

November 25, 2003

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) 2003 Energy and Water Development Appropriations Act, House Reports 107-681 and 108-10, directed the Nuclear Regulatory Commission (NRC) to continue to provide a monthly report on the status of its licensing and regulatory duties and expanded the scope of the report to include information on the status of the Davis-Besse Nuclear Power Station. 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 fifty-eighth report, which covers the month of September 2003. 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, including an update on the status of the Davis Besse nuclear power plant, passage of the revised Code of Conduct on the Safety and Security of Radioactive Sources Resolution at the 47th session of the IAEA General Conference, and consolidation of the NRC's nation-wide fuel cycle inspection program at the NRC Region II office in Atlanta, Georgia.

Since our last report, the NRC issued Bulletin 2003-04, "Rebaselining of Data in the Nuclear Materials Management and Safeguards System," on October 8, 2003, requesting licensees to perform one-time reporting on certain types of nuclear materials. The NRC is updating a national database, the Nuclear Materials Management and Safeguards System (NMMSS), and is requesting about 1,100 licensees to reverify the amounts of those materials currently in their possession. The NMMSS is used by the NRC and the Department of Energy (DOE) to track certain nuclear materials and other government-owned materials. Licensees authorized to possess such materials are to report their precise holdings to the NMMSS by January 6, 2004. This information will then be compared to existing records. The NRC will take appropriate action to address any discrepancies that cannot be readily resolved. The text of the bulletin is available on the NRC's public web site.

With regard to Davis Besse, the NRC staff continues to monitor closely the licensee's preparation for restart and onsite activities. The NRC recently added a third resident inspector to the NRC team at Davis-Besse as a result of the reactor pressure vessel (RPV) head degradation and the resulting need for increased NRC oversight. The NRC resident inspectors

serve as the agency's eyes and ears at the facility, conducting regular inspections, monitoring significant work activities, and interacting with plant workers and the public.

Although the vessel head at Davis-Besse has been replaced, the NRC continues to investigate the causative conditions surrounding the degradation of the RPV at the Davis-Besse nuclear power plant. The investigation includes research involving cladding experiments performed at Oak Ridge National Laboratory. The NRC's initial analysis on how long the reactor vessel cladding would have held was based on the overall strength of the stainless steel material. After those estimates were made, close examination of the actual cladding from Davis-Besse revealed several cracks that were deeper than expected. The purpose of the Oak Ridge tests is to see how well the analysis method accounts for cracks.

I would like to update you on the status of power uprate activities. Since May 2003, the staff completed reviews of seven power uprate applications, resulting in a combined increase of approximately 349 megawatts thermal (Mwt) or about 116 megawatts electric (MWe). This brings the total number of power uprate applications approved since 1977 to 99, resulting in a combined increase of approximately 12414 Mwt or 4138 MWe (or the equivalent of constructing four power plants) to the nation's installed electric generating capacity. The staff is currently reviewing four power uprate applications that could, if approved, add an additional 477 Mwt or 159 MWe to the nation's electric generating capacity. Furthermore, based on a June 2003 NRC survey of all licensees to obtain information regarding their plans for submitting power uprates over the next 5 years, 28 additional power uprate applications are expected. If approved, these power uprates would result in an increase of about 5659 Mwt or about 1886 MWe to the nation's electric generating capacity. Based on the results of the June 2003 survey and the models the staff developed for reviewing power uprates, approximately 36 full-time equivalent staff will be used for reviewing the power uprates expected over the next 5 years. These resources are budgeted and the staff does not anticipate any need for additional resources for power uprate reviews. Power uprates are considered among the most significant licensing actions, and are being reviewed in a manner that does not unnecessarily delay their completion. Because of the wide interest in power uprate licensing actions, we established a power uprate web site that is accessible from our home page (<http://www.nrc.gov/>). Maintaining safety remains the staff's highest priority when conducting power uprate reviews, and the staff will ensure that the goal to maintain safety is not compromised in order to meet timeliness and resource expenditure goals. As more experience is gained, the staff will face challenges to consider the safety significance of any issues that may arise (such as the Quad Cities Unit 2 steam dryer failure, and the Byron and Braidwood ultrasonic flow meter instrumentation reading abnormalities discussed in the Enclosure), the need for modifying its guidance for future reviews of power uprates, and the potential need to revisit prior reviews of power uprates. The staff is staying abreast of operating experience related to power uprates and will maintain a safety focus to ensure that review guidance is updated with experience.

Since our last report, we renewed the operating license of the Ft. Calhoun Nuclear Power Station for an additional 20 years. The plant is located near Omaha, Nebraska, and is operated by Omaha Public Power District (OPPD). We also recently received three license renewal applications: one dated September 12, 2003, from the Southern Nuclear Operating

Company for the Joseph M. Farley Nuclear Plant, Units 1 and 2, located about 16.5 miles east of the City of Dothan, in Houston County, Alabama; one dated October 14, 2003, from the Entergy Operations, Inc., for Arkansas Nuclear One (ANO) Unit 2 located in Pope County, Arkansas; and one dated October 31, 2003, from the Indiana Michigan Power Company for the Donald C. Cook Nuclear Plant, Units 1 and 2, located in Berrien County, Michigan. The Commission has now renewed the licenses of 19 units at 10 sites for an additional 20 years. In addition, eight applications covering 16 units are currently under review. Copies of the individual applications, the review schedules, and other relevant technical information are available on our web site. More applications for renewal are anticipated in the coming years.

Recently, the Commission and the NRC staff also:

- published in the Federal Register on October 31, 2003 (68 FR 62103), a notice from NRC's Office of Nuclear Regulatory Research seeking recommendations for anticipatory research both within NRC and from external stakeholders. This research will help the NRC resolve current challenges and prepare for anticipated future regulatory issues. Comments are also being solicited on the factors that should be considered when anticipatory research topics are prioritized. Responses to this request will be evaluated for possible inclusion in the FY 2006 and FY 2007 budgets.
- issued on October 23, 2003, an immediately effective Order to all power reactor licensees and research reactor licensees who transport spent nuclear fuel. The licensees subject to this Order have been issued a specific license by the U.S. Nuclear Regulatory Commission authorizing the possession of spent nuclear fuel and a general license authorizing the transportation of spent nuclear fuel in a transportation package approved by the Commission in accordance with the Atomic Energy Act of 1954, as amended, and 10 CFR Parts 50 and 71. The Commission has determined that certain additional security measures are required to be implemented by licensees as prudent, interim measures, to address the current threat environment in a consistent manner. The additional security measures are classified as Safeguards Information under Section 147 of the Atomic Energy Act and will not be released to the public. The Commission is imposing the additional security requirements -- which supplement existing regulatory requirements -- in order to provide the Commission with reasonable assurance that the common defense and security continue to be protected adequately in the current threat environment. These requirements will remain in effect until the Commission determines otherwise.
- approved on October 23, 2003, a clarification regarding turnover time and a relaxation regarding the conduct of force-on-force exercises related to Order EA-03-038 (April 2003), which imposes work-hour limits on security force personnel. The letter issuing the relaxation was posted on the NRC Web page: <http://www.nrc.gov/reading-rm/doc-collections/enforcement/security/ffdreply.pdf>. The clarification excludes shift turnover time from the calculation of the group average work hours. The relaxation increases the group average limit from 48 hours per week to 60 hours per week during the time period that licensees conduct force-on force exercises. Full implementation of the Order was required by October 29, 2003.

- received on October 21, 2003, an early site permit (ESP) application dated October 16, 2003, from System Energy Resources, Inc., a subsidiary of Entergy Corporation, for a site on property co-located with the Grand Gulf Nuclear Station near Port Gibson, Mississippi. This is the final ESP application of the three the staff expected to receive in 2003. The first two, for North Anna and Clinton, were received on September 25, 2003.
- published in the Federal Register on October 16, 2003 (68 FR 59645), a notice announcing the issuance and availability of Revision 1 of Regulatory Guide 1.159, "Assuring the Availability of Funds for Decommissioning Nuclear Reactors." This revision was developed to reflect recent changes in a direct final rule on 10 CFR 50.75, which was signed by the Executive Director for Operations on October 20, 2003. This document provides guidance to licensees and applicants of nuclear power, research, and test reactors concerning acceptable methods for complying with requirements in the rules regarding the amount of funds for decommissioning. It also provides guidance on the content and forms of the financial assurance mechanisms in those rule amendments.
- published in the Federal Register on October 10, 2003 (FR 68 58791), a final rule that clarifies how and when licensees and other members of the public may use electronic means such as CD-ROM and e-mail to communicate with the agency. These amendments are necessary to implement the Government Paperwork Elimination Act. The final rule becomes effective on January 1, 2004. Guidance on how to submit documents to the agency electronically is being made publicly available concurrent with this rule making.
- published in the Federal Register on October 7, 2003 (68 FR 57839), a proposed rule to amend NRC regulations revising the Transnuclear, Inc. Standardized NUHOMS Horizontal Modular Storage System to add the NUHOMS-24PHB cask design to the Standardized NUHOMS System.
- issued on October 8, 2003, NRC Regulatory Issue Summary 2003-18, "Use of NEI 99-01, 'Methodology for Development of Emergency Action Levels,' Revision 4," dated January 2003. This Regulatory Issue Summary (RIS) informs addressees that the NRC has reviewed use of NEI 99-01 and is endorsing the report as guidance in developing or changing a standard emergency classification and action level scheme. In addition, this RIS provides recommendations to assist licensees.
- dispatched a special inspection team to the R.E. Ginna Nuclear Power Plant to review a degraded containment sump condition. The plant, located in Ontario, New York, is operated by Rochester Gas & Electric (RGE) Company. Earlier this year, the NRC sent a bulletin to operators of pressurized water reactors asking them to confirm that their containment sump systems comply with NRC regulations. On September 18, 2003, RGE informed the NRC that while performing an inspection in response to the bulletin, it found a potential flow path into the containment sump that bypasses screening designed to prevent foreign materials from getting into and potentially clogging the sump. An inspection report detailing the findings will be issued within 45 days of the end of the inspection.

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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 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 W.J. "Billy" Tauzin, 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

SEPTEMBER 2003

Enclosure

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

Risk-Informed Rules for Control of Combustible Gases (10 CFR 50.44)

On September 16, 2003, the Commission issued the final risk-informed rule for control of combustible gases inside reactor containment buildings (68 FR 54123). This final rule is based on information from extensive NRC-sponsored research over the last 20 years to understand the generation and behavior of combustible gases during nuclear power reactor accidents. The changes will allow power reactor licensees to eliminate hydrogen recombiners and to relax containment hydrogen and oxygen monitoring requirements based on the low risk significance of that equipment. On September 25, 2003, the Commission issued a model application for revising nuclear power reactor technical specifications in accordance with the new rule. This model application will make it easier for licensees to submit license amendments to reduce these requirements.

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:

- On September 3, 2003, staff members of the Office of Nuclear Reactor Regulation (NRR) met with Dominion Energy, Inc., in a public meeting to discuss plans for inspections of Dominion's quality assurance (QA) measures in support of its prospective early site permit application. The meeting provided an opportunity to discuss the QA review process and respond to questions.
- On September 10, 2003, NRR staff members provided an overview of the ROP in a public meeting to the Defense Nuclear Facilities Safety Board (DNFSB). The DNFSB was interested in the NRC's oversight process because the oversight policy of the Department of Energy (DOE) and the National Nuclear Security Administration (NNSA) was being re-examined to allow greater flexibility for contractor self-assessments.
- On September 15 through 17, 2003, NRR staff members, along with regional and other headquarters staff and management, attended the Nuclear Energy Institute (NEI)-sponsored Fire Protection Information Forum, in Baltimore, Maryland. Topics discussed included NRC rulemaking for manual actions, endorsement of National Fire Protection Association (NFPA) 805 as an industry option for meeting fire protection general design criteria, and development of inspection guidance for manual actions and associated circuits.
- On September 24, 2003, NRR staff members participated in a public meeting to discuss the draft steam generator tube integrity Significance Determination Process (SDP). At the meeting, industry comments were discussed and table top exercises were conducted to verify the acceptability of outcomes. Based on the results of the exercises, the draft SDP will be reformatted and applicable industry comments will be incorporated

prior to reissuing the draft for another round of comments by NEI and by the NRC regional offices.

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 the schedules previously submitted to you.

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 they can be implemented by the licensee. The FY 2003 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 2003 NRC Performance Plan incorporates one output measure related to other licensing tasks -- number of other licensing tasks completed.

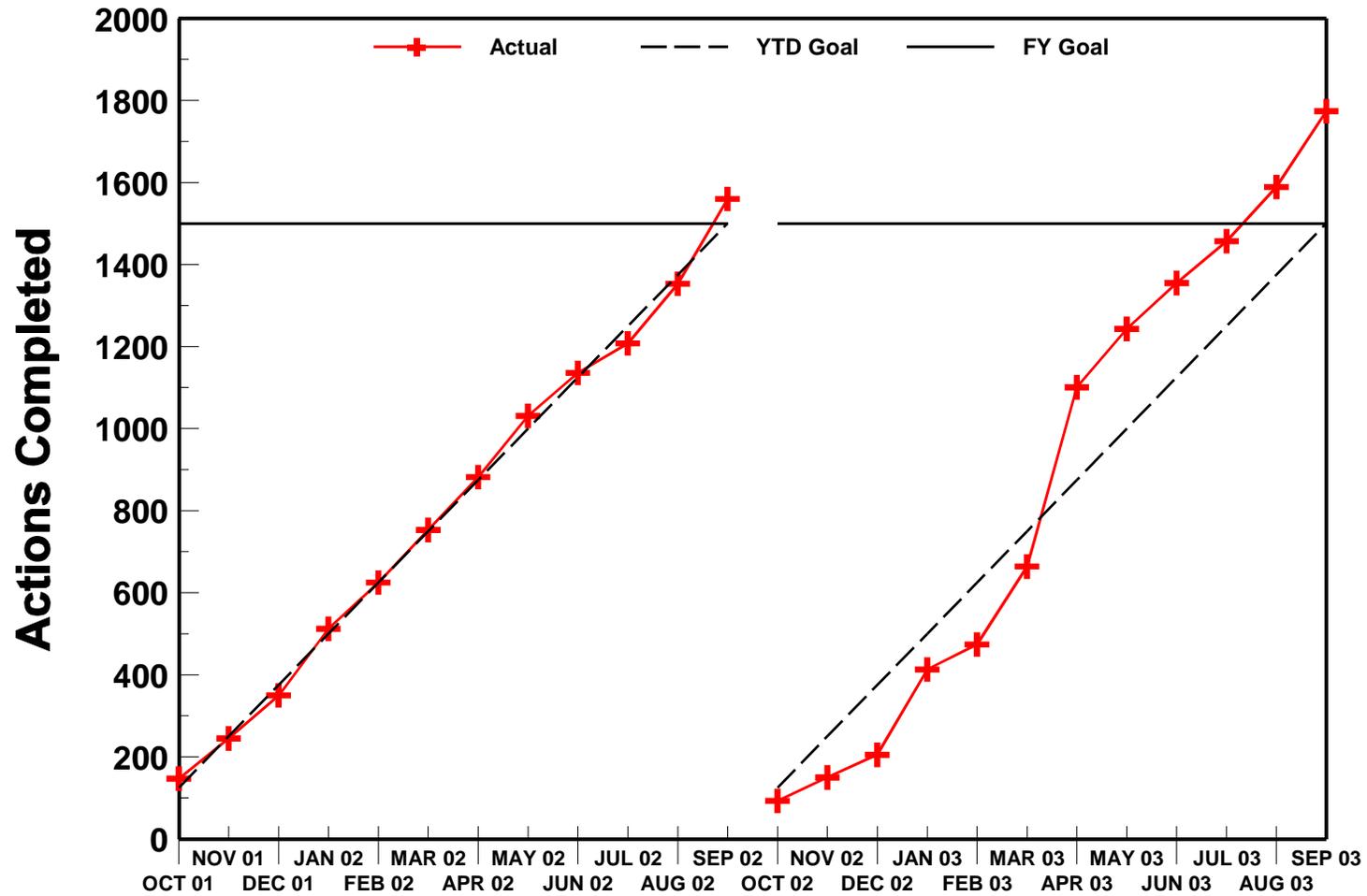
The actual FY 2001 and FY 2002 results, the FY 2003 goals and the actual FY 2003 results, as of September 30, 2003, for the four NRC Performance Plan output measures for licensing actions and other licensing tasks are shown in the table below. The licensing action exceeded the 1,000 goal by 296 due to an increase of opened licensing actions in FY 2003 for the following security orders: (1) Design Basis Threat, (2) Fatigue, (3) Training, and (4) Access Authorization. The security orders accounted for 412 licensing actions opened during FY 2003.

PERFORMANCE PLAN				
Output Measure	FY 2001 Actual	FY 2002 Actual	FY 2003 Goals	FY 2003 Actual (thru 09/30/2003)
Licensing actions completed/year	1617	1560	≥ 1500	1774
Age of licensing action inventory	96.9% ≤ 1 year; and 100% ≤ 2 years	96.6% ≤ 1 year; and 100% ≤ 2 years	96% ≤ 1 year and 100% ≤ 2 years old	96% ≤ 1 year; 100% ≤ 2 years
Size of licensing action inventory	877	765	≤ 1000	1296
Other licensing tasks completed/year	523	426	≥ 350	500

The following charts demonstrate NRC's FY 2003 trends for the four licensing action and other licensing task output measure goals:

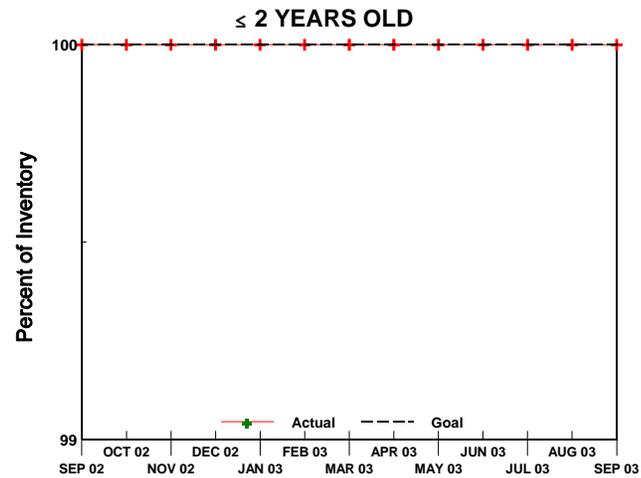
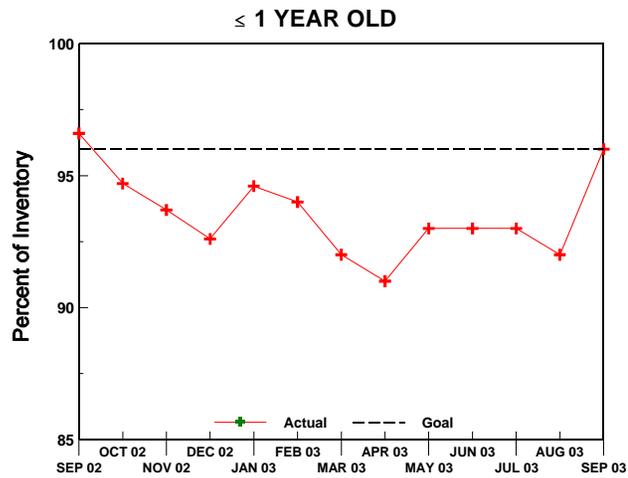
Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Completed Licensing Actions



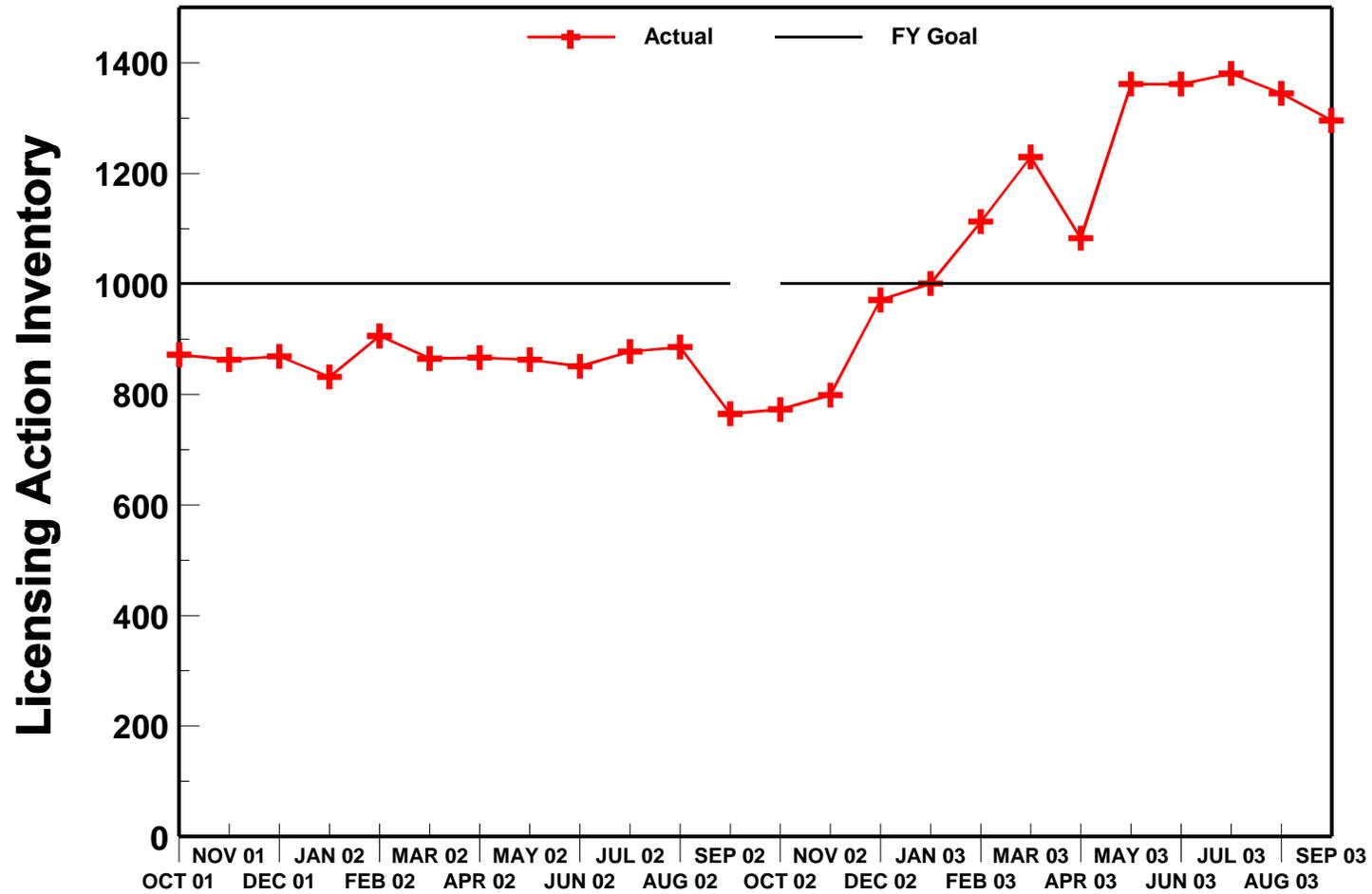
Nuclear Reactor Safety - Reactor Licensing

Performance Plan Target: Age of Licensing Action Inventory



Nuclear Reactor Safety - Reactor Licensing

Performance Plan: Size of Licensing Action Inventory



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. The safety evaluation report resolving the open items was issued in January 2003. The staff is supporting completion of the hearing process. A decision on the renewal of the licenses is scheduled for December 2003.

In January 2002, the Atomic Safety and Licensing Board admitted two contentions filed by petitioners. The staff and Duke Power appealed. In April 2002, the Commission dismissed one contention and, in July 2002, dismissed one part of the second contention and affirmed the admission of the second part. In response to requests by Duke Power and the Board, the Commission, in December 2002, clarified the scope of the admitted contention, reinstated an amended contention (for consideration of its admissibility by the Board), and provided guidance to the Board. In April 2003, the interveners requested that the Board reinstate a previously dismissed contention. In September 2003, the Commission directed the Board to explain why the proceeding had been delayed and when it intended to issue a decision on the pending matters. The Board responded that it expected to rule on the pending amended contention in October and the request for reinstatement of a dismissed contention no later than November.

St. Lucie, Units 1 and 2, Renewal Application

The staff issued the final SEIS in May 2003 and the safety evaluation report in July 2003. The staff is preparing the license package and obtaining the final concurrences to support a decision on issuing the renewed license in October 2003.

Fort Calhoun Renewal Application

The staff issued the final SEIS in August 2003 and the safety evaluation report in September 2003. The staff is preparing the license package and obtaining the final concurrences to support a decision on issuing the renewed license in November 2003.

Robinson Unit 2 Renewal Application

The staff issued the draft SEIS for public comment in May 2003. 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. The applicant's responses to the open items are due November 2003.

Ginna Renewal Application

The staff issued the draft SEIS for public comment in June 2003. 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 safety requests for additional information were issued in March 2003, and the applicant's responses were received in June 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 October 2003.

Summer Renewal Application

The staff issued the draft SEIS for public comment in July 2003. The comment period ends in October 2003. The safety requests for additional information were issued in March 2003, and the applicant's responses were received in June 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 October 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 is reviewing the responses and is preparing to issue the draft SEIS in November 2003 for Quad Cities and in December 2003 for Dresden. The safety requests for additional information were issued in August 2003, and the applicant's responses are due in October 2003.

Farley, Units 1 and 2

On September 15, 2003, the NRC received an application for renewal of the operating licenses for Farley, Units 1 and 2. The staff is currently performing the required acceptance review 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, geographically located in Skull Valley, Utah. On September 9, 2003, the Atomic Safety and Licensing Board (ASLB) issued a schedule which would include hearings in December 2003 and an ASLB decision in April 2004, for adjudication of the PFS consequence analysis. This schedule assumed that the NRC Staff would issue one request for additional information and that PFS would provide an adequate response to it. The staff issued a request for information (RAI) on August 15, 2003. Subsequently, the staff determined that a second RAI would be necessary before the staff could complete its review.

The second RAI is scheduled to be issued by the staff on October 1, 2003. The staff will meet with representatives of PFS on October 2, 2003, to provide any clarifications necessary. Because the PFS consequence analysis reports have been determined to contain Safeguards Information, this meeting will not be open to the public. However, representatives of the State of Utah who have signed the appropriate non-disclosure agreement will be permitted to attend the meeting. The staff expects to discuss this development with PFS and the State of Utah, and expects that the parties will then propose a modified hearing schedule for consideration by the ASLB.

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	Sept 2003	0	0	0	0	0
	FY 03 YTD	0	0	0	0	0
	FY 02 Total	0	0	0	0	0
	FY 01 Total	0	0	0	0	0
Severity Level II	Sept 2003	0	0	0	0	0
	FY 03 YTD	0	0	0	0	0
	FY 02 Total	1	0	0	0	1
	FY 01 Total	0	1	0	0	1
Severity Level III	Sept 2003	0	0	0	0	0
	FY 03 YTD	2	0	4	0	6
	FY 02 Total	2	0	0	0	2
	FY 01 Total	1	1	1	1	4
Severity Level IV	Sept 2003	0	0	0	0	0
	FY 03 YTD	1	0	2	1	4
	FY 02 Total	0	0	2	0	2
	FY 01 Total	1	0	2	1	4
Non-Cited Severity Level IV or Green	Sept 2003	5	6	1	5	17
	FY 03 YTD	211	164	202	184	761
	FY 02 Total	207	89	201	151	648
	FY 01 Total	279	105	201	139	724

* 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.

Escalated Reactor Enforcement Actions Associated with the Reactor Oversight Process						
		Region I	Region II	Region III	Region IV	Total
NOVs** Related to White, Yellow or Red Findings	9/03 Red	0	0	0	0	0
	9/03 Yellow	0	0	0	0	0
	9/03 White	0	0	0	0	0
	FY 03 YTD	6	1	7	1	15
	FY 02 Total	5	4	6	8	22
	FY 01 Total	8	4	4	3	19

**Notices of Violations

Description of Significant Actions taken in September 2003

No significant actions were taken in the reactor arena in September.

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.

The most recent Orders enhancing security at nuclear power reactors were issued on April 29, 2003. The Orders revised the threat against which individual power reactor licensees and category 1 fuel cycle facilities must be able to defend, limited the number of hours that security personnel can work, and enhanced training and qualification requirements for security personnel.

Licensees are required to implement the April 29, 2003 Order revising the design basis threat no later than October 29, 2004. Implementation of this Order 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 Order by the October 29, 2004 deadline.

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 identify deficiencies in nuclear power plant site protective strategies in defending against a design basis threat so the deficiencies can be promptly addressed by the licensee and to train personnel in the response to an assault. As of the end of September, pilot force-on-force exercises have been completed at eleven 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.

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. Implementation of power uprates at existing plants has resulted in a gain of approximately 12,414 MWt (4138 MWe) or an equivalent of about four nuclear power plant units. There are three types of power uprates. Measurement uncertainty recapture (MUR) 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 (EPUs) 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 plans related to power uprate applications. Based on this survey and information obtained since the survey, licensees plan to submit power uprate applications for 28 nuclear power plant units in the next 5 years. These include 11 measurement uncertainty recapture power uprates, 5 stretch power uprates, and 12 extended power uprates. Planned power uprates are expected to result in an increase of about 5659 MWt (1886 MWe).

The staff currently has 4 plant-specific applications under review. During the month of September, the staff approved two measurement uncertainty recapture power uprates for Hatch Units 1 and 2 and one stretch power uprate for Palo Verde Unit 2. During the month of September, the staff also received an application for one extended power uprate for the Vermont Yankee plant.

Operating Experience Related to Power Uprates

Damage of Steam Dryer at Quad Cities Unit 2

In June 2002, approximately 3 months following implementation of a 17.8-percent EPU, Quad Cities Unit 2 experienced an increase in the moisture content of the steam provided by the reactor to drive the turbine. In July 2002, Exelon (the licensee for Quad Cities Unit 2) shut down the plant, identified cracking in the steam dryer as the cause of the increased moisture content, repaired the steam dryer, and returned the unit to power operation at the EPU power level. The steam dryer does not perform an accident-mitigating role or safety function, but is required to maintain its structural integrity. Approximately 10 months following restart of Quad Cities Unit 2 from an outage to repair the steam dryer, the plant experienced a similar increase in the moisture content of the steam. Based on previous experience with increased moisture content, Exelon shut down the plant and performed inspections of the steam dryer. Upon inspecting the steam dryer, Exelon identified cracks in several locations of the steam

dryer. In both cases, the licensee identified high-cycle fatigue as the cause of the cracking. The staff conducted a special inspection of Exelon's activities related to the second incident. The staff's inspection focused on Exelon's efforts to identify the cause of the damage and repair the steam dryer. In addition, because Exelon had not completed its root-cause evaluation at the time of the inspection, it committed to keep Quad Cities Unit 2 at pre-EPU power levels until the root-cause evaluation is completed and presented to the NRC staff. On July 25, 2003, Exelon and General Electric Nuclear Energy (GENE) presented their determination of the cause of the cracking, repairs performed on the steam dryer, and planned actions to return the unit to the EPU power level. Following the July 25 meeting, the NRC staff held several additional discussions with Exelon and GENE regarding their analyses. Based on the understanding gained from the inspection, the July 25 meeting with Exelon and GENE, and the discussions following the meeting, the staff had no objections to Exelon's plans to return the plant to the authorized EPU power level.

The staff has determined that the steam dryer failure at Quad Cities Unit 2 is not an immediate safety concern. Nevertheless, the staff has continued to monitor closely industry's generic response to this failure. GENE issued Services Information Letter (SIL) No. 644, "BWR/3 Steam Dryer Failure," on August 21, 2002, to inform its customers of the first steam dryer failure and Supplement 1 to SIL No. 644, "BWR Steam Dryer Integrity," on September 5, 2003, to inform its customers of the second steam dryer failure. Both of these documents provided recommendations for monitoring steam dryer performance to ensure that steam dryer degradation is promptly identified. The staff issued Information Notice (IN) 2002-026, "Failure of Steam Dryer Cover Plate after a Recent Power Uprate," on September 11, 2002, to inform licensees of the first failure and Supplement 1 to IN 2002-026, "Additional Failure of Steam Dryer after a Recent Power Uprate," on July 21, 2003, to inform licensees of the second failure. In addition, the staff has reviewed GENE SIL No. 644, Supplement 1, and provided comments on the technical evaluation and recommendations contained in the SIL. The staff is planning to meet with stakeholders in November 2003 regarding the SIL and industry's overall response to the experience with steam dryer cracking. The staff will consider its regulatory options based on industry's generic response.

Abnormalities in Ultrasonic Flow Meter Instrumentation Readings

On August 28, 2003, Exelon informed the staff that it was reducing the operating power of Byron Units 1 and 2 by 32 MWe and 22 MWe, respectively. The decision was made following analysis of feedwater flow data derived from the Advanced Measurement and Analysis Group (AMAG) ultrasonic flow meters (UFMs) in use at Byron and Braidwood. Exelon reported that there were signal abnormalities from some of the UFMs, and on Byron 1, there were statistical differences between the total feedwater flow and the sum of the flows from the four individual feedwater lines. On September 1, 2003, the power at Braidwood Unit 2 was reduced for similar reasons. Westinghouse issued Technical Bulletin (TB) 03-6 on September 5, 2003, to inform its customers of the abnormalities experienced at the Byron and Braidwood plants. TB 03-6 also provides recommendations for plants to monitor their instrumentation to identify promptly any such abnormalities at their plants. The staff met with Westinghouse on September 26, 2003, to discuss efforts Westinghouse has taken to identify the cause of these abnormalities. Westinghouse has not completed its root-cause evaluation of the problems, but currently believes that plant equipment near the instruments could have caused contamination in the signal, thus leading to incorrect readings by the flow meter. Westinghouse has also preliminarily concluded that this issue is limited to Byron and Braidwood. Based on current

information, the staff does not believe that this issue poses an immediate safety concern. The staff is closely following this issue for Byron and Braidwood, as well as any implications on instrument installations for MUR power uprates.

X. Status of Davis-Besse Nuclear Power Station

FENOC projects startup of the Davis-Besse plant in the Fall of 2003. The plant completed fuel load in late February 2003 and at the end of September was nearing completion of a normal operating pressure test of the reactor coolant system.

During the month of September, NRC continued inspections evaluating issues on the Oversight Panel's Restart Checklist. The NRC also added a third resident inspector to the NRC team at Davis-Besse as a result of the reactor vessel head degradation and the resulting need for increased NRC oversight. Each U.S. commercial nuclear power plant has at least two NRC resident inspectors, who serve as the agency's eyes and ears at the facility, conducting regular inspections, monitoring significant work activities, and interacting with plant workers and the public. In the month of September, the NRC issued one routine resident inspection report (ADAMS Accession No. ML032721592). This and other Davis-Besse inspection reports associated with the reactor vessel head degradation event can be viewed on the NRC's Davis-Besse web page. In addition, the Oversight Panel closed one Restart Checklist Item concerning the emergency core cooling system and containment spray system sump. As of September 30, 2003, a total of 18 of 31 Restart Checklist Items have been closed.

On September 8-9, 2003, five representatives from the General Accounting Office (GAO) met with the NRC resident inspectors and the NRC's Oversight Panel members at Davis-Besse. The group toured the site, and the GAO representatives briefly met with FENOC management. On September 10-11, 2003, three representatives from that GAO group traveled to the NRC Region III office in Lisle, IL, to meet with Region III management and staff. Discussions were focused on the Reactor Oversight Process, Davis-Besse, and the NRC's Lessons Learned Task Force Action plan.

On September 10, 2003, the Oversight Panel conducted two public meetings in Oak Harbor, Ohio. Participants at the first meeting included licensee representatives, who discussed plant performance and progress on their Return to Service Plan. At the second meeting, the Oversight Panel discussed the status of the NRC activities and responded to questions and concerns from the public.

On September 12, 2003, a Director's Decision under 10 CFR 2.206 was issued denying a request from Congressman Dennis Kucinich, Representative for the 10th Congressional District of the State of Ohio in the United States House of Representatives. The Director's Decision is available on the NRC Davis-Besse web site. Congressman Kucinich had requested that FENOC's operating license for the Davis-Besse Nuclear Power Station be revoked and that NRC reconsider a previous request for issuance of an Order requiring a verification by an independent party for issues related to the reactor vessel head damage at Davis-Besse (Accession No. ML0324807510).

On September 15, 2003, the Davis-Besse plant entered Mode 3 (average reactor coolant temperature $\geq 280^{\circ}\text{F}$) in preparation for conducting a special seven-day normal operating

pressure test of Davis-Besse's reactor cooling system. The test was performed to check the leak tightness of the reactor cooling system, including the new reactor vessel head. Plant conditions of 532°F and 2155 psig were established for beginning the seven-day test on September 22, 2003. At the end of September, the test was continuing due to some delays in test performance.

On September 17, 2003, the NRC conducted a meeting with representatives from Greenpeace, the Nuclear Information Resource Service (NIRS), and the Union of Concerned Scientists (UCS) regarding a 10 CFR 2.206 Petition submitted on August 25, 2003, (Accession No. ML032400435) by Greenpeace, on behalf of NIRS and UCS. This petition requests the NRC to take enforcement actions against FENOC, to suspend the Davis-Besse plant license, and to preclude plant restart until certain conditions have been met. The purpose of the meeting was to allow the petitioners to provide any relevant additional explanation and support for the petition requests.

On September 19, 2003, the NRC issued a revision to its Confirmatory Action Letter (CAL) (Accession No. ML032650662) closing two CAL items. The two CAL items closed pertained to the root cause of the reactor head degradation and the quarantine of reactor vessel head material. The NRC accepted FENOC's root cause analysis of the reactor head degradation. The NRC released the quarantine of reactor vessel head material after completion of the FENOC metal analyses and NRC receipt of several sample specimens at NRC research facilities. To date three of six CAL Items have been closed.

On September 26, 2003, the Oversight Panel Chairman was the featured speaker on WCPN, a National Public Radio station in Cleveland. The Panel Chairman was interviewed for about 20 minutes. Questions during the interview focused on safety culture issues at Davis-Besse, the public's confidence in the NRC as a regulator, and on protecting whistle-blowers at Davis-Besse.

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>.