

POLICY ISSUE INFORMATION

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FOR: The Commissioners

FROM: Luis A. Reyes
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SUBJECT: REACTOR OVERSIGHT PROCESS SELF-ASSESSMENT
FOR CALENDAR YEAR 2004

PURPOSE:

To present the results of the staff's annual self-assessment of the Reactor Oversight Process (ROP) for calendar year (CY) 2004. This self-assessment also constitutes the fiscal year (FY) 2005 program evaluation of the ROP as described in Appendix B to the FY 2004 - 2009 Strategic Plan.

SUMMARY:

The CY 2004 self-assessment results indicate that the ROP has been successful in meeting its program goals of being objective, risk-informed, understandable, and predictable. The ROP was also effective in supporting the Nuclear Regulatory Commission's (NRC's) 2004 performance goals of maintaining safety, enhancing public confidence, making activities more effective, efficient, and realistic, and reducing unnecessary regulatory burden. The NRC staff maintained its focus on stakeholder involvement and continued to improve various aspects of the ROP as a result of feedback and lessons learned. In particular, the staff implemented several additional ROP improvements recommended by the Davis-Besse Lessons Learned Task Force (DBLLTF), the Office of the Inspector General (OIG), other independent evaluations, and internal and external stakeholders.

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The responses to the NRC's 2004 surveys of internal and external stakeholders were generally favorable; however, some stakeholders raised concerns about the effectiveness of the performance indicator (PI) program, the timeliness and subjectivity of the significance determination process (SDP), and other areas where improvements have been suggested. Most ROP performance metrics were met, with the exception of one PI metric, four SDP metrics, one assessment metric, and two overall metrics.

As part of the self-assessment effort, the staff identified issues and actions in the key ROP program areas of PIs, inspection, SDP, and assessment. The staff and many stakeholders have become increasingly concerned about the ability of the current set of PIs to provide adequate indications of declining performance in a timely manner. The frequently asked question (FAQ) process for resolving interpretations in PI guidance continues to be inefficient and resource intensive. The revised resident inspector staffing policy, additional regional resources allocated in FY 2004 and beyond, and aggressive recruiting, hiring, and qualification of new inspectors appear to have addressed the site staffing and resource concerns. The staff continues to focus on improving SDP timeliness and has made significant progress in implementing the SDP Improvement Plan, though timeliness remains a concern. The staff also made several improvements in the assessment program during CY 2004, particularly in the area of cross-cutting issues, though continued improvement is warranted.

Although significant progress has been made in CY 2004, the staff expects to make continued improvements to the ROP based on lessons learned and stakeholder feedback. The staff will continue to actively solicit input from the NRC's internal and external stakeholders and will evaluate potential program improvements via the ongoing self-assessment process. The staff will also continue to report the results of its annual self-assessment as part of the Commission briefing following the Agency Action Review Meeting (AARM).

BACKGROUND:

On February 24, 2000, the staff issued SECY-00-0049, "Results of the Revised Reactor Oversight Process Pilot Program." The resulting staff requirements memorandum (SRM), issued on March 28, 2000, approved initial implementation of the ROP as recommended by the staff. The initial implementation of the ROP began on April 2, 2000. In a followup SRM issued on May 17, 2000, the Commission directed the staff to report on the implementation of the ROP results after the first year of implementation. The staff did so and documented the results in SECY-01-0114, "Results of the Initial Implementation of the New Reactor Oversight Process," issued on June 25, 2001. SECY-01-0114 also noted the staff's intention to continue to perform an annual self-assessment of the ROP. Accordingly, the staff has issued an ROP self-assessment Commission paper each year prior to the AARM. This paper provides the results of the fifth annual self-assessment of the ROP.

This self-assessment was performed in accordance with Inspection Manual Chapter (IMC) 0307, "Reactor Oversight Process Self-Assessment Program." As noted in IMC 0307, the ROP is a regulatory framework that includes licensee performance indicator data, NRC inspection activity and determination of inspection finding significance, and assessment with the goals of being objective, risk-informed, understandable, and predictable. The ROP self-assessment program evaluates the overall success of the ROP in meeting these objectives and the

agency's performance goals. The NRC's performance goals have changed as a result of the latest Strategic Plan as stipulated in NUREG-1614, Volume 3, dated August 2004.

As a result, the staff has revised the performance measures in the Office of Nuclear Reactor Regulation (NRR) operating plan and plans to revise the ROP self-assessment program to support these new safety performance measures. Next year's ROP self-assessment will be in accordance with the revised IMC 0307 and associated performance goals.

DISCUSSION:

During the fifth year of ROP implementation (CY 2004), the staff conducted numerous activities and obtained data from many diverse sources to ensure that a comprehensive and robust self-assessment was performed. Data sources included the ROP self-assessment metrics described in IMC 0307, recommendations from independent evaluations, comments from external stakeholders in response to a *Federal Register* notice (FRN), insights from internal stakeholders based on survey results, the ROP internal feedback process, and feedback received from stakeholders at various meetings, workshops, and conferences. The staff also utilized the direction and insight provided by the Commission through several SRMs. The staff analyzed this information to gain insights regarding the effectiveness of the ROP in fulfilling the regulatory principles of being predictable, understandable, objective, and risk-informed. The self-assessment also provided insights regarding the success of the ROP in supporting the NRC's performance goals.

The self-assessment metrics, stakeholder feedback, and other pertinent information supported the staff's conclusion that the ROP is generally effective, though the staff continues to experience significant challenges in certain ROP areas and recognizes the need for further improvement. The staff believes that the ROP appropriately monitored operating nuclear power plant activities and focused the NRC's resources on significant performance issues in CY 2004, and that plants continue to receive a level of oversight commensurate with their performance.

The staff identified issues and needed actions in the key program areas of PIs, inspection, SDP, and assessment, as discussed in the following paragraphs. In addition, the staff has included discussions and assessments of ROP communication and training activities, ROP self-assessment and independent evaluations, ROP resources, and resident inspector demographics. The final section of this discussion contains the staff's overall conclusions concerning the ROP self-assessment. As noted in the pertinent sections of this paper, the staff has also included several attachments with additional detail to support the staff's assessment and conclusions.

ROP Program Area Evaluations

The staff performed evaluations in each of the four key program areas of the ROP: PIs, inspection, SDP, and assessment. The results are summarized below. Attachments 1 through 4 to this paper discuss the four ROP program areas in more detail, respectively. Attachment 5 provides a consolidated listing of implementation issues in each program area with a status of each issue. In addition, the annual ROP performance metric report provides the data and staff analysis for each of the program area metrics (reference ADAMS Accession No. ML050670162).

PI Program - Although the staff concluded that the PI program continues to provide objective indications of licensee performance, there are several areas within this program that require additional attention.

- The PI program has not been fully effective in aiding the NRC assessment program in the identification of weaker performing sites.
- The frequently asked questions (FAQ) process for resolving PI issues has not been consistently timely nor efficient.
- The lack of clear concise guidance for some PIs has contributed to the timeliness and efficiency issues.

The staff continued to work closely with stakeholders to implement the Mitigating Systems Performance Index (MSPI) as a replacement for the safety system unavailability (SSU) PI. The MSPI is presently scheduled for implementation in 2006 following a series of three industry-sponsored training workshops in 2005. One area requiring further discussion with industry, which could impact MSPI implementation, is probabilistic risk assessment (PRA) quality. Most PI metrics were met in CY 2004, with the exception that there is an increasing backlog of unanswered FAQs regarding PI guidance. The staff plans to continue assessing the PI program during CY 2005 to address outstanding concerns related to PIs identified through staff, the Advisory Committee on Reactor Safeguards (ACRS), industry, and stakeholder feedback.

Inspection Program - All inspection program self-assessment metrics met their criteria for CY 2004, and feedback from internal and external stakeholders was generally favorable. The baseline inspection program was completed at all plants using regional resources. The increases in the regional inspection budget in 2004 and actions by the regional offices to fill open inspector positions prevented the staffing shortage issues experienced in 2002 and 2003 from extending into the 2004 inspection cycle. The inspection program continued to make improvements during the fifth year of ROP implementation. In particular, the staff implemented several changes to the inspection program to address recommendations from the DBLLTF and other stakeholders. In response to the Commission's direction, the staff initiated a pilot program to improve the effectiveness of the design engineering inspections and is pursuing program enhancements in the area of safety culture. The staff has also begun to address recommendations from the recent OIG audit of the baseline inspection program.

The staff's self-assessment of inspection findings, internal and external feedback forms, and other independent reviews of the ROP indicated that adjustments are warranted in the level of resources applied to some of the baseline inspection procedures. There were instances in which a relatively small number of findings were identified for the amount of inspection resources expended. Internal feedback from inspectors further indicated that the inspection scope and level of effort should be reviewed and adjusted for some inspection procedures. As a result, the staff is developing a systematic process to review and recommend improvements to the inspection program. The process will better align the available inspection resources with risk-significant areas. The staff plans to perform this more detailed analysis of the scope and level of effort of each of the inspection procedures in CY 2005 and plans to adjust existing resources for CY 2006.

Significance Determination Process - The ongoing initiatives to improve SDP efficiency and effectiveness continued during CY 2004. The staff further implemented the SDP Improvement Plan to address key stakeholder recommendations, including those from an audit by the OIG in 2002, the SDP Task Group in 2002, and input from the internal and external feedback processes. The significant objectives completed in CY 2004 were the issuance of new SDPs covering steam generator tube integrity and shutdown risk, and the issuance of completely revised fire protection and containment SDPs. The standardization of the site-specific risk-informed inspection notebooks and the development of the pre-solved Phase 2 tables are well underway with completion scheduled by the end of FY 2005.

Four SDP self-assessment metrics did not meet the established goals: SDP timeliness, the accuracy of reported information, the perceived inconsistency in significance of findings across cornerstones, and the staff's proficiency in using the SDP. Although SDP timeliness in reaching final significance remains a challenge, the new and revised SDPs, the associated training, the standardized risk-informed inspection notebooks, the Phase 2 pre-solved tables, and the enhanced SPAR models are all intended to streamline the process. The staff's plans to address SDP timeliness were presented to the Commission during the briefing on reactor safety and licensing activities on December 9, 2004. The staff will continue to monitor planned SDP improvements and developments via the SDP Improvement Plan.

Assessment Program - During CY 2004, the staff made several improvements in the assessment program, as reflected in revisions to IMC 0305, "Operating Reactor Assessment Program." In particular, the staff revised the guidance in IMC 0305 to: (1) better define the threshold for a substantive cross-cutting issue and subsequent agency actions; (2) evaluate the causes for ROP Action Matrix deviations and identify appropriate changes to the ROP; and (3) improve the standardization and transparency of agency actions associated with plants exiting increased oversight columns of the Action Matrix.

All but one of the performance metrics in the assessment area met their established criteria or goals in CY 2004. The exception was the increase in the number of Action Matrix deviations, which has been addressed by the program revisions noted above. Additionally, the staff generally received positive feedback about the assessment program from the internal and external surveys. However, a common theme in both surveys and at the 2005 Regulatory Information Conference was that the agency needs better guidance for substantive cross-cutting issues. The staff will continue its efforts to improve this guidance in CY 2005.

ROP Communication and Training Activities

The staff effectively implemented the ROP Communication Plan in CY 2004. The staff utilized a variety of communication activities to ensure that all stakeholders have access to ROP information and results, and have an opportunity to participate in the process and provide feedback. The staff also continued to conduct monthly public meetings with external stakeholders, and continued the ongoing internal feedback process, as well as biweekly telephone conferences and frequent meetings with internal stakeholders. In addition, the staff conducted surveys of both internal and external stakeholders to actively solicit and analyze stakeholder feedback regarding the ROP's effectiveness.

Public Meetings - The NRC staff conducts monthly public working-level meetings with the Nuclear Energy Institute (NEI), the industry, and other stakeholders to discuss the status of ongoing refinements to the ROP. In particular, the staff continued efforts to implement the Mitigating Systems Performance Index (MSPI) and to address issues with the PI program. The staff also conducted public meetings in the vicinity of each operating reactor to discuss the results of the NRC's annual assessment of the licensee's performance. These meetings were used as an opportunity to engage interested stakeholders on the performance of the plant and the role of the agency in ensuring safe plant operations. The staff also sponsored three breakout sessions at the 2005 Regulatory Information Conference (RIC). The topics covered were cross-cutting issues, performance indicators, and the ROP in general. The RIC sessions and public meetings resulted in valuable feedback for the staff.

Internal Feedback Process - The ROP feedback process provides a useful means for the NRC staff to identify concerns or issues and to recommend improvements related to ROP policies, procedures, or guidance. Timeliness in resolving feedback issues has improved over the last year, but remains a focus for improvement. Based on the recent ROP survey and discussions with regional feedback coordinators, the regional staff appears to be generally satisfied with the feedback process response time. The staff expects to implement enhancements to the feedback process in CY 2005, to include providing users with the ability to easily view open and closed feedback forms, a search capability, and electronic submission of feedback forms.

Stakeholder Surveys - The staff issued its annual external survey through the *Federal Register* in October 2004. The responses from the survey of external stakeholders were generally in line with responses from previous years, as were the number and distribution of the responses. Approximately half of the 21 responses came from NEI or utilities endorsing the NEI response, while six responses came from State or local agencies and four responses came from public interest groups or members of the public. The responses were generally positive, with concerns being raised specifically about SDP timeliness and subjectivity, the effectiveness of the PI program, the NRC's responsiveness to stakeholder comments, and other perceived needed improvements to the ROP. The staff made some modifications to the external survey this year to enable a more objective comparison of current stakeholder satisfaction on specific issues to satisfaction after initial ROP implementation, but no significant differences were noted. To address the continued concerns that the NRC has been unresponsive to stakeholder feedback, the staff plans to consolidate the comments by question and provide a comprehensive response to each question. This consolidated response, along with this Commission paper and the annual ROP performance metric report, will be posted to the ROP Web page and sent to each respondent to the survey.

The staff also administered an internal survey in November 2004 and received 209 anonymous responses, of which 71 contained written comments. NRC stakeholder participation included resident/senior resident inspectors, regional-based inspectors and staff, senior reactor analysts, regional and headquarters line management, and headquarters technical and program staff employees. Using the computer-based survey, the respondents selected from five possible answers (strongly agree, agree, disagree, strongly disagree, and unable to answer) to several specific questions and were provided space to expound on the responses or make additional comments. The responses were generally positive and showed an increase in stakeholder satisfaction when compared to the previous internal survey, though some concerns were noted, particularly with the effectiveness of the SDP and inspection program.

More detail on the results of the internal and external surveys is provided in Attachment 6. Staff analysis of the survey responses is included in the applicable portions of the program area evaluations in Attachments 1 through 4, as well as in the annual ROP performance metric report (reference ADAMS Accession No. ML050670162).

Inspector Training - The staff continued its efforts to improve the initial and continuing inspector training programs as described in IMC 1245, "Qualification Program for the Office of Nuclear Reactor Regulation (NRR) Programs." The primary goal of IMC 1245 is to produce and maintain well-qualified, competent inspectors. While the program office has the primary responsibility for IMC 1245, the program office and the regions have established a partnership by forming the IMC 1245 Management Steering Group (MSG) and the IMC 1245 Working Group (WG). The IMC 1245 WG, which consists of program office staff, regional branch chiefs, training coordinators, and resident inspectors, reviews feedback forms and implements recommendations to IMC 1245. The IMC 1245 MSG, which consists of the program office branch chief and regional division directors, monitors the initial inspector training and qualification program and approves changes to requirements of the inspector training program.

During CY 2004, the staff developed and distributed Web-based training courses and in-person training sessions to address specific DBLLTF recommendations concerning boric acid corrosion, questioning attitude, and ROP refresher training (DBLLTF items 3.3.1.1, 3.3.4.6, 3.3.5.1, and 3.3.5.2). The Web-based training courses remain available on the training Web page to be used by new inspectors as part of the initial inspector qualification process and by qualified inspectors as an inspection resource. The IMC 1245 MSG and WG annually review the effectiveness of inspector training through feedback forms submitted, results of the inspector oral boards, and regional experience. Improvements and revisions are recommended and implemented as appropriate. The staff continued to use Web-based training courses to provide continuing inspector training. During 2004, the staff developed and distributed three Web-based training courses to address the initial issuance of and the revision to three appendices of IMC 0609, "Significance Determination Process." The internal survey performed during CY 2004 indicated that although the majority of internal stakeholders felt that ROP training was effective, approximately a third of the individuals did not feel that there was adequate training on the ROP. The survey results will be considered by the IMC 1245 MSG and WG in the 2005 revision to IMC 1245.

In response to DBLLTF recommendation 3.3.4.6, the staff developed a training methodology and provided ROP refresher training for NRC management and staff. The first ROP refresher training, provided to the Regions during the Regional Inspector Counterpart Meeting in May 2004, focused on maintaining a questioning attitude. According to the ROP refresher training process, the staff will request topics for refresher training in the Spring, discuss potential topics with the IMC 1245 Management Steering Group, and provide the training in the Fall. The inspector training programs remained effective in CY 2004, particularly through implementation of the IMC 1245 WG and MSG and the Web-based training initiatives.

ROP Web Pages - The staff effectively utilized the ROP Web pages to communicate accurate and timely ROP information to all stakeholders. The staff successfully used the external ROP Web page to post plant assessment results and to disseminate useful information to the public as needs warranted. The internal ROP Web page, known as "ROP Digital City," continued to serve as a hub for inspectors to the various types of available information,

including read-and-sign training, the inspector newsletter, reactor operating experience, and draft guidance. The performance metrics and positive feedback from both external and internal stakeholders indicate that the ROP Web pages are useful, accurate, and timely.

Treatment of Physical Protection Information - During 2004, the Commission determined that inspection and assessment information within the physical protection (PP) cornerstone of the ROP would no longer be publicly available. This decision was necessary to ensure that potentially useful information is not provided to an adversary. The NRC will continue to inspect and assess physical security of nuclear facilities; however the results will no longer be made publicly available. Accordingly, the staff deleted information regarding plant performance in the PP cornerstone from the public ROP Web pages. The staff also identified and removed from the public domain all of the NRC's current inspection program documents on security, physical protection, and material control and accountability.

The Office of Nuclear Security and Incident Response (NSIR) is actively developing a separate, nonpublic process to address how PP information will be considered in assessing plant performance and determining agency responses. The new processes will keep the cornerstone within the ROP framework but separate from other ROP communications about licensee performance. For this reason, the staff did not include security and safeguards activities in this self-assessment. Those new processes are being communicated to the Commission via separate Commission papers. NSIR intends to develop and implement a similar self-assessment process to cover the security and physical protection oversight programs.

Information Technology Initiatives for Inspectors - The revised inspector newsletter has been in existence for two years and the staff continues to receive positive feedback from a variety of sources including the inspector population, regional management, and NRR. The purpose of the inspector newsletter remains the same—to provide useful information to inspectors. One of the primary reasons for the success of the newsletter is the editorial board, which consists of regional managers. The board knows the inspector population and what is useful for inspectors to conduct their jobs. A key component of the newsletter is the continued input from the new operating experience program. The newsletter continues to be issued bimonthly and is available on an internal Web site.

The Inspector Community Forum, an electronic Web-based knowledge management tool, was developed to be a recognized source of information for inspection preparation and a messaging board to facilitate communications between inspectors. The Inspector Community Forum is expected to enhance the depth and efficiency of inspection preparation and broaden inspector communication networks. The forum was tested by a focus group of regional inspectors in CY 2004, who concluded that the forum added value in supporting the inspection process. As a result, implementation of the Inspector Community Forum occurred in early 2005.

During CY 2004, the staff completed an information technology (IT) trial on pen tablets and a review of a digital pen. The staff will continue to explore IT initiatives for the inspector population that will help them perform their jobs in a more efficient manner. As discussed previously, the staff intends to transition the feedback process to an electronic format in 2005.

ROP Self-Assessment Metrics and Independent Evaluations

The objectives and details of the ROP self-assessment program are contained in IMC 0307. This paper, supplemented by the annual report of performance metrics, provides the results of the staff's self-assessment for CY 2004. In addition to the ROP self-assessment program, several independent evaluations have been performed since the inception of the ROP to analyze its effectiveness and recommend improvements. In the past few years, the Office of Management and Budget (OMB), the OIG, the ACRS, the DBLLTF, and the SDP Task Group have all performed evaluations of the ROP. These evaluations have generally provided favorable results, but have also suggested potential areas of improvement. Several recommendations from these independent evaluations are addressed in this paper.

Annual ROP Performance Metrics - The staff performed its annual self-assessment of performance metrics for CY 2004 in accordance with IMC 0307. The annual report was issued on April 1, 2005, and is publically available through ADAMS (reference ADAMS Accession No. ML050670162). The majority of metrics met their established criteria. All metrics in the inspection area met their criteria, but some metrics in the PI, SDP, and assessment program areas did not. The staff's corrective actions to address these issues are discussed in the program area evaluations in Attachments 1 through 4.

In addition to the specific program area metrics, there are 18 overall ROP metrics of a more general nature. Two of these overall ROP metrics failed to meet the established criteria. Specifically, these metrics gauge whether the public perceives the NRC to be responsive to its inputs and comments, and whether the public perceives that the ROP results in unintended consequences. Similar to the external survey conducted in 2003, numerous stakeholders felt that the staff was not responsive to comments or did not provide adequate feedback on the public's comments. The staff continues to develop and enhance communication and feedback with the public, and will explore new avenues for collecting and responding to public comments. The staff will continue to investigate and attempt to resolve the aspects of the ROP that may result in unintended consequences. These issues are discussed further in Attachment 6, "Stakeholder Survey Results."

Program Evaluation per Strategic Plan - As noted in last year's annual self-assessment, OMB completed its review of the ROP using the Program Assessment Rating Tool (PART) in FY 2003. OMB scored the ROP at 89 percent, corresponding to an "Effective" rating. As a result of this PART evaluation, the staff committed in the Strategic Plan to perform a program evaluation of the ROP in FY 2005. The scope of the evaluation includes: (1) the efficiency of the agency's baseline inspection program, (2) the effectiveness of the SDP, and (3) the usefulness of current performance indicators in enhancing agency planning and response. The 2004 self-assessment of the ROP, described in this paper, constitutes the FY 2005 program evaluation of the ROP as committed to in the strategic plan. The staff considers this action completed. The details of the results of the FY 2005 program evaluation can be found in Attachments 1 through 3 under the respective program area evaluations.

The NRC's safety goals and measures have also changed as a result of the latest Strategic Plan, as stipulated in NUREG-1614, Volume 3, dated August 2004. Based on these changes, and in response to OMB recommendations, the staff revised the performance measures in the NRR operating plan. These revised measures are in effect for FY 2005. This effort completes

the staff evaluation of the performance measures committed to in the staff's FY 2006 performance budget in NUREG-1100, Volume 21, dated February 2005 (e.g., the Green Book).

DBLLTF Recommendation Status - During 2004, the staff continued to make enhancements to the ROP based on the implementation of Davis-Besse Lessons Learned Task Force action items. These changes will enhance the NRC's ability to detect declining plant performance, including the specific issues that were identified at the Davis Besse plant. The changes completed in 2004 included revisions to (1) Inspection Procedure (IP) 71111.08, "Inservice Inspection Activities," to add periodic inspection requirements and guidance for boric acid corrosion control, (2) IMC 0305, "Operating Reactor Assessment Program," to include consideration of independent assessment of licensee performance during mid-cycle and end-of-cycle assessment preparations, (3) IP 71111.20, "Refueling and Other Outage Activities," to include containment walkdowns and consideration of walkdowns in other restricted areas, and (4) several procedures to verify licensees have programs and processes in place to detect, monitor, and take corrective actions for adverse trends of reactor coolant system leakage. The staff also developed and issued a site staffing metric to monitor gaps in permanent resident and senior resident staffing at reactor sites.

Further details on specific DBLLTF recommendations are included in the relevant program area discussions of this paper. The status of the DBLLTF recommendations is also maintained in the Director's Quarterly Status Report to ensure continued management attention (reference ADAMS Accession No. ML043480034) and is available on the NRC's public Web page.

OIG Audit Activity - The staff continued to address recommendations from the OIG audit of the SDP completed in 2002. The audit yielded 11 specific recommendations, which the staff incorporated into the SDP Improvement Plan for tracking purposes. The staff provided two updates to the OIG, most recently in January 2005. Upon review of the January 2005 update, the OIG agreed to close all recommendations. The OIG also completed an audit of the baseline inspection program in 2004. The staff agreed with nine of the ten recommendations and planned to improve the effectiveness and efficiency of the baseline inspection program by making changes to the program during CY 2005. The staff disagreed with one recommendation from the OIG report which recommended that the staff develop and implement guidance for documenting, tracking, and trending informal inspection issues.

Regulatory Impact Summary - As part of the regulatory impact process, the staff received feedback from 77 reactor licensees on 256 issues during the current reporting period. Of the comments received, 77 percent were favorable and 23 percent were unfavorable. The comments fell into four main categories: formal communication with licensees, inspector performance, security and safeguards activities, and the ROP.

Regarding formal communication with licensees, almost half of the licensees' comments concerned the effectiveness of communication between the NRC staff and licensees. About 85 percent of the licensees' comments on communication with the NRC staff were favorable. A third of the licensees' comments concerned inspector performance and almost all of the comments praised the NRC's inspection staff. Eight percent of the licensees' comments related to the NRC's security and safeguards activities and all these comments were unfavorable. Commenters expressed concerns with the lack of stability and the number of regulatory changes in this area. Five percent of the licensees' comments concerned the ROP,

and about half of those comments were favorable. Licensees praised the ROP as an improvement over the previous process. However, half the comments were critical of specific program elements, especially the SDP.

In previous years, the staff reported the annual regulatory impact results in a separate Commission paper. Beginning with this self-assessment, the staff has included the regulatory impact summary as an attachment to the annual ROP self-assessment Commission paper. Accordingly, Attachment 7 provides a more detailed analysis of the regulatory impact summary.

Industry Performance Trends - In addition to the PIs used to assess individual plant performance under the ROP, the NRC collects and monitors industrywide data to assess whether the nuclear industry is maintaining the safety performance of operating plants. The NRC also uses these industry-level indicators to provide feedback on the ROP. The staff continued to implement and further develop the Industry Trends Program (ITP) in CY 2004. One important output of the ITP is to report the number of statistically significant adverse industry trends in safety performance to Congress each year as part of the NRC's Performance and Accountability Report. The results of the ITP, along with any actions taken or planned, have been reported to the Commission in an annual paper that complements this paper. The results of the ITP will also be reviewed at the AARM.

ROP Resource Analysis

The inspection effort in 2004 increased noticeably over 2003. Because of the balanced distribution among all elements of the ROP, the increased inspection effort in 2004 cannot be attributed to one specific factor. The increased effort is most likely the result of increased regional inspection staffing levels and increases in the number of qualified inspectors as recent new hires and regional Nuclear Safety Professional Development Program graduates enter the inspector workforce. The revised resident inspector staffing policy allowing assignment of replacement resident inspectors prior to the departure of the incumbent inspector and additional regional resources improved the site staffing levels in CY 2004 and helped alleviate the resource burden in completing the baseline inspection program, along with the aggressive recruiting, hiring, and qualification of new inspectors. All four regions completed their baseline inspections in 2004 using existing regional resources without the coping measures that were necessary the previous two inspection cycles.

Overall, inspection resource expenditures have decreased significantly over the past ten years. However, the staff believes that resource savings are reaching a limit as available efficiencies are exhausted. Future resource savings may only be possible through significant revisions of the ROP. As discussed in other sections of this paper, a number of initiatives currently underway may provide resource savings and improved program effectiveness. These initiatives include an in-depth review of the baseline inspection procedures, revised design engineering inspections, credit for licensee self-assessments, continued SDP improvements, and implementation of the MSPI program. A more detailed analysis of ROP resources is provided in Attachment 8.

Resident Inspector Demographics

As the Commission requested in its SRM dated April 8, 1998, the staff developed measures to monitor and trend resident inspector (RI) demographics and reports the data and analyses to the Commission on an annual basis. The staff believes that the RI program continues to attract and retain quality staff, and the staff has no further recommendations for changing the RI program. The number of new RIs entering the program in CY 2004 was reduced by almost one-half compared to CY 2003, and few senior resident inspectors left the program during CY 2004. In addition, inspectors are not leaving the agency, but are being promoted or reassigned to positions within the regions or at headquarters keeping their expertise within the NRC. However, it is important to recognize that the movement of inspectors between sites, between regions and to headquarters has a “domino” effect and impacts the effectiveness and efficiency of work completed. The policy to allow double encumbering of new resident and senior resident inspectors was utilized in the regions during CY 2004 and appears to have helped minimize predictable site coverage gaps, but is only effective when residents stay for the entire 7-year rotation. Frequently, resident vacancies occur with little notice; therefore, regions cannot make use of the early reassignment of residents to address resident gaps in these situations. Attachment 9 presents a more detailed analysis of the 2004 RI demographics and staffing issues.

COMMITMENTS:

Listed below are the significant actions or activities planned by the staff in this paper to improve the efficiency and effectiveness of the ROP:

- The staff will interact with industry and other stakeholders in CY 2005 to address concerns about the ability of the current set of PIs to provide adequate indications of declining performance in a timely manner.
- The staff will perform a more detailed analysis of the scope and level of effort of the inspection procedures in CY 2005 and adjust existing resources within the baseline inspection program for CY 2006.
- The staff will provide the Commission with an evaluation of the effectiveness of recent changes made to improve the timeliness of the fire protection SDP in the CY 2005 ROP self-assessment Commission paper.
- The staff will further improve existing guidance related to cross-cutting issues in order to support the mid-cycle review meetings scheduled for August 2005.
- The staff will assess the results of the pilot engineering design inspections and develop recommendations for Commission consideration in FY 2005.
- The staff will continue to report the results of its annual self-assessment as part of the Commission briefing following the AARM in May 2005.

The status of these commitments and other program improvements noted in this paper will be included in the CY 2005 ROP self-assessment Commission paper.

CONCLUSIONS:

The self-assessment results in CY 2004 indicate that the ROP has been successful in meeting its program goals of being objective, risk-informed, understandable, and predictable. The ROP was also effective in supporting the agency's CY 2004 performance goals of maintaining safety, enhancing public confidence, making activities more effective, efficient, and realistic, and reducing unnecessary regulatory burden. The staff continued to focus on stakeholder involvement and to improve various aspects of the ROP as a result of feedback and lessons learned.

Based on our CY 2004 self-assessment, the staff intends to focus on the following areas during CY 2005:

- Working with industry to address issues with the PI program
- Adjusting focus and resources within the baseline inspection program
- Improving SDP efficiency and effectiveness
- Further improving guidance related to cross-cutting issues

The staff will also continue evolutionary improvements to various aspects of the ROP.

RESOURCES:

This paper describes a number of program improvement activities. The resource requirements to develop and implement these improvements are a part of the overall ROP development and management effort and have been included in the budget requests through FY 2006. The current estimates are approximately 49 full-time equivalents (FTE) and approximately \$2 million for FY 2005 and approximately 57 FTE and \$3 million for FY 2006. These numbers include all NRR, regional, and Office of Research (RES) efforts for ROP development, management, and performance assessment activities within the scope of the current budget requests. No additional resources are needed for FY 2005 and FY 2006. Planned actions to improve the ROP will be prioritized and scheduled to remain within allocated resources.

COORDINATION:

The Office of the General Counsel has reviewed this Commission paper and has no legal objections to its content.

The Commissioners

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The Office of the Chief Financial Officer has reviewed this Commission paper for resource implications and has no objections.

/RA/ Original signed by Martin J. Virgilio for:
Luis A. Reyes
Executive Director
for Operations

Attachments: 1. PI Program Evaluation
2. Inspection Program Evaluation
3. Significance Determination Process Evaluation
4. Assessment Program Evaluation
5. Status of Implementation Issues
6. Stakeholder Survey Results
7. Regulatory Impact Summary
8. ROP Resource Analysis
9. Resident Inspector Demographics and Staffing

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Att. 5: ML050630316

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Att. 9: ML050660091

***Via E-mail**

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