entergy Nuclear for the Indian Point 2 nuclear power plant, located near New York City, to increase its generating capacity by 3.3 percent. If approved, this request would add about 34 megawatts electric to the plant's electrical generating capacity.

On December 15, 2003, the NRC issued a letter to Entergy Nuclear (licensee for Vermont Yankee Nuclear Power Station) and informed them that their application for the Vermont Yankee extended power uprate will be delayed due to insufficient information for the NRC staff's review. In late January 2004, Entergy Nuclear sent the NRC another submittal in response to the NRC's letter of December 15.

In our previous reports, the NRC noted that cracking has been found in the steam dryers at Quad Cities and Dresden. 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. In addition to the steam dryer cracking, flow-induced vibration damage has been identified on components and supports for the main steam and feedwater lines at Quad Cities and Dresden. The NRC continues to evaluate the steam dryer cracking issues and damage to other plant components while considering the generic implications to other plants. The NRC remains engaged with industry regarding industry's plans for addressing these issues generically.

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 MWt (1766 MWe).

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

FirstEnergy Nuclear Operating Company (FENOC) projects startup of the Davis-Besse plant in early 2004. The plant reloaded fuel in late February 2003, and at the end of January 2004 the plant was in Mode 3 (Hot Standby - average coolant temperature  $\geq 280^{\circ}\text{F}$ ) at normal operating pressure and temperature ( $532^{\circ}\text{F}/2155$  psig). NRC approval is required to restart the plant. Once the Oversight Panel has concluded that the Restart Checklist items have been adequately addressed, it will submit its restart recommendation to the Regional Administrator. The Regional Administrator will make his restart decision after conferring with other senior NRC officials.

During the month of January, NRC continued inspections evaluating issues on the Oversight Panel's Restart Checklist. Inspection Report 50-346/03-25 was issued documenting the results of a six-week resident inspection. Inspection Report 50-346/03-24 was issued for a special inspection focusing on the backlog of engineering and maintenance work that would not be performed until after restart of the plant. Inspection Report 50-346/03-19 was issued for a special inspection associated with the completeness and accuracy of required records and submittals to the NRC. The inspection report contains an apparent violation concerning the failure of the licensee to provide the NRC complete and accurate information in response to Generic Letter 98-04 regarding containment coating deficiencies. All of the Davis-Besse inspection reports associated with the reactor vessel head degradation event can be viewed on the NRC's Davis-Besse web pages.

The Oversight Panel continued to track completion of licensee activities in order to resolve Restart Checklist Items. The Panel will not recommend restart until it is satisfied that all current safety concerns, including Restart Checklist Items, have been resolved. At the end of January 2004, 24 of 31 Restart Checklist Items have been closed.

During the week of January 12, 2004, a followup Management and Human Performance team inspection was conducted to review the licensee's actions to address a declining trend in the safety culture and safety conscious work environment surveys conducted in March and November 2003. Although the team completed on-site work, they requested additional information from the licensee and will continue to evaluate their findings.

The Oversight Panel conducted two public meetings in January. On January 21, 2004, a local public meeting was held with the licensee to discuss the status of its restart plan, and another local public meeting was held later that evening to hear public comments and answer questions.

Detailed information on NRC activities associated with Davis-Besse can be found at:  
<http://www.nrc.gov/reactors/operating/ops-experience/vessel-head-degradation.html>