March 26, 2007

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FROM: Elmo E. Collins, Director***/RA/***
Division of Inspection and Regional Support
Office of Nuclear Reactor Regulation

SUBJECT: REACTOR OVERSIGHT PROCESS ANNUAL SELF-ASSESSMENT PERFORMANCE METRICS

The Reactor Oversight Process (ROP) self-assessment process uses objective measures and predetermined criteria to monitor the performance of the ROP as described in Inspection Manual Chapter (IMC) 0307, "Reactor Oversight Process Self-Assessment Program." These metrics rely on information from various sources, including the Reactor Program System (RPS), the inspection program, periodic independent audits, stakeholder surveys, and public comments. The staff collects data quarterly and uses preestablished success criteria to analyze the data.

The Nuclear Regulatory Commission solicited comments on the seventh year of ROP implementation from external stakeholders in a *Federal Register* notice (FRN) in October 2006. Of the 16 responses, eight were from the utilities and their representatives, while three were from State and other government entities, and five were from public interest groups or public citizens. Along with the external survey, the staff conducted an internal survey in October 2006 which solicited and analyzed stakeholder feedback regarding the effectiveness of the ROP. A total of 266 responses were received from internal stakeholders, including resident/senior resident inspectors, regional-based inspectors and staff, senior reactor analysts, regional and headquarters line management, and headquarters technical and program staff.

Based on our review, most of the metrics met their established criteria. Specifically, all the metrics in the inspection (designated as the IP metrics) and assessment (AS) areas met the criteria, but a few metrics in the performance indicator (PI) and significance determination process (SDP) areas did not. In addition, all "Overall ROP" (O) metrics met their criteria. The staff's corrective actions to address these issues are discussed in the following paragraphs, in the attached metric analyses, and in the CY 2006 ROP self-assessment Commission paper.

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PI Program Results

In reviewing the data for this reporting period, the staff found that two of the eight PI metrics did not meet the established criteria. The metric regarding whether the PI program provides insights to help ensure plant safety (PI-4) did not meet its criteria because internal, public, and state respondents gave significant feedback that the PIs do not provide an adequate indication of declining safety performance and do not enhance public confidence. In addition, a second metric (PI-8) did not meet its criteria because a significant number of the internal, public, and state respondents did not concur that the PI program can effectively identify performance outliers. The staff recognizes the need to improve the PI Program and is reviewing and revising several PIs to provide more meaningful indications of declining plant performance.

SDP Results

Of the seven official metrics for the SDP, one did not meet the established criteria. The metric regarding whether results of the same color are perceived by the public to warrant the same level of regulatory attention for all cornerstones (SDP-4), did not meet its criteria based on a stable negative perception by external stakeholders over the past six years of ROP implementation. The staff continues to believe that relative parity has been achieved among the cornerstones, based on the potential impact on public health and safety and the designated NRC response to specific findings. Findings are continuously under review by the staff to determine the need for adjustments to the SDPs in this area.

There has been significant improvement in the SDP metrics because six out of seven metrics were met during this assessment period, compared to five of nine metrics being met during the previous period in 2005. Of note, Metric SDP-6a (Final Significance Determinations Are Timely) was met based on the fact that performance exceeded program expectations for the first time since ROP implementation.

Inspection Program Results

All ten metrics in the inspection area met the established criteria. This is an improvement from the last self-assessment (CY 2005), when the temporary instruction (TI) timeliness metric (IP-5) failed to meet the established criteria of completing all TIs within the timeliness requirements.

Assessment Program Results

All of the assessment program metrics met program expectations (ten out of ten, one was not applicable). This is an improvement from CY 2005, when the number of Action Matrix deviations metric (AS-1) did not meet its criteria.

Overall ROP Results

All 17 metrics in the Overall ROP area met established program expectations.

Conclusions and Next Steps

The performance metrics provide the staff with valuable insights and lessons learned that lead to continued improvements in ROP effectiveness. This report provides a significant input into the annual ROP self-assessment and the resulting Commission paper. Aspects of this report, particularly missed metrics, will be discussed in the self-assessment paper under the respective program areas.

Enclosure: As stated

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DATE	3/19/2007	3/19/2007	3/20/2007	3/20/2007	3/26/2007

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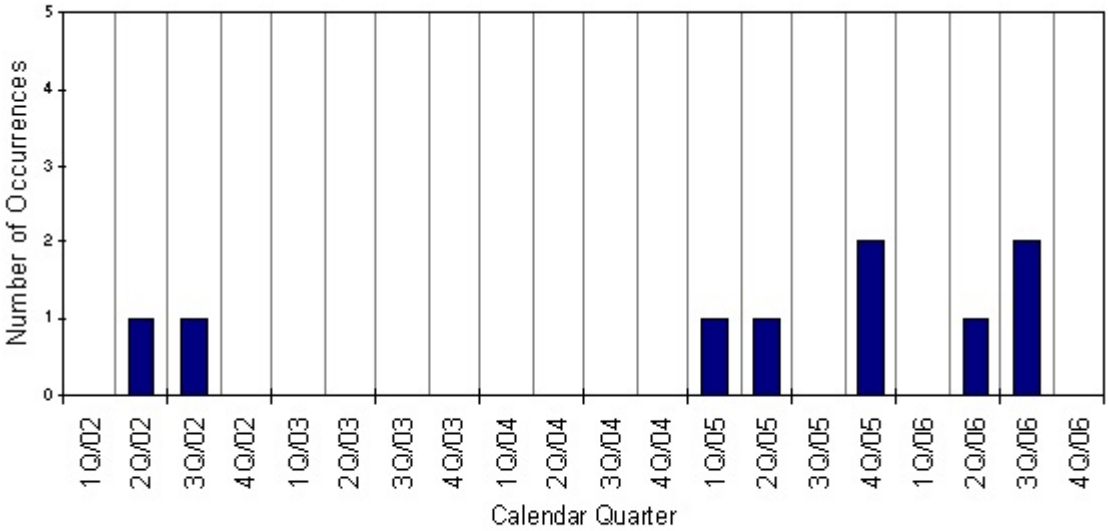
PI-1 **Consistent Results Given Same Guidance**

Definition: Independently verify PIs using Inspection Procedure (IP) 71151, "PI Verification." Count all performance indicators (PI) that either (a) result in a crossed threshold based on a data correction by the licensee (as noted in the resultant inspection report), or (b) have been determined to be discrepant by the staff in accordance with IP 71150, "Discrepant or Unreported Performance Indicator Data."

Criteria: Expect few occurrences, with a stable or declining trend.

Goals Supported: Objective, Predictable, Ensure Safety



Comments: The graph represents the number of significant deficiencies or discrepant PIs reported for each quarter. Significant discrepancies are issues identified by the NRC during a PI verification inspection that caused the PI to cross a threshold.

Analysis: During this assessment period there was one PI that crossed the green/white threshold based on a data correction by the licensee and two PIs were identified as discrepant.

The NRC identified an issue with reporting of a PI during the Temporary Instruction inspection for the mitigating systems performance index (MSPI). As a result, the Perry Nuclear Power Plant made a data correction report during the 4th quarter of 2006, to change the 2nd quarter 2006 PI for Emergency AC Power from Green to White. However, a frequently asked question has been submitted by the licensee to the PI program that questions the basis for the threshold change. This FAQ is under review.

The NRC also identified two discrepant safety system PIs at Waterford 3 in the fourth quarter of 2005 and performed a discrepant PI inspection (letter dated August 30, 2006). The NRC determined that one train of each of the High Pressure Safety Injection and the Residual Heat Removal systems were not available between November 2003 and September 2004. These systems are

two-train systems. These PIs should not have been reported as Green, but Red and Yellow respectively.

There was only one threshold change based on data correction by the licensee for the year, and that is the subject of a FAQ that is under review. The two discrepant PIs at Waterford 3 resulted from the mispositioning of one valve in 2003, and the late discovery resulted in high fault exposure. This situation, although important, had mitigating circumstances. The safety system unavailability PIs were replaced by the MSPI PIs in the 2nd quarter of 2006. As noted in the July 25, 2006 action matrix deviation letter, and the August 30, 2006 letter to the licensee, using the same set of circumstances applied to the MSPI PIs would have resulted in a Green outcome. This is because of the differences in the way fault exposure is treated under the former safety system unavailability (SSU) performance indicators and the current MSPI indicators. One of the noted problems with the SSU PIs and the use of fault exposure time was that it overestimated the risk significance of unavailability. Therefore, since the Waterford 3 issue was not considered risk-significant, and if not counted there was only one occurrence applicable to this metric in CY 2006, the staff concluded that this metric was met. However, the two year elevated trend in the PI data reporting area, and the fact that both 2006 issues were discovered by the NRC, bears close monitoring going forward.

(Waterford 3 exited the discrepant PI process in the 4th quarter of 2006.)

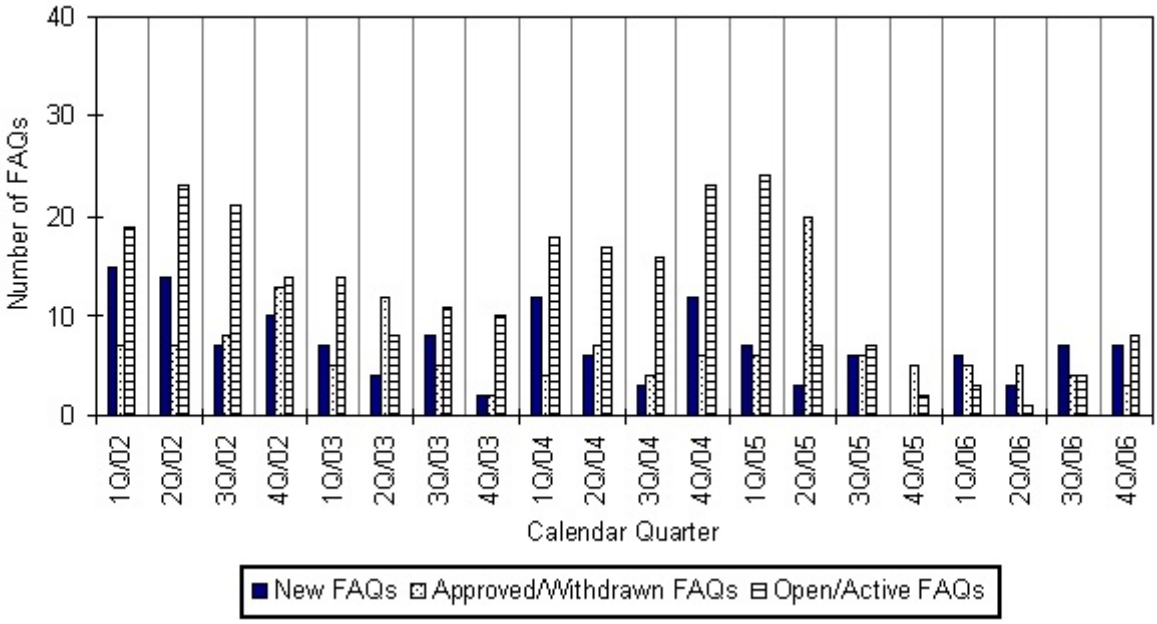
Metric Criterion Met: Yes.

PI-2 Questions Regarding Interpretation of PI Guidance

Definition: Quarterly, count the number of frequently asked questions (FAQs).

Criteria: Expect low numbers, with a stable or declining trend.

Goals Supported: Understandable, Risk-Informed, Predictable



Comments: Each quarter represents the total number of new FAQs introduced and approved during the ROP NRC/Industry Working Group meetings held during the respective quarter.

Analysis: For this assessment period, the number of unresolved interpretation questions has remained low compared to historical trends. However, the last three quarters have shown an increasing trend in open FAQs. The staff closed a number of FAQs in January 2007. At the present time, this metric meets its criteria based on the fairly low number of open interpretation issues compared to historical patterns.

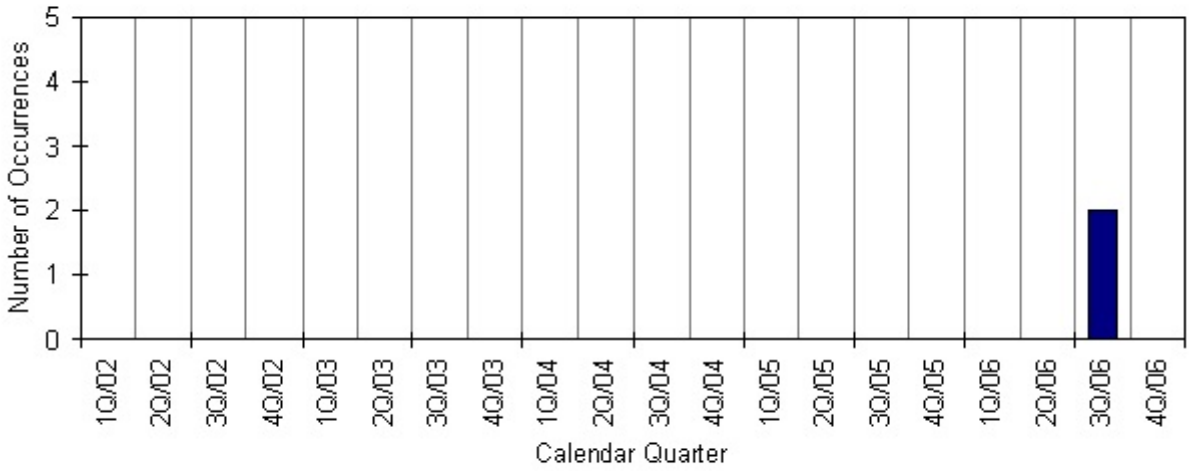
Metric Criterion Met: Yes.

PI-3 **Timely Indication of Declining Safety Performance**

Definition: Quarterly, track PIs that cross multiple thresholds (e.g., green to yellow or white to red). Evaluate and characterize these results to allow timely indication of declining performance.

Criteria: Expect few occurrences, with a stable or declining trend.

Goals Supported: Ensure Safety, Risk-Informed, Ensure Effectiveness



Analysis: There were two occurrences of PIs crossing multiple thresholds during this assessment period.

As noted in metric PI-1, the NRC identified two discrepant safety system PIs at Waterford 3 in the fourth quarter of 2005 and performed a discrepant PI inspection (letter dated August 30, 2006). The NRC determined that one train of each of the High Pressure Safety Injection and the Residual Heat Removal systems were not available between November 2003 and September 2004. These PIs should not have been reported as Green, but Red and Yellow respectively. The late discovery of the valve the mispositioning resulted in elevated fault exposure which resulted in the crossing of multiple thresholds. As described earlier (see PI-1), one of the noted problems with the SSU PIs and the use of fault exposure time was that it overestimated the risk significance of the unavailability. This issue was corrected with the implementation of MSPI. Therefore, this issue is not considered significant enough to result in not meeting this metric.

Metric Criterion Met: Yes.

PI-4 **PI Program Provides Insights to Help Ensure Plant Safety**

Definition: Survey external and internal stakeholders asking whether the PI Program provides useful insights to help ensure plant safety.

Criteria: Expect a low number of negative comments, with a stable or declining trend.

Goals Supported: Ensure Safety, Ensure Effectiveness, Risk-Informed

Analysis: Internal Survey

Several internal survey questions addressed this metric. The questions and their resultant percentage of agreement are presented below.

Measure	2006	2004	2002	2001
PIs provide useful information on risk-significant areas.	71%	67%	70%	79%
PIs help to maintain safety.	71%	68%	68%	72%
PIs provide an adequate indication of declining safety performance.	58%	45%	43%	53%
PIs enhance public confidence.	56%	57%	60%	65%

Internal stakeholders mostly agree that the PI program helps provide useful risk insights and maintain safety. However, just over half of the respondents feel the PI program is able to provide an adequate indication of declining safety performance. There is also a notable adverse trend regarding the staff's view of the public's confidence in the PI program. Many comments noted that threshold for the PIs is too high to identify declining performance and, because the PIs are almost always green, they do not enhance public confidence.

External Survey

Responses to the external survey question show a wide divergence of opinion. Responses from the public ranged from strongly agree to strongly disagree whereas the feedback from the states was neutral. However, both the public and states singled out the inability of the emergency planning PIs to garner public confidence. As noted in the internal survey, public and state respondents also questioned whether the thresholds in the PI program are set correctly because the PIs are always "green" and do not provide insights into plant safety. State feedback also noted that when thresholds were crossed the staff is too lenient and allows the color to go back to "green." Industry responses were generally in agreement that the PI program does provide useful insights to ensure plant safety.

This metric did not meet its criteria because internal, public, and state respondents gave significant feedback that the PIs do not provide an adequate indication of declining safety performance and do not enhance public confidence.

As noted in last year's self assessment, the staff recognizes the need to improve the PI Program to provide more meaningful indications of declining plant performance.

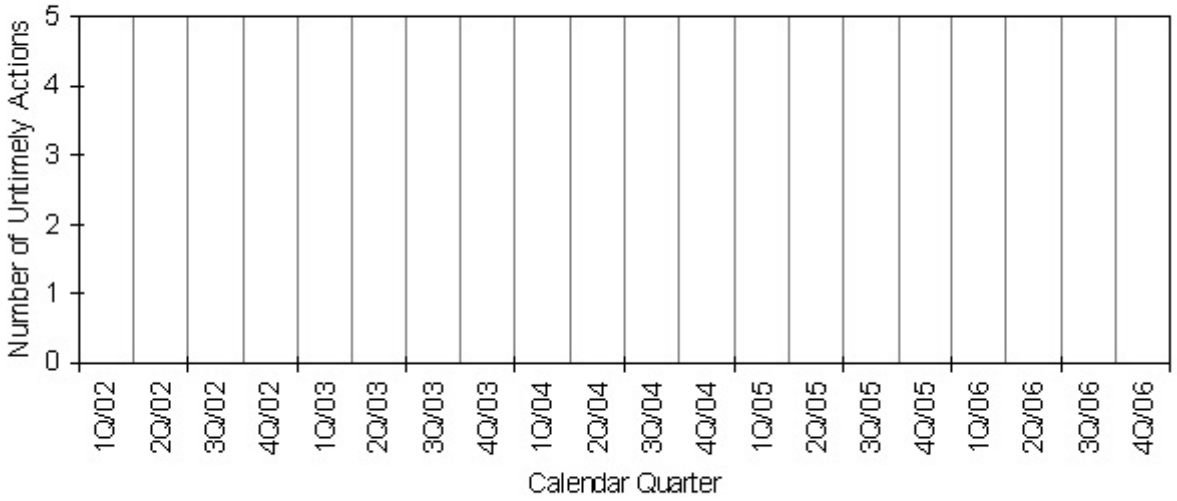
Metric Criterion Met: No.

PI-5 Timely PI Data Reporting and Dissemination

Definition: Within 5 weeks of the end of each calendar quarter, track (count) late PI postings on the NRC's external Web site. Also note the number of late submittals from licensees that did not meet the 21-day timeliness goal.

Criteria: Expect few occurrences, with a stable or declining trend.

Goals Supported: Ensure Effectiveness, Ensure Openness, Predictable



Analysis: There were no late postings on the NRC's external Web site.

Six power plants provided PI submittals that were late; however, the submittals were made within a few days after the date required by NEI 99-02, "Regulatory Assessment Performance Indicator Guideline." The late PI data submittals from the licensees did not impact the NRC's ability to post the results on the web page in a timely manner; however, they did impact the schedule for regional staff to prepare for the mid-cycle and end-of-cycle assessment meetings. This adverse trend was raised with the industry representatives to reinforce the guidance contained in their document.

The criteria for this metric has been met because there have been no late PI data postings on the NRC's external web site since the inception of the ROP. The increased frequency of late submittals are a concern and will continue to be tracked to determine if the trend requires further attention.

Metric Criterion Met: Yes.

PI-6 **Stakeholders Perceive Appropriate Overlap Between the PI Program and Inspection Program**

Definition: Survey external and internal stakeholders asking if appropriate overlap exists between the PI program and the inspection program.

Criteria: Expect a low number of negative comments, with a stable or declining trend.

Goals Supported: Ensure Effectiveness, Ensure Safety, Ensure Openness

Analysis: Internal Survey

One internal survey question addressed this metric. The question and it's resultant percentage of agreement is presented below.

Measure	2006	2004	2002	2001
PIs provide an appropriate level of overlap with inspection program.	78%	78%	74%	74%

Internal stakeholders continued to generally agree that the PI provides an appropriate level of overlap with the inspection program. The data indicates a stable or slightly improving historical trend.

External Survey

Public response varied from agreement to disagreement regarding proper overlap between the PI and inspection programs. However public response again noted that the PIs are not effective. State response indicated that there is appropriate overlap but the NRC should periodically re-evaluate the PI and inspection programs to ensure proper focus and effectiveness, and that where PIs are not effective, inspection should be performed.

Industry comments noted appropriate overlap overall, but added that improvement can be made in the security area and that the NRC should evaluate inspection findings that overlap PIs.

Metric Criterion Met: Yes.

PI-7 **Clarity of Performance Indicator Guidance**

Definition: Survey external and internal stakeholders asking if NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," provides clear guidance regarding performance indicators.

Criteria: Expect a low number of negative comments or examples of interpretation issues, with a stable or declining trend in the number of negative comments received.

Goals Supported: Understandable, Ensure Openness, Objective

Analysis: Internal Survey

Two internal survey questions addressed this metric. The questions and their resultant percentage of agreement are presented below.

Measure	2006	2004	2002	2001
PIs are clearly defined.	82%	79%	71%	72%
PIs are understandable.	82%	87%	76%	78%

Most respondents felt the PIs are clearly defined and understandable. The exception appears to be MSPI, based on a number of comments noting that the MSPI is confusing, hard to understand, and difficult to inspect.

External Survey

Public response varied widely and comments again noted the ineffectiveness of the PI program which resulted in the PI-4 metric not being met. State stakeholders generally felt that the guidance was clear but that it would be more appropriate for the licensees to provide comments on effectiveness of the PI guidance.

Utility group respondents commented that the PI guidance is clear and that the FAQ process is responsive in addressing questions.

This metric meets its criteria based predominantly on internal and industry feedback. Based on comments, MSPI guidance needs improvement and this is on-going.

Metric Criterion Met: Yes.

PI-8 **PI Program Identifies Performance Outliers In an Objective and Predictable Manner**

Definition: Survey external and internal stakeholders asking if the PI program can effectively identify performance outliers based on risk-informed, objective, and predictable indicators.

Criteria: Expect a low number of negative comments, with a stable or declining trend.

Goals Supported: Risk-Informed, Objective, Predictable

Analysis: Internal Survey

This is a new metric that was added to get feedback on the effectiveness of the PI program in general. One internal survey question addressed this metric; its percentage of agreement is presented below.

Measure	2006	2004	2002	2001
PIs, including MSPI, can effectively identify performance outliers based on risk-informed, objective, and predictable indicators	61%	N/A	N/A	N/A

Many comments noted that the thresholds are too high and that a number of indicators have never triggered. Responses on MSPI were mixed, some felt it was an improvement or noted that it is too early to judge MSPI, others remained concerned because it is so complex that it lends itself to possible manipulation that inspectors cannot readily identify.

External Survey

Comments from the public clearly state that the PI program cannot identify outliers, especially the MSPI indicator because it can be manipulated and is difficult to understand. State stakeholders noted that the PI program is always green and, as noted earlier, the thresholds may need re-examination. They noted, however, that the MSPI was a positive step being risk based and incorporating unavailability and unreliability, but is dependent on the quality of the licensee's risk assessment. Industry comments were favorable about the PI program and in particular regarding MSPI because it is risk based.

This metric does not meet its criteria because a significant number of the internal survey respondents did not concur that the PI program can effectively identify performance outliers. In addition, the public and state stakeholders both noted that the PI program does not adequately identify outliers. All three groups expressed concern that MSPI is too complex and subject to licensee risk assessment quality. The staff is in the process of reviewing and revising several PIs to provide more meaningful indications of plant performance and to better identify performance outliers, including unplanned scrams with loss of normal

heat removal, reactor coolant system leakage, safety system functional failures, and others in the emergency preparedness cornerstone.

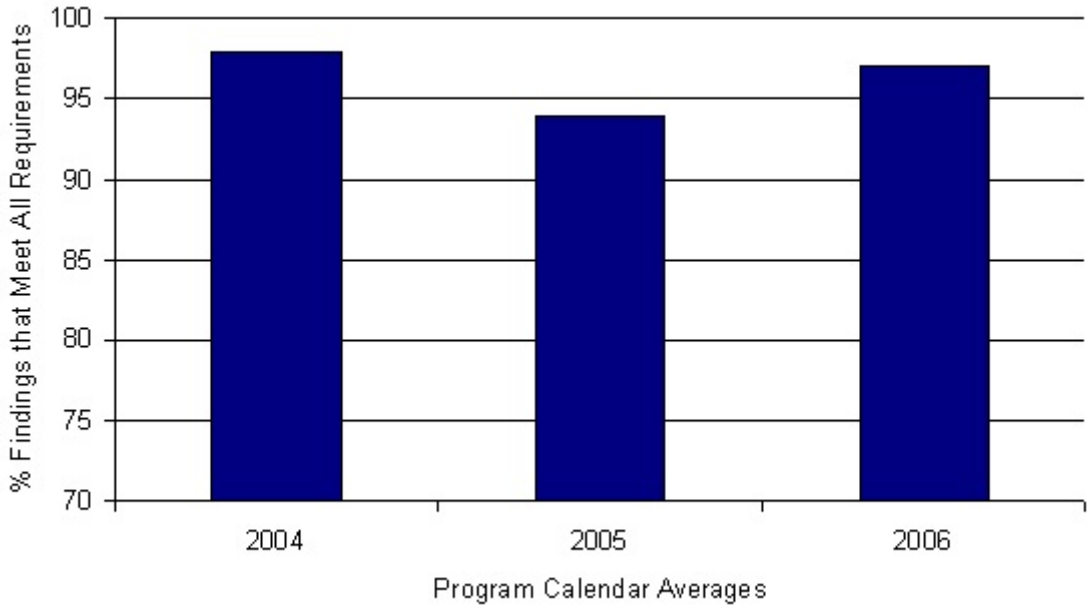
Metric Criterion Met: No.

IP-1 **Inspection Findings Documented In Accordance With Requirements**

Definition: Audit inspection reports in relation to program requirements (IMC 0612, "Power Reactor Inspection Reports") for documenting green findings, greater-than-green findings, and violations. Report the percentage of findings that meet the program requirements.

Criteria: Expect a stable or improving trend in the percentage of findings documented in accordance with program requirements.

Goals Supported: Objective, Risk-Informed, Predictable



Comments: The graph represents the cumulative average for the sample of inspection reports reviewed by NRR during CY 2006.

Analysis: The staff audited integrated inspection reports from each branch and a number of team inspection reports from each region. Of the 733 inspection reports issued in CY 2006, 46 were included in this audit. The percentage of findings documented in accordance with IMC 0612 requirements for the sample audited was 97 percent. This represents a slight rise in compliance with IMC 0612 requirements from CY 2005. Overall, the inspection reports were well written.

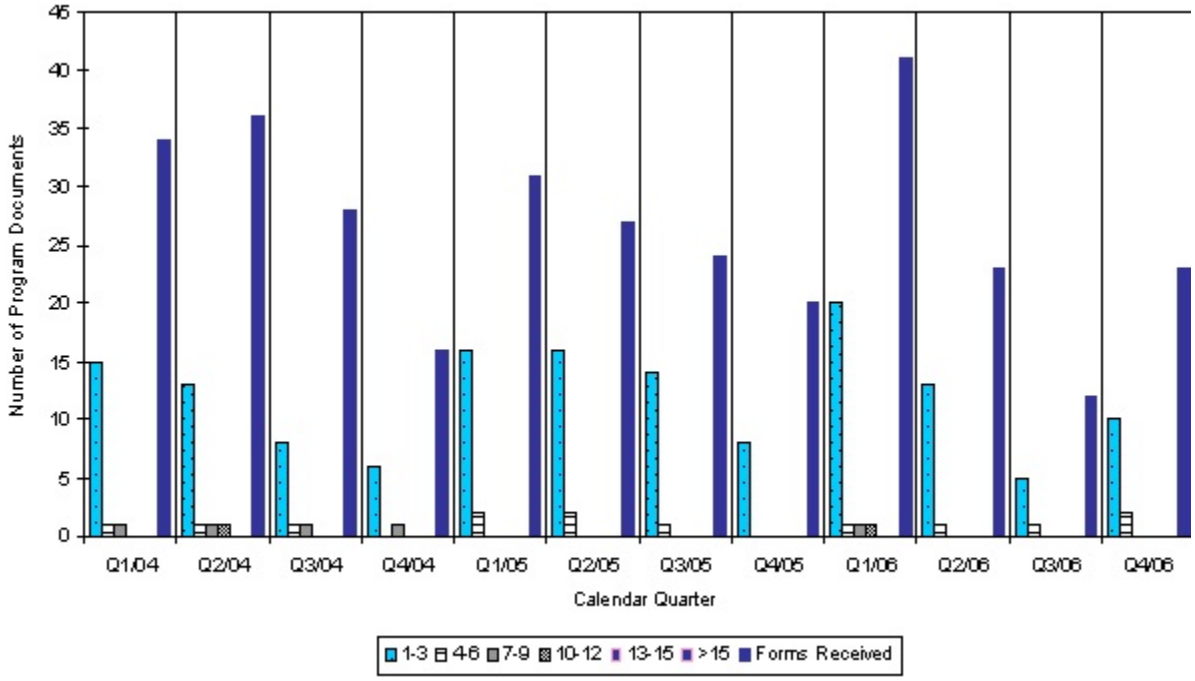
Metric Criterion Met: Yes.

IP-2 **Number of Feedback Forms per Document**

Definition: Count the number of feedback forms received for each program document each quarter. Use a histogram to chart the number of documents for which feedback forms were received. Highlight those documents against which the most forms are written.

Criteria: Expect a declining trend in the number of feedback forms received for program documents.

Goals Supported: Understandable, Predictable, Objective



Analysis: The staff received 99 feedback forms in CY 2006. Approximately 60 percent of all feedback forms received during this period relate to issues in the areas of:

(1) IMC 0612, Power Reactor Inspection Reports - (13 Forms), 14%;
(2) IMC 0305, ROP Assessment - (10 Forms), 11%;
(3) IMC 0609F and 71111.05, Fire Protection SDP and Inspection - (9 Forms), 9%;
(4) IMC 0609, Significance Determination Process (SDP) including all Appendices except Fire - (10 Forms), 9%;
(5) IP 71152, Problem Identification and Resolution - (8 Forms), 8%;
(6) IMC 2515, LAR Inspection Program - Operational Phase (7 Forms), 7%; and
(7) IP 71151, Performance Indicator Verification - (5 Forms), 5%.

Of the 99 feedback forms received, the staff resolved 62. Overall, the staff resolved 106 feedback forms from a total of 157 feedback forms (~ 68%). The total number of feedback forms includes 58 feedback forms brought forward from CY 2005. Of the 58 older forms, the staff closed 44 forms to date (~76%).

There are 51 feedback forms currently open. This number includes the remaining 37 forms received this year and 14 forms carried over from CY 2005. The breakdown in age of these forms are as follows:

CY 2006 (37)
- 10 forms are less than 90 days old,
- 8 forms are between 90 -180 days old,
- 19 forms are between 180 - 360 days old,

CY 2005 (14)
- 14 forms are greater than 360 days old.

Sixty-two percent of the 106 feedback forms were resolved in CY 2006 resulting in changes to inspection program documents. Forty forms were addressed by procedure revisions this year and 32 forms are pending a change notice.

The number of feedback forms received in CY 2006 (99 forms) indicates a slight downward trend in the number of feedback forms compared to the previous three years (102 for CY 2005, 114 for CY 2004, and 123 for CY 2003).

The staff enhanced the ROP Feedback Program to improve the timeliness, efficiency, and effectiveness of feedback resolution. The revised process, which was implemented at the beginning of FY 2007, assigns action to the staff via a Green Sheet issued through the NRR Work Planning and Control Center to track the response for resource usage and timeliness. Improvements in staff performance and responsiveness to feedback are expected in 2007.

Metric Criterion Met: Yes.

IP-3 Completion of Baseline Inspection Program

Definition: Annual completion of baseline inspection program.

Criteria: Defined as per IMC 2515, "Light-Water Reactor Inspection Program - Operations Phase."

Goals Supported: Ensure Safety, Predictable, Ensure Effectiveness

Analysis: All four regions completed their baseline inspections in CY 2006. Each region documented completion of the program in a memorandum to the Division of Inspection and Regional Support in NRR. These memoranda can be found in ADAMS under ML070430041 (Region I), ML070330047 (Region II), ML070470661 (Region III), and ML070470659 (Region IV). As in the 2005 inspection cycle, all regions completed their baseline inspections in 2006 with the allocated regional resources.

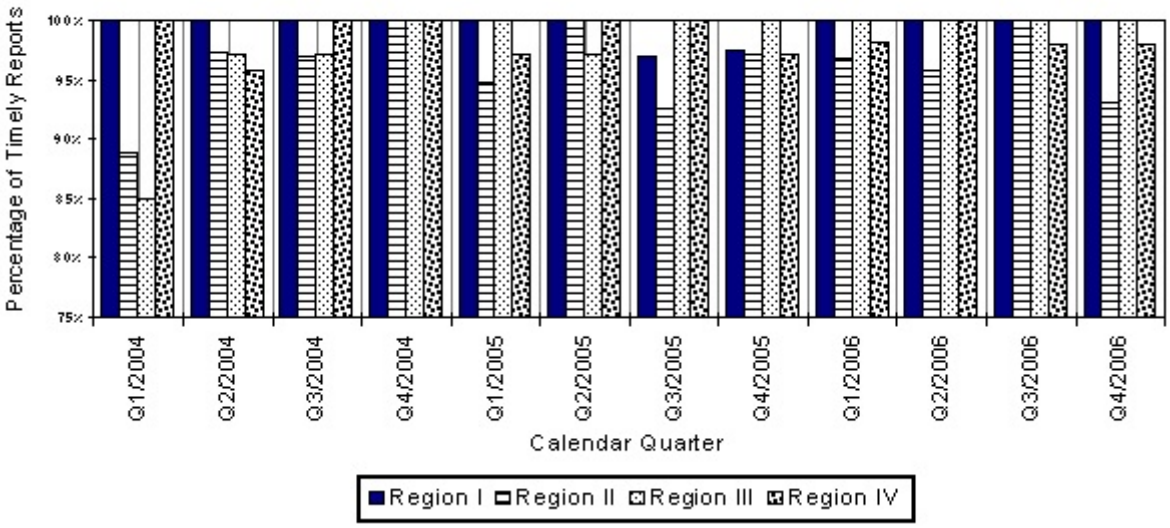
Metric Criterion Met: Yes.

IP-4 **Inspection Reports Are Timely**

Definition: Obtain RPS data on the total number of reports issued and the number issued within timeliness goals as stipulated in IMC 0612, "Power Reactor Inspection Reports."

Criteria: Expect 90 percent of inspection reports to be issued within the program's timeliness goals.

Goals Supported: Ensure Effectiveness, Ensure Openness, Predictable



Analysis: A total of 733 inspection reports were issued during the CY 2006. Regions met or exceeded the inspection report timeliness goal of 90 percent in each quarter throughout the year. Overall as an inspection program, about 99 percent of all issued inspection reports were timely.

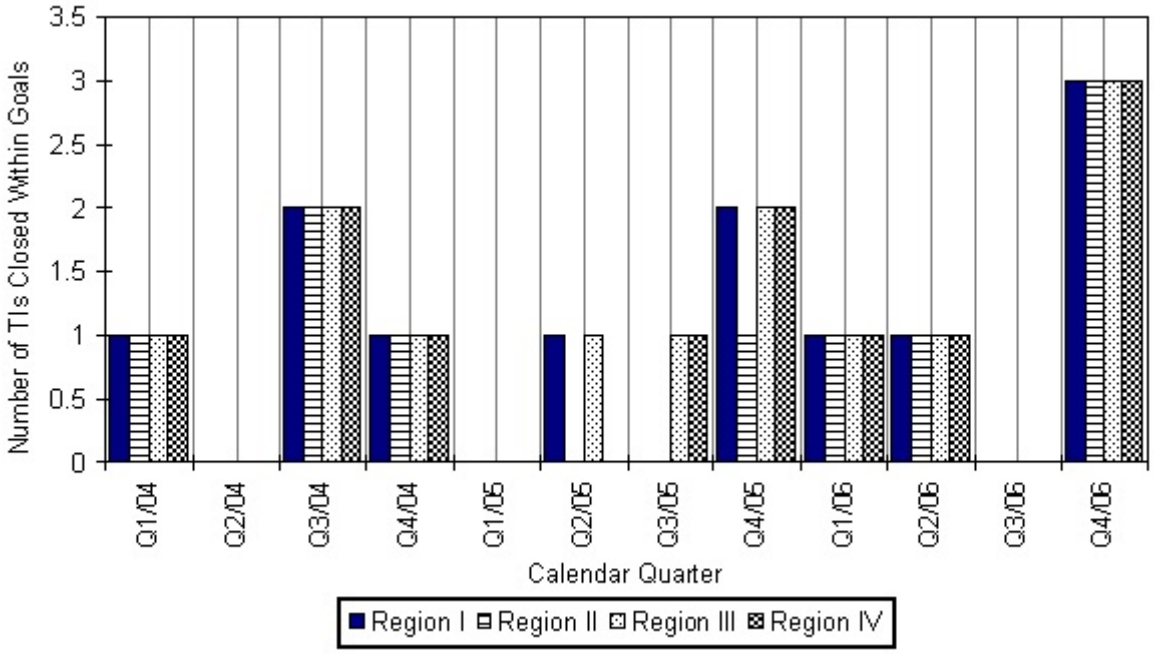
Metric Criterion Met: Yes.

IP-5 **Temporary Instructions (TIs) Are Completed Timely**

Definition: Audit the time to complete TIs by region. Compare the completion status in RPS to TI requirements. Report by region the number of TIs closed within goals.

Criteria: Expect all TIs to be completed within TI requirements.

Goals Supported: Ensure Effectiveness, Ensure Safety, Predictable



Analysis: All Regions completed all 5 TIs on time. This metric was not met in CY 2005; however, timeliness of TIs in CY 2006 improved and this metric was met. The staff is planning to change this metric to a percentage goal in CY 2007, vice expecting all TIs to be completed on time.

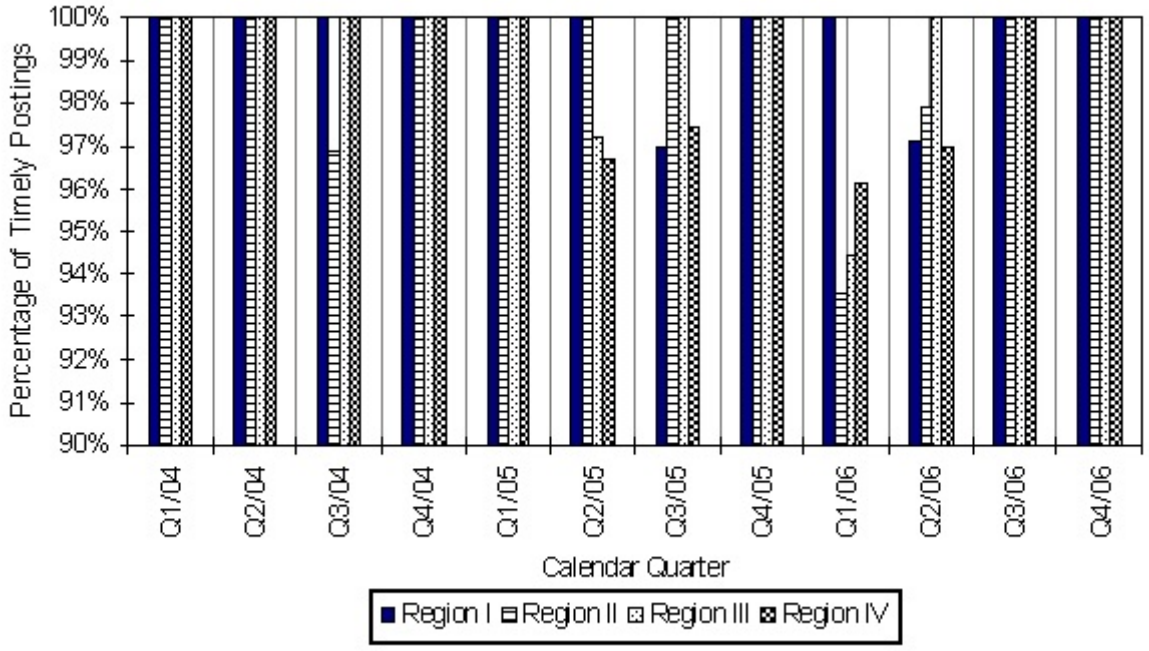
Metric criterion Met: Yes.

IP-6 **Public Availability of Inspection Information Is Timely**

Definition: NRR/DIRS posts inspection reports to the NRC's external (public) Web site within ROP timeliness goals using the electronic version of inspection reports entered into the Agency Document Access and Management System (ADAMS) by the regions. NRR/DIRS also posts entries from the Plant Issues Matrix (PIM) to the NRC's public Web site using data entered into RPS by the regions. In addition, NRR/DIRS records the number of inspection reports not available in ADAMS and the number of PIM entries not updated in RPS, as well as the number of inspection reports and PIMs that are not posted to the NRC's public Web site within the goals stipulated in IMC 0306, "Information Technology Support for the Reactor Oversight Process."

Criteria: Expect few untimely postings of PIMs or inspection reports, with a stable or declining trend.

Goals Supported: Ensure Openness, Ensure Effectiveness. Predictable



Analysis: PIMs and inspection reports were posted within timeliness goals nearly 100% of the time for each region in each quarter of CY 2006. The untimely postings resulted in broken links on the web for a few days, but these rare occurrences were isolated and the reports were quickly posted once they were located. Beginning with the third quarter of 2006, the staff implemented an automated process to post inspection reports that works directly with ADAMS, replacing the cumbersome manual process used previously. As a result, there were no late postings in the final two quarters of 2006 and the staff expects few, if any, late

postings of inspection reports in the future, except perhaps for those reports that are not issued within timeliness goals. Since metric IP-4 already tracks the timeliness of issuing inspection reports, the staff plans to discontinue this metric in CY 2007 and delete it from the ROP self-assessment program as described in IMC 0307.

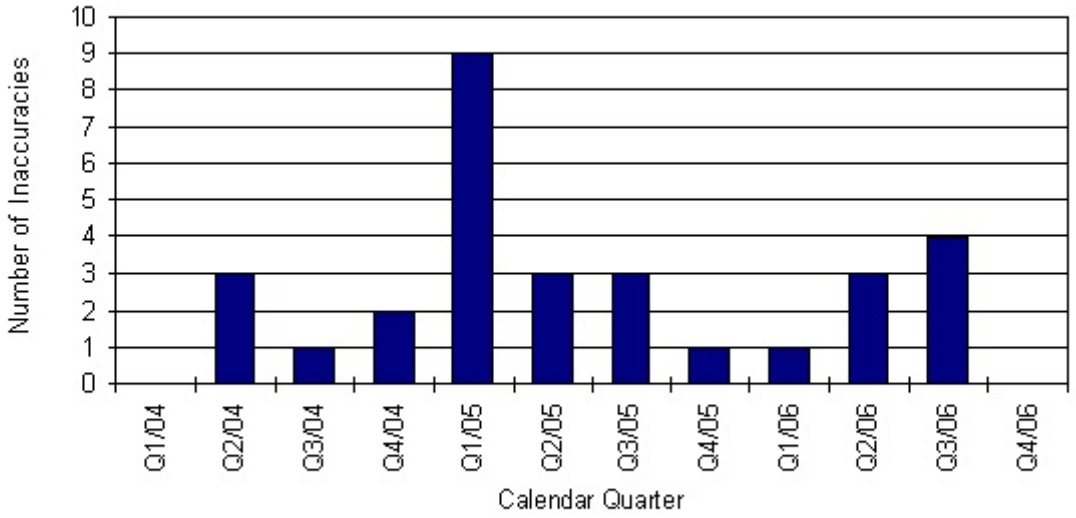
Metric Criterion Met: Yes.

IP-7 **Public Communication Is Accurate**

Definition: Each calendar quarter, sample information on the NRC's external (public) Web site and count the number of times and reasons for regions changing PIMs or inspection reports (i.e., inaccuracy, new information).

Criteria: Expect few inaccuracies, with a stable or declining trend.

Goals Supported: Ensure Openness, Ensure Effectiveness, Understandable



Analysis: There were few inaccurate postings of PIM entries or inspection reports on the web identified during CY 2006. No region had more than two inaccurate postings for any of the quarters. This is a declining trend from CY 2005.

Metric criterion Met: Yes.

IP-8 **Inspection Reports Are Relevant, Useful, and Written in Plain Language**

Definition: Survey external and internal stakeholders asking whether the information contained in inspection reports is relevant, useful, and written in plain English.

Criteria: Trend average level of agreement.

Goals Supported: Ensure Effectiveness, Understandable, Ensure Openness

Analysis: Internal Survey

Three internal survey questions addressed this metric. The questions and their resultant percentage of agreement are presented below.

Measure	2006	2004	2002	2001
The ROP generally provides appropriate communication effectiveness through use of plain English in official correspondence (e.g., inspection reports, ...)	82%	79%	74%	74%
The information on plant performance (e.g., inspection reports, ...) provided on the ROP Web page is understandable and written in plain English	93%	89%	87%	89%
The baseline inspection program reports are communicated accurately.	96%	87%	93%	89%

The majority of those who provided feedback on inspection report relevance, usefulness, and if they are written in plain language responded that the reports are useful and were clearly written. The three questions all showed an improvement from 2004 and all are above 82%. This shows strong agreement among internal stakeholders about the relevance and usefulness of inspection reports.

External Survey

The majority of those who provided feedback to the question on whether the information in the inspection reports was relevant, useful, and written in plain language responded that the inspection reports were clearly written and useful. There were, however, comments for improvement in this area, including:

- The referenced document section in the back of the inspection report is irrelevant. These are documents that are not public so they provide no real value in the report.

- Inspection report information is generally useful and the organization helps to provide focus in problem areas. However, there is some disagreement about whether the reports are written in “plain English.” It is also noted that the link between an inspection finding and a cross-cutting

aspect is not always clearly articulated in the inspection reports. Often, the inspection report language only states that the finding is related to the cross-cutting aspect with no explanation of how the cross-cutting aspect significantly contributed to the cause of the finding. The link between the cross-cutting aspect and the cause of the finding should be clear to the reader of the inspection report.

- Generally, the reports are relevant, useful and written in plain English. We note, however, that the reports are growing in size and detail with minimal added value. Preliminary experience with the NRC's Safety Culture initiative, indicates cross-cutting aspects associated with inspection findings are appropriately documented.

Overall, however, stakeholder satisfaction was generally favorable and consistent.

Metric Criterion Met: Yes.

IP-9 **Inspection Program Effectiveness and Adequacy in Covering Areas Important to Safety**

Definition: Survey external and internal stakeholders asking whether the inspection program adequately covers areas that are important to safety and is effective in identifying and ensuring the prompt correction of performance deficiencies.

Criteria: Trend average level of agreement.

Goals Supported: Ensure Safety, Ensure Effectiveness, Risk-Informed

Analysis: Internal Survey

Seven internal survey questions address this metric. These questions and their resultant percentage of agreement are presented below.

Measure	2006	2004	2002	2001
Baseline Inspection Program appropriately inspects for and identifies risk-significant issues	89%	79%	73%	78%
Level of effort for conducting each inspection is consistent with that estimated in the inspection procedure	65%	57%	58%	47%
Baseline Inspection Program provides appropriate coverage of plant activities and operations important to safety	83%	77%	67%	63%
Procedures are adequate to address intended cornerstone attributes	94%	86%	80%	81%
Procedures are clearly written	85%	73%	78%	75%
Procedures adequately sample risk significant aspects of each inspectable area	87%	80%	72%	76%
Procedures are conducted at an appropriate frequency	86%	84%	79%	73%

Internal stakeholders continue to generally agree that the inspection program and its procedures provide appropriate coverage of areas important to safety and the program is effective. The data supporting this metric indicates a stable and slightly increasing positive perception for these seven measures when compared to the previous surveys.

Some of the more prevalent comments on the inspection program were that inspection procedure scope and level of effort need to be reviewed and adjusted as appropriate and that issues that screen out as minor are often important and should be monitored.

External Survey

The responses to whether the inspection program adequately covers areas that are important to safety and is effective in identifying and ensuring the prompt correction of performance deficiencies were generally positive with comments for making improvements. Comments included:

- The inspection program does adequately cover areas important to safety and does identify the issues that require prompt correction. However, the process also identifies performance deficiencies that do not require prompt correction since they are not risk significant, and the inspectors are identifying and documenting issues that are not risk significant. The NRC should be watchful about regulating excellence instead of compliance.

- While the inspection program adequately covers areas important to safety and identifies the issues that require prompt correction, the process also identifies issues that are not risk significant. Periodic reviews of the overall effectiveness of certain inspection modules should be performed. The reviews should consider the resources spent on the inspection against the numbers, and level of significance of, findings from the performance of the inspections covered under certain inspection modules. These reviews could be used to reallocate inspection resources to areas of greater risk significance.

- The NRC Inspection Program is intended to cover areas that are important to safety, but there are opportunities for further improvements.
  1. There is extensive use of resources on the part of the NRC staff and the licensees to assess the significance of inspection findings, specifically for greater than “Green” findings. This also applies to those findings that are not of safety significance.
  2. The number of findings in the cross-cutting areas (human performance, safety culture and problem identification and resolution) is relatively high. Additionally, there are some plants that are experiencing relatively high number of “substantive” cross-cutting issues. The effectiveness of the ROP Inspection Program as it relates to the identification and resolution of cross-cutting issues is subject to further review.
  3. The role of the NRC in situations that do not involve regulations, but might involve a performance deficiency should be examined and better defined.
  4. The NRC should consider more frequent inspection of the licensees’ Corrective Action Program (CAP). This is important considering that the ROP relies heavily on the CAP for timely resolution of issues or problems. Additionally, it is clear that the effectiveness of the CAP varies significantly within the industry and some utilities are not very effective in this area.

Metric Criterion Met: Yes.

IP-10 Analysis of Baseline Inspection Procedures

Definition: Annually, review each baseline inspection procedure to determine its effectiveness and contribution to the overall effectiveness of the baseline inspection program. The objectives of the review are: (1) to determine if changes in scope, frequency, or level of effort are needed based on recent experience, (2) to determine if a change to the estimated hours for completion is needed, (3) to define or change what constitutes minimum completion of each inspectable area, if needed, and (4) to critically evaluate all of the inspectable areas together along with the PI program to ensure that the inspectable areas are adequately monitored for safety performance. In addition, a more detailed review and realignment of inspection resources will be performed at least biennially. The focus of this effort is to adjust existing inspection resources to improve the effectiveness of the inspection program in identifying significant licensee performance deficiencies.

Criteria: None; trend only. Summarize and evaluate the individual inspection procedure reviews and propose program adjustments as necessary to address noted inefficiencies. Provide basis for any meaningful increase or decrease in procedure scope, frequency, or level of effort as a result of the review.

Goals Supported: Ensure Effectiveness, Ensure Safety

Analysis: The staff performed its annual review of each baseline inspection procedure for FY 2006. The period assessed was from October 2005 through September 2006. The focus of the review was to identify potential areas for improvement in the baseline inspection program and to identify any notable changes in inspection results. The staff's annual evaluation of the inspection procedures did not reveal significant weaknesses in the inspection program's ability to identify risk-significant issues. The staff completed the development of a more in-depth ROP realignment process in late 2006 and plans to perform a more detailed analysis of the scope and level of effort of each baseline inspection procedure in CY 2007. Any changes resulting from the ROP realignment review will be reflected in the baseline inspection program for CY 2008.

Metric Criterion Met: Yes.

SDP-1 The SDP Results Are Predictable and Repeatable and Focus Stakeholder Attention on Significant Safety Issues

Definition: Annually, audit a representative sample (up to four per region) of inspection findings against the standard criteria set forth in IMC 0609, "Significance Determination Process," and its appendices. To the extent available, samples should include potentially greater-than-green findings that were presented to the Significance Determination Process/Enforcement Review Panel (SERP). Findings should contain adequate detail to enable an independent auditor to trace through the available documentation and reach the same significance color characterization.

Criteria: The target goal is at least 90% are determined to be predictable and repeatable. Any SDP outcomes determined to be non-conservative will be evaluated and appropriate programmatic changes will be implemented.

Goals Supported: Ensure Safety, Risk-Informed, Predictable

Note: Inspection findings identified as Green using the SDP phase 1 or initial screening process were not included in the subject sample size and such findings were not audited for this period. IMC 0307 will be reviewed to determine the appropriate audit frequency and sample size for green findings.

Analysis: The Office of Research (RES) identified a total of 5 greater-than-green SDP findings for the reporting period. Each finding was assessed using the risk-informed process detailed in IMC 0609 Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," and was assigned a final white color. The review was completed using a systematic approach (a detailed checklist for each SDP finding). For all 5 of these findings, RES concluded that the documentation was sufficient to support the overall facility risk (increase in core damage frequency) conclusions and that the SDP documentation was adequate to support the final SDP conclusions. In addition, none of the five findings were found to be non-conservative.

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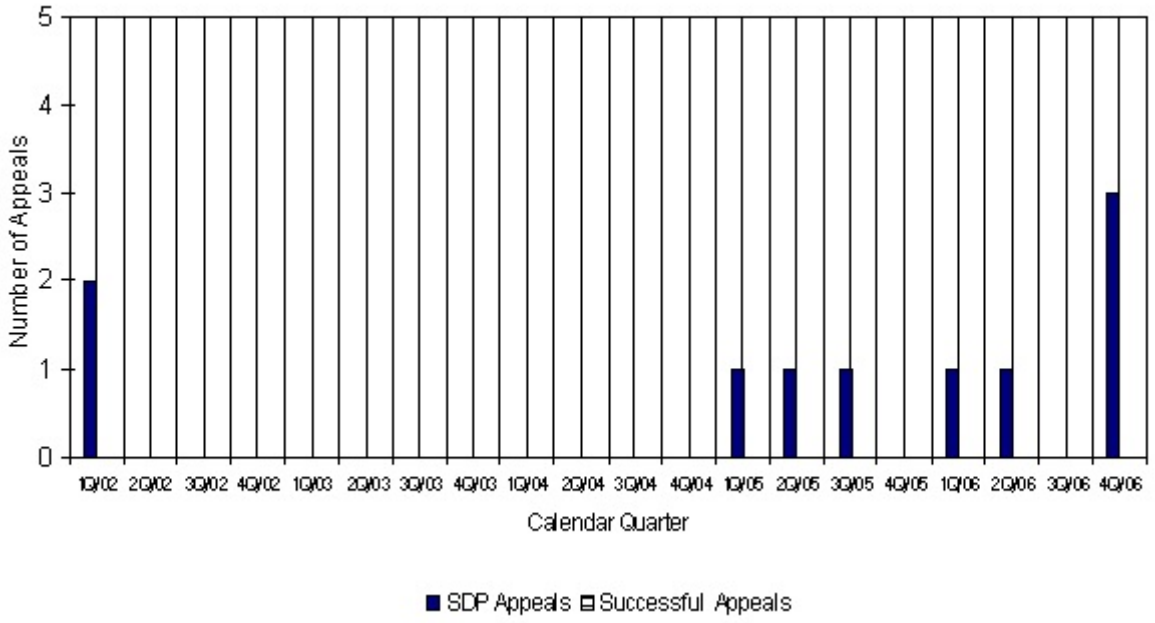
Metric Criterion Met: Yes.

SDP-2 **SDP Outcomes Are Risk-Informed and Accepted by Stakeholders**

Definition: Track the total number of appeals of final SDP results.

Criteria: Expect zero appeals of SDP significance that result in a final determination being overturned across all regions. All successful appeals will be assessed to determine causal factors and to recommend process improvements.

Goals Supported: Risk-Informed, Objective, Predictable



Analysis: There were five appeals of findings of low to moderate safety significance, WHITE. The appeals did not result in changes to the final outcome of the findings.

Metric Criterion Met: Yes.

SDP-3 Inspection Staff Is Proficient and Find Value in Using the SDP

Definition: Survey internal stakeholders using specific quantitative survey questions that focus on training, effectiveness, and efficiency.

Criteria: Expect either a stable or an increasingly positive perception of the SDP process over time.

Goals Supported: Ensure Effectiveness, Understandable, Risk-Informed

Analysis: Nine internal survey questions addressed this metric. These questions and their resultant percentage of agreement from internal stakeholders are presented below.

Measure	2006	2004	2002	2001
SDP focuses NRC attention on safety-significant issues	83%	75%	71%	79%
SDP provides basis for effective communication of inspection findings to the Licensee	84%	78%	73%	77%
SDP provides basis for effective communication of inspection findings to the public	73%	60%	60%	59%
SDP provides for consistent results	74%	63%	61%	72%
SDP training is effective	57%	38%	33%	N/A
Reactor safety SDPs are easy to use	54%	36%	20%	60%
Non-reactor safety SDPs are easy to use	58%	41%	26%	64%
Program guidance documents are clear	63%	41%	32%	N/A
Resource expenditures are appropriate	60%	41%	32%	N/A

The survey results indicate that the staff believes the SDP is effective in meeting important program objectives such as focusing on identifying safety significant issues and communicating results to the licensees and the public. Inspector confidence utilizing the SDP tools increased since the last survey. The increased inspector confidence in these tools may be attributed to significant improvements made in SDP documents and training. In particular, regional management has become more involved in training needs as SDP guidance is revised or developed. The staff anticipates increased inspector proficiency as inspectors gain more experience with these tools. While the trend is positive, some areas of concern were noted by internal stakeholders which are addressed in Enclosure 1 to the annual ROP self-assessment Commission paper.

Metric Criterion Met: Yes.

SDP-4 **Results of the Same Color Are Perceived by the Public to Warrant the Same Level of Regulatory Attention for All Cornerstones**

Definition: Survey external and internal stakeholders asking if the SDP yields an appropriate and consistent regulatory response across all ROP cornerstones.

Criteria: Expect stable or increasingly positive perception of the SDP over time.

Goals Supported: Understandable, Objective, Predictable

Analysis: Internal Survey

Five internal survey questions addressed this metric. These questions and their resultant percentage of agreement from internal stakeholders are presented below.

Measure	2006	2004	2002	2001
SDP results correctly characterize the risk-significance of inspection findings	76%	66%	61%	71%
SDP results are verifiable	85%	76%	76%	84%
SDP results are realistic	78%	69%	62%	70%
SDP results are based upon clear standards	69%	56%	46%	53%
SDP results are accurate	75%	66%	59%	65%

The internal survey results indicate a steady long term improvement in this area.

External Survey

Generally, the external survey respondents remain steadily negative on the SDP yielding consistent regulatory response across all ROP cornerstones. The staff continues to believe that relative parity has been achieved among the cornerstones, based on the potential impact on public health and safety and the designated NRC response to specific findings. As a result, the staff plans to delete this metric from the ROP self-assessment program as described in IMC 0307 and remove the related question from future external surveys. Findings are continuously under review by the staff to determine the need for adjustments to the SDPs in this area. For example, based on a finding identified during this assessment period, the outcome of the Public Radiation Safety SDP is being evaluated by the staff to assure equivalence between the various SDP outcomes.

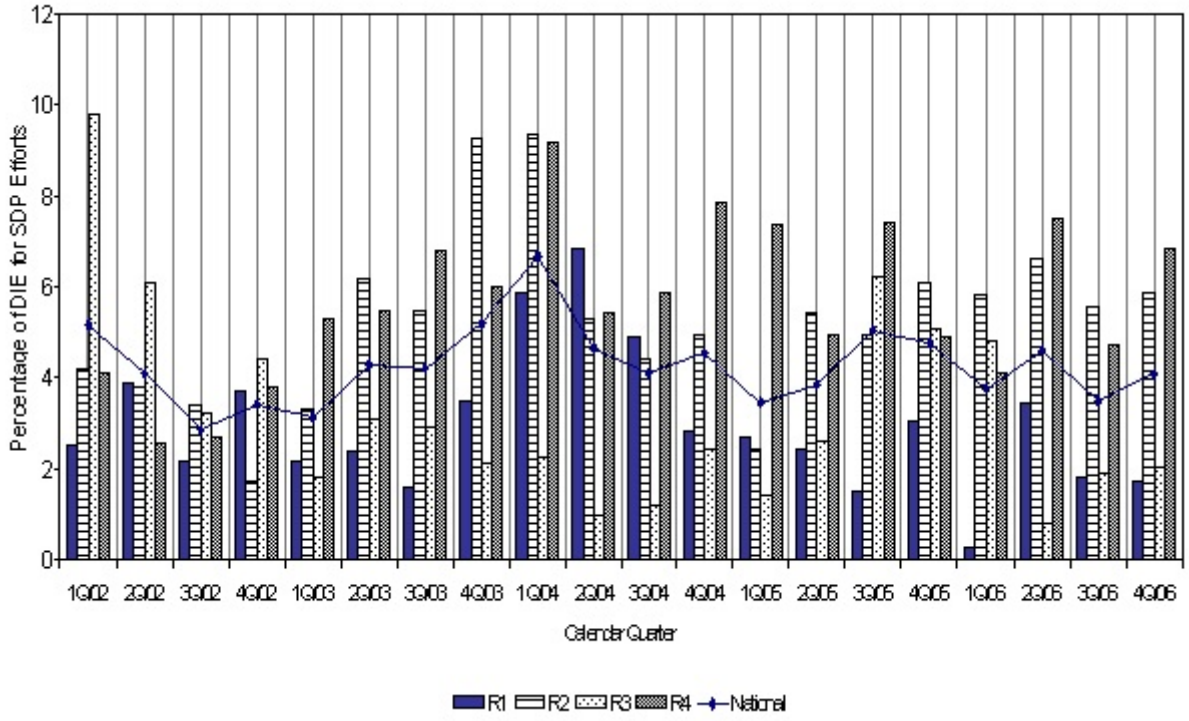
Metric Criterion Met: No.

SDP-5 **The Resources (Direct Charges and Support Activities) Expended Are Appropriate**

Definition: Track the percentage of total resource expenditures attributed to SDP activities to determine the effort expended by the regions in completing SDP evaluations as a percentage of the total regional direct inspection effort.

Criteria: Total SDP expenditures should not exceed 10 percent of the total regional direct inspection effort (DIE) with a stable or declining trend.

Goals Supported: Ensure Effectiveness, Predictable



Analysis: Regional expenditures associated with SDP evaluations remain stable and below the target goal.

Metric Criterion Met: Yes.

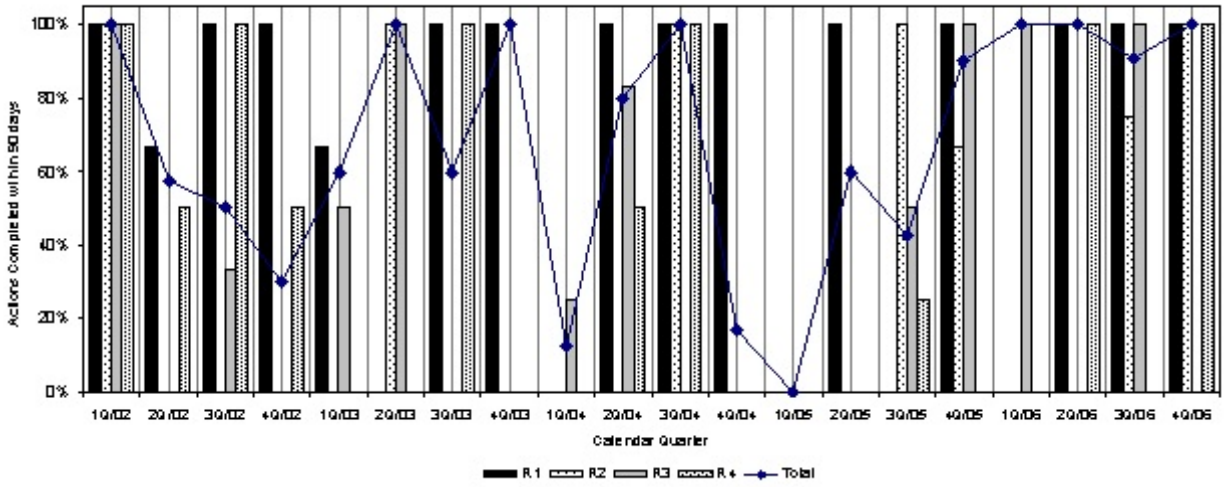
SDP-6a **Final Significance Determinations Are Timely**

Definition: Conduct a quarterly audit of RPS data to identify the total number of inspection items finalized as greater than green that were under review for more than 90 days since:

(1) the date of initial licensee notification of the preliminary significance in an inspection report, or
(2) the date the item was formally transmitted to an NRR technical branch for SDP assistance, or
(3) the item was otherwise documented in an inspection report as an apparent violation pending completion of a significance determination and not counted in either of the above categories.

Criteria: At least 90% of all SDP results that are counted per the criteria above should be finalized within 90 days. All issues greater than 90 days will be assessed to determine causal factors and to recommend process improvements.

Goals Supported: Ensure Effectiveness, Ensure Openness, Predictable



Analysis: Timeliness of final significance determinations increased from 68% in FY 2005 to 96% for FY 2006. Since implementation in April 2000, the SDP has gone through several significant changes based on feedback from internal and external stakeholders and the recommendations of two independent audits. As a result, SDP timeliness has improved significantly, meeting its goal for the first time since the implementation of the ROP.

Metric Criterion Met: Yes.

SDP-6b Final Significance Determinations Are Timely

Definition: Conduct a quarterly audit of issues that were assessed by the Significance Determination Process/Enforcement Review Panel (SERP) to identify the total number of inspection items finalized as green or greater-than-green that were under review for more than 90 days since:

(1) the date of initial licensee notification of the preliminary significance in an inspection report, otherwise documented in an inspection report as an "AV" pending completion of a significance determination, or
(2) the date the item was presented to the SERP for review.

Criteria: Average age of all SDP results that are counted per the criteria above should be equal or less than 90 days and none of the results can be older than 180 days. All issues greater than 180 days will be assessed to determine causal factors and to recommend process improvements.

This metric is being piloted as a potential replacement for the existing SDP timeliness metric.

Goals Supported: Ensure Effectiveness, Ensure Openness, Predictable

Analysis: There was a total of 35 findings presented to the SERP and 4 were greater than 180 days. Of the 35 issues identified, there was 1 Yellow, 24 Whites and 10 Greens. The average age of all the SDP results that were presented to the SERP during FY 2006 was 119 days. Three of the 4 issues greater than 180 days were dispositioned as Green findings. The Green findings involved the same performance deficiency affecting 3 units, thus the 3 findings. It took 244 days to close these Green findings due to the complexity of this issue. The issue required a phase 3 evaluation of the external event risk contribution which included the time consuming process of developing an appropriate assessment tool which is programmatically discouraged in the SDP. Additionally, regional and headquarters staff collaboration on this issue was inefficient causing further delays. The fourth finding was dispositioned as White and was associated with a plant shutdown issue where it took 343 days to close due to programmatic difficulties encountered. Examples of difficulties experienced include: (1) availability of the appropriate risk analyst, (2) roles and responsibilities between the region and headquarters were not clearly defined, and (3) disagreement with some of the assumptions and methodology of the SDP analysis and the resulting conclusion. Much of the time was spent resolving the differences.

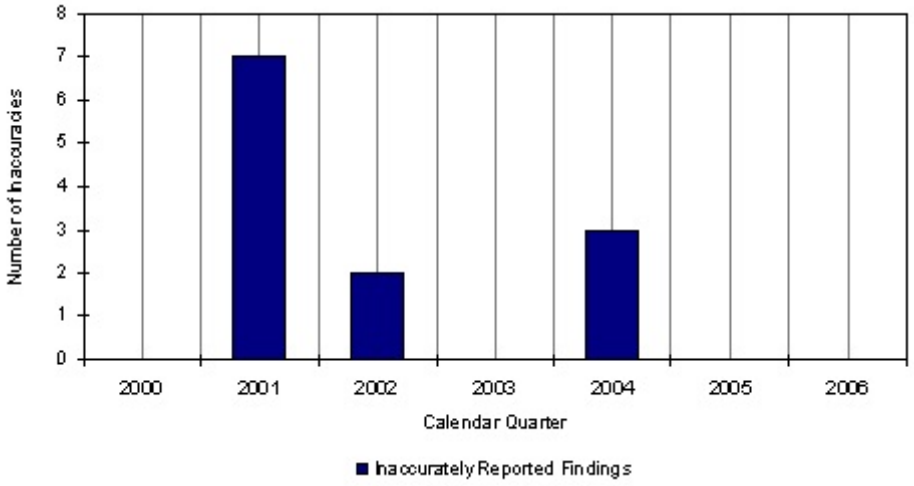
As a result of SDP timeliness issues, the regions started the implementation of the "SDP Best Practices Initiatives" to address causes of SDP delays and enhance SDP completion timeliness. Numerous recommendations were identified which should continue to improve timeliness. One of the recommendations was to develop an additional metric to further improve SDP timeliness. The proposed metric (i.e., 90% within 90 days and 100% within 180 days) will encourage the staff to complete evaluations in a timely manner, even when the evaluation has exceeded the 90 day goal. The staff will continue to evaluate this metric and a decision may be made in CY 2007 whether the 180 day metric should be incorporated into the SDP timeliness metric.

SDP-7 SDP Results Are Communicated Accurately to the Public

Definition: Each calendar quarter, track the number of inspection findings that are inaccurately communicated to the public (color of findings is inaccurately reported) by auditing the inspection findings summary information available on the NRC Web. The detailed review will include item type, significance characterization, enforcement action status, and text descriptions of greater-than-green inspection findings prior to release to external stakeholders.

Criteria: The target goal is zero inaccuracies, with a stable or declining trend. All inaccuracies must be addressed.

Goals Supported: Ensure Openness, Understandable, Ensure Effectiveness



Analysis: During the current assessment period no inaccuracies were identified.

Metric Criterion Met: Yes.

AS-1 **Subjective Judgment Is Minimized and Is Not a Central Feature of the Process. Actions Are Determined by Quantifiable Assessment Inputs (Examine PIs and SDP Results)**

Definition: Audit all assessment-related letters and count the number of deviations from the Action Matrix. Evaluate the causes for these deviations and identify changes to the ROP, if any, to improve the guidance documents.

Criteria: Expect few deviations, with a stable or declining trend.

Goals Supported: Objective, Predictable, Ensure Openness

Analysis: There have been a total of twelve (12) deviations from the Action Matrix since the beginning of the ROP in CY 2000. Three of these deviations occurred in CY 2006. Since CY 2004, the trend seems to be stabilized at an increased number due to the number extensions of deviations in CY 2005 and CY 2006. This metric meets its criteria based on the number of deviations decreasing during CY 2006, the unique circumstances addressed by the deviations, and the approval of only one new deviation. The staff's evaluation of the 2006 Action Matrix Deviations concluded the following:

(1) The NRC issued a deviation for the Indian Point Energy Center in December 2006 to allow for an increased level of oversight for two issues: Groundwater contamination from cracks in the Unit 2 spent fuel pool and problems with the Alert and Notification System (ANS). The Indian Point 2 deviation was an extension of the previous deviation in CY 2005. On September 1, 2005, the NRC was informed by Entergy that cracks in a Unit 2 spent fuel pool wall were discovered during excavation work inside the spent fuel pool building. Low levels of radioactive contamination were found in the vicinity of the crack. Region I continues to monitor Entergy's activities on this issue to ensure NRC regulations are satisfied. Regarding the ANS issue, Entergy is required to comply with the stipulations of the Energy Policy Act of 2005, and the associated NRC Confirmatory Order dated January 31, 2006. Entergy is required to supply backup power to the ANS; and, as a result, they have begun replacement of the entire ANS, including the actuation system for the sirens in an effort to make the entire system more reliable. Entergy has developed the Indian Point Energy Center Prompt Alert and Notification System Design Report which contains the specifics of the new system design. This report has been submitted to the Department of Homeland Security for approval.

(2) The Davis-Besse deviation was an extension of the previous deviation in CY 2005. This action is necessary to continue to monitor the licensee's efforts to sustain improved plant performance following resolution of the long-standing underlying problems that culminated in a Red finding associated with the severe wastage that was discovered on the reactor vessel head. Davis-Besse was placed under the IMC 0350 process for about 3 years. While the plant transitioned from the IMC 0350 process, a deviation was authorized on May 16, 2005, for the period of July 2005 through June 2006.

(3) The Waterford Steam Electric Station, Unit 3 one-time deviation was issued to address PIs that were determined by the staff to be Red, and Yellow,

respectively, following the conduct of a discrepant PI inspection. The deviation was requested because the actions outlined in the Licensee Response column of the Action Matrix are more appropriate for the situation at Waterford 3 than those of the Multiple/Repetitive Degraded Cornerstone Column. This situation is not likely to recur due to the replacement of the SSU PIs with the Mitigating Systems Performance Index (MSPI) in April of 2006.

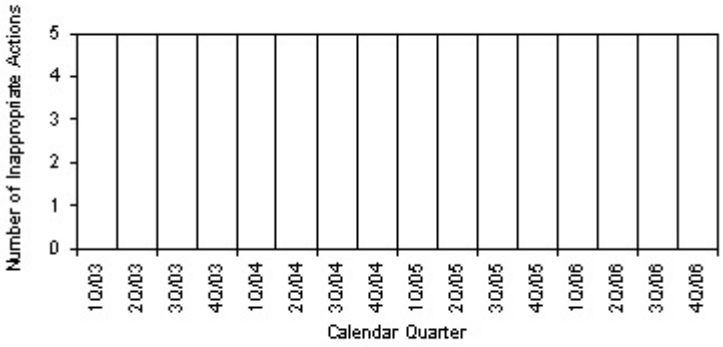
Metric Criterion Met: Yes.

AS-2 The Program Is Well-defined Enough to Be Consistently Implemented

Definition: Audit all assessment letters and count the number of significant departures from requirements in IMCs 0305, "Operating Reactor Assessment Program," and 0350, "Oversight of Operating Reactor Facilities in an Extended Shutdown as a Result of Significant Performance Problems." Timeliness goals are counted in metric AS-5.

Criteria: Expect few departures, with a stable or declining trend.

Goals Supported: Objective, Predictable, Ensure Effectiveness



Analysis: There were no significant departures from the requirements of IMC 0305 or 0350 as a result of an audit of assessment letters during the period between January and December 2006. The regions have consistently complied with the requirements of IMCs 0305 and 0350 while preparing and issuing their assessment letters over the past several years. The earlier inconsistencies that this metric was designed to track and trend appear to have been corrected. As a result, the staff no longer plans to monitor this metric and plans to delete it from IMC 0307 in CY 2007.

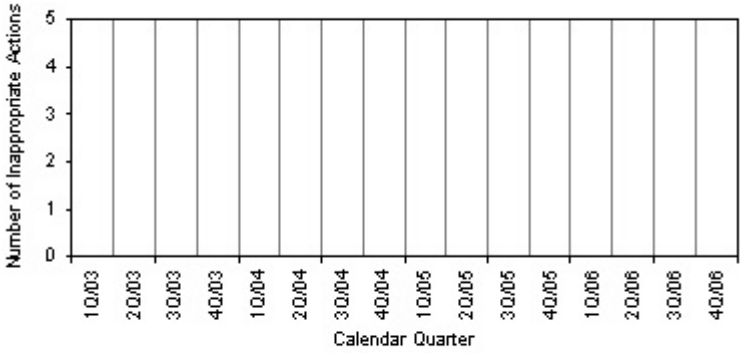
Metric Criterion Met: Yes.

AS-3 **Actions Taken Are Commensurate with the Risk of the Issue and Overall Plant Risk**

Definition: Review actions taken for greater-than-green inspection findings and PIs. Track the number of actions (or lack of actions) taken by the regions that are not appropriate for the significance of the issues and are non consistent with the Action Matrix.

Criteria: Expect few departures, with a stable or declining trend.

Goals Supported: Risk-Informed, Ensure Effectiveness, Ensure Safety



Analysis: All actions taken by the regional offices were consistent with the Action Matrix during the period between January and December 2006. This metric met its criteria based on no departures from the ROP regarding actions taken in response to greater-than-green findings or PIs. All noted departures from the Action Matrix over the past several years have been properly documented as deviations and are discussed under metric AS-1. As a result, the staff no longer plans to monitor this metric and plans to delete it from IMC 0307 in CY 2007.

Metric Criterion Met: Yes.

AS-4 **The Number And Scope of Additional Actions Recommended as a Result of the Agency Action Review Meeting (AARM) Beyond Those Actions Already Taken Are Limited**

Definition: Review the results of the Agency Action Review Meeting (AARM).

Criteria: Few additional actions, with a stable or declining trend.

Goals Supported: Understandable, Predictable, Objective

Analysis: The AARM was held on April 19, 2006, in Baltimore, Maryland. The participants confirmed the appropriateness of agency actions for Point Beach 1 and 2, Perry, and Davis-Besse. The participants did not recommend any additional actions beyond those already taken or planned. The next Agency Action Review Meeting is scheduled for April 2007.

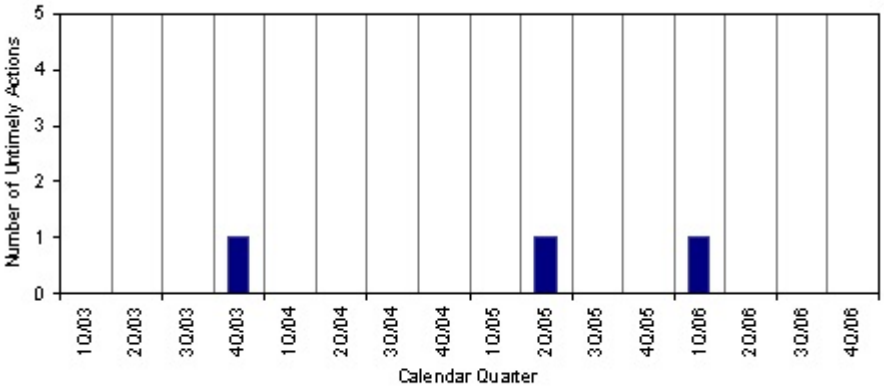
Metric Criterion Met: Yes.

AS-5 **Assessment Program Results (Assessment Reviews, Assessment Letters and Public Meetings) Are Completed in a Timely Manner**

Definition: Track the number of instances in which timeliness goals established in IMC 0305 were not met. The regions will collect timeliness data for the conduct of quarterly reviews (within 5 weeks of the end of quarter); mid-cycle, and end-of-cycle reviews (within 6 weeks of the end of quarter); issuance of assessment letters (within 2 weeks of the quarterly review and 3 weeks of the mid-cycle and end-of-cycle reviews); assessment follow-up letters (on or before the next quarterly review); and public meetings (within 16 weeks of the end of the assessment period).

Criteria: Expect few instances in which timeliness goals were not met, with a stable or declining trend.

Goals Supported: Ensure Effectiveness, Ensure Openness, Predictable



Analysis: 4Q/2006: All quarterly reviews and five assessment follow-up letters were completed within timeliness goals.

3Q/2006: All mid-cycle review meetings, mid-cycle letters and seven quarterly assessment reviews were conducted within timeliness goals. Additionally, four public meetings were completed within timeliness goals.

2Q/2006: All quarterly assessment reviews and two assessment follow-up letters were completed within timeliness goals. Additionally, forty-seven public meetings were completed within timeliness goals.

1Q/2006: Eighty-one of eighty-two end-of-cycle reviews, all assessment letters, four quarterly assessment reviews and two assessment follow-up letters were completed within timeliness goals. Additionally, ten public meetings were completed within timeliness goals.

This metric met its criteria. Note the timing of some of the assessments was recently changed in IMC 0305 and will be updated in IMC 0307 in CY 2007.

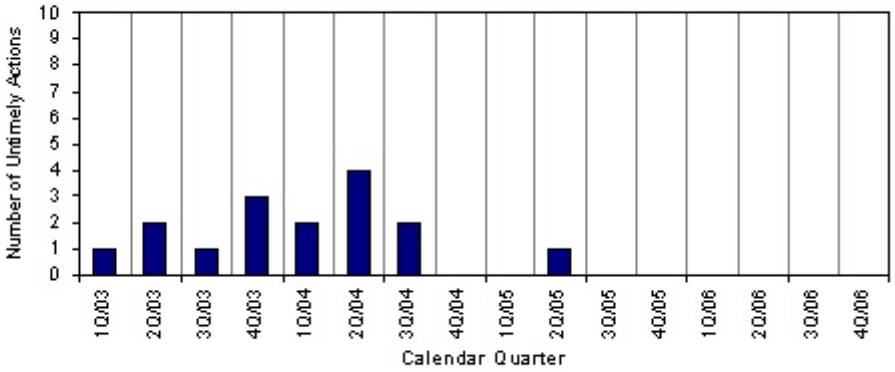
Metric Criterion Met: Yes.

AS-6 **Public Availability of Assessment Letters Is Timely**

Definition: Record the number of letters not available in ADAMS and number of letters not posted to the Web site within goals as stipulated in IMC 0305, "Operating Reactor Assessment Program."

Criteria: IPAB posts assessment letters to the NRC's external Web site using the electronic version in ADAMS within 10 weeks after the end of mid-cycle and end-of-cycle assessment periods and within 8 weeks of the end of intervening quarters.

Goals Supported: Ensure Effectiveness, Ensure Openness, Predictable



Analysis: All assessment letters were posted to the web within timeliness goals.

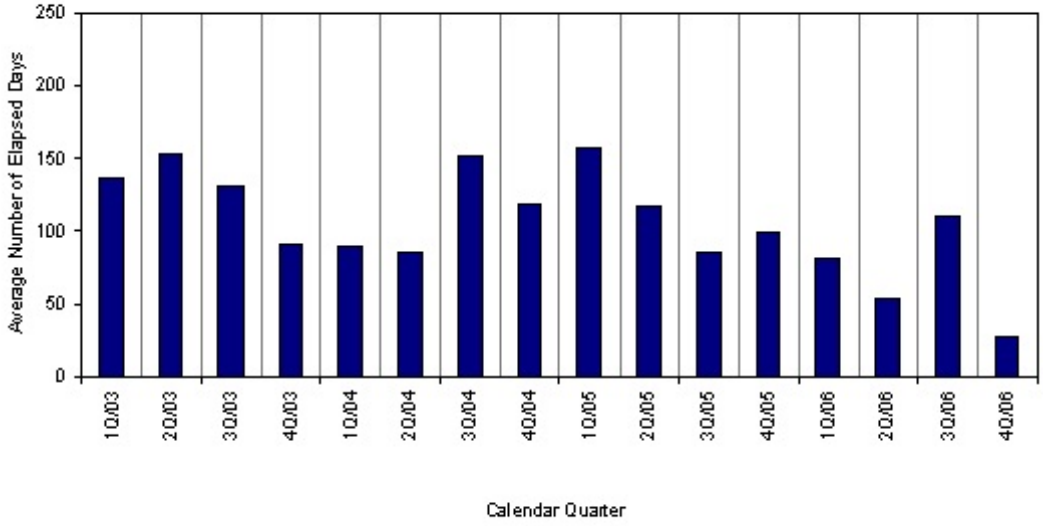
Metric Criterion Met: Yes.

AS-7 The NRC's Response to Performance Issues Is Timely

Definition: Count the number of days between issuance of an assessment letter discussing an issue of more than very low safety significance and completion of the supplemental inspection (by exit meeting date, not issuance of the inspection report).

Criteria: Expect a stable or declining trend.

Goals Supported: Ensure Safety, Ensure Effectiveness



Comments: The data represents an average timeliness for the supplemental inspections completed in each region in any given quarter.

Analysis: Data collected to date indicates a relatively stable long term trend regarding the elapsed time between the issuance of an assessment letter and the completion of the corresponding supplemental inspection. The staff will continue to monitor this data set to determine if an adverse trend exists.

Metric Criterion Met: Yes.

AS-8 NRC Takes Appropriate Actions to Address Performance Issues

Definition: Survey external and internal stakeholders asking whether the NRC takes appropriate actions to address performance issues for those plants outside the Licensee Response Column of the Action Matrix.

Criteria: Expect stable or improved perception.

Goals Supported: Ensure Safety, Ensure Effectiveness, Understandable

Analysis: Internal Survey

Three internal survey questions address this metric. The questions and their resultant percentage of agreement are presented below.

Measure	2006	2004	2002	2001
The assessment process utilizes appropriate actions to address performance issues for those licensees outside of the Licensee Response Column of the action matrix	87%	85%	80%	N/A
The assessment process provides for an appropriate range of actions for safety issues	89%	80%	78%	82%
The ROP provides sufficient attention to licensees whose performance is in the Licensee Response Column	87%	81%	76%	74%

Internal stakeholders continued to agree that the NRC takes appropriate actions to address performance issues. The data supporting this metric indicates a slightly increasing positive perception for this measure when compared to the previous survey in 2004.

External Survey

The industry and States generally agreed that actions taken by the NRC for plants outside of the licensee response column have been appropriate. Public interest groups were generally critical of NRC actions. Specific concerns were expressed with NRC actions at plants with challenging issues such as Indian Point. Another concern is that the NRC action in accordance with the Action Matrix is consistent for single White findings, but appears less consistent for more complex issues. The overall level of external stakeholder satisfaction in this area was generally favorable and similar to previous years.

Metric Criterion Met: Yes.

AS-9 **Assessment Reports Are Relevant, Useful, and Written in Plain Language**

Definition: Survey external and internal stakeholders asking whether the information contained in assessment reports is relevant, useful, and written in plain English.

Criteria: Expect stable or improved perception of the relevance, usefulness, and understandability of assessment reports.

Goals Supported: Understandable, Ensure Effectiveness, Ensure Openness

Analysis: Internal Survey

Two internal survey questions addressed this metric. The questions and their resultant percentage of agreement are presented below.

Measure	2006	2004	2002	2001
The ROP generally provides appropriate communication effectiveness through use of plain English in official correspondence (e.g., assessment reports, ...)	82%	79%	74%	74%
The information on plant performance (e.g., assessment reports, ...) provided on the ROP Web page is understandable and written in plain English	93%	89%	87%	89%

Internal stakeholders continued to agree that the information contained in assessment reports is relevant, useful, and written in plain language. The data supporting this metric indicates a slightly increasing positive perception for this measure when compared to the previous survey in 2004.

External Survey

The industry and States generally agreed that the information contained in assessment reports is relevant, useful, and written in plain English. One public interest group stated that the assessment reports are limited and that only one or two lines in the assessment report actually provide a written assessment. Another external comment stated the assessment letters contain too much boilerplate information which precluded substantive insights about performance at individual sites. This has been a similar comment made in previous years. The overall level of external stakeholder satisfaction in this area was generally favorable and similar to previous years.

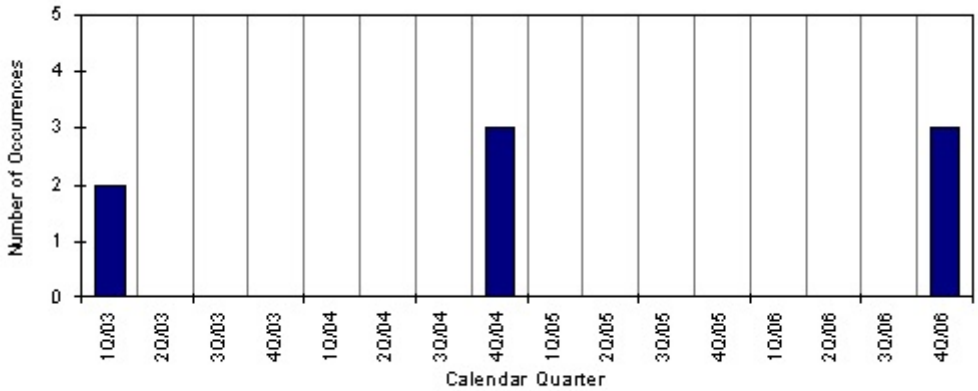
Metric Criterion Met: Yes.

AS-10 Degradations in Plant Performance Are Gradual and Allow Adequate Agency Engagement of the Licensees

Definition: Track the number of instances each quarter in which plants move more than one column to the right in the Action Matrix (as indicated on the Action Matrix Summary).

Criteria: Expect few instances in which plant performance causes a plant to move more than one column to the right in the Action Matrix. Provide a qualitative explanation of each instance in which this occurs. Expect a stable or declining trend from the first-year benchmark.

Goals Supported: Risk-informed, Ensure Safety, Predictable



Analysis: Oconee Units 1, 2, and 3 moved from the licensee response column to the degraded cornerstone column in 4Q/2006 due to a white MSPI in emergency AC power (4Q/2006) and a white finding in the mitigating systems cornerstone (the standby shutdown facility flood wall breach) effective 3Q/2006. This metric met its criteria based on the fact that only one site (with all three units impacted by the finding) moved two or more columns to the right in CY 2006.

Metric Criterion Met: Yes.

AS-11 Perceived Effectiveness of Safety Culture Enhancements to ROP

Definition: Survey external and internal stakeholders asking whether the ROP safety culture enhancements help in identifying licensee safety culture weaknesses and focusing licensee and NRC attention appropriately.

Criteria: Expect stable or improved perception over time. Trend average level of agreement.

Goals Supported: Ensure Effectiveness, Ensure Safety

Analysis: Internal Survey

Five internal survey questions are related to this metric. The questions and their resultant percentage of agreement are presented below.

Measure	2006	2004	2002	2001
The ROP safety culture enhancements help in identifying licensee safety culture weaknesses and focusing licensee and NRC attention appropriately	62%	N/A	N/A	N/A
The assessment process provides effective consideration of safety culture aspects	67%	N/A	N/A	N/A
The inspection program provides adequate guidance on safety culture aspects	64%	N/A	N/A	N/A
The inspection procedures provide adequate guidance on safety culture aspects	65%	N/A	N/A	N/A
Adequate training is available for the safety culture aspects of the ROP inspection procedures and manual chapters	59%	N/A	N/A	N/A

This was the first time that the internal survey has included safety culture questions (the related inspection documents were issued July 1, 2006). A number of supplemental written comments were provided to elaborate on the responses. The written responses from a number of individuals reflected that it was too soon to answer the safety culture questions given the short time that the revised program has been in place. There were a diversity of opinions expressed as to whether the program changes were beneficial or not. The most common concerns expressed were that the ROP safety culture changes are overly burdensome with respect to the additional time required to assign cross-cutting aspects and to assess the results; that there are too many cross-cutting aspects so that the threshold to reach a substantive cross-cutting issue is too high; that the process is too subjective; that the revised process is too complicated; and that additional safety culture training is necessary.

For all of the safety culture questions, even at this early point in the implementation of the enhanced program, more than one-half of the internal respondents indicated that the changes to the ROP will help to identify licensee safety culture weaknesses and to focus both licensee and NRC resources accordingly. Responses to related questions about the adequacy of the supporting infrastructure (process, procedures and training) again indicate that more than one-half of the internal respondents consider that an adequate infrastructure is currently in place.

In parallel with the implementation of the enhanced ROP, the staff has been working to update existing and new inspector training courses to integrate the ROP safety culture changes. Mechanisms exist for inspection staff to provide feedback and suggested changes on the ROP guidance documents. The staff considers the ROP guidance documents to be a work-in-progress with respect to safety culture content as lessons learned during the initial 18 month implementation phase will be evaluated and the program will be further modified as necessary.

External Survey

One external survey question asked whether the "ROP safety culture enhancements help identify licensee safety culture weaknesses and focus licensee and NRC attention appropriately." This was the first time that the external survey has included a safety culture question.

Five external respondents were in agreement that the safety culture enhancements would help identify weaknesses while 6 disagreed. Written responses were received from six entities. Four of the six stakeholders (three licensees and one state or local government) commented that it was too early in the implementation phase of the related program documents to answer whether the changes are helping to identify safety culture weaknesses and focusing licensee and NRC resources appropriately. State and local government feedback from one respondent opined that the NRC will never identify safety culture weaknesses, since the primary source of this input will come directly to the NRC from licensee staff. One member of the public was very complimentary of the NRC actions in this area.

As there is only 6 months of data, and given the relatively short period of time that the enhanced ROP has been in effect, a trend has not been established. A more meaningful assessment of the metric criterion will be achieved in follow-on years as the safety culture changes have been implemented for a longer period. The safety culture performance criteria is considered not applicable at this time.

Metric Criterion Met: Not applicable at this time.

O-1 Stakeholders Perceive the ROP To Be Predictable and Objective

Definition: Survey external and internal stakeholders asking if ROP oversight activities are predictable (i.e., controlled by the process) and reasonably objective (i.e., based on supported facts, rather than relying on subjective judgment).

Criteria: Expect a stable or increasing positive perception over time.

Goals Supported: Objective, Predictable, Ensure Effectiveness

Analysis: Internal Survey

Five internal survey questions addressed this metric. These questions and their resultant percentage of agreement are presented below.

Measure	2006	2004	2002	2001
ROP generally provides appropriate objectivity to the oversight process	88%	81%	82%	85%
The assessment process provides objective levels of assessment	88%	84%	78%	84%
Baseline Inspection Program leads to objective findings whose significance can be clearly documented	81%	73%	69%	71%
ROP generally provides a predictable approach to oversight*	87%	73%*	69%*	75%*
ROP generally provides a consistent approach to oversight*	84%	84%*	85%*	84%*

* In prior years' surveys, these last two questions were worded in the context of comparing the attributes to the previous oversight process

Internal stakeholders continue to generally agree that the ROP is predictable and objective. The data supporting this metric indicates a slightly increasing positive perception for these measures when compared to the previous survey two years ago. It is notable that some commented that the process has become too predictable and that it becomes a tool to make the licensees look good.

External Survey

Overall, a majority of the respondents (including utilities, state agencies and public interest groups) agreed that the ROP is predictable and objective in comparison to the previous process. The responses from licensees were mostly in favor of the predictability and objectivity aspects in the ROP, similar to previous years. On the other hand, the public, while most agree that the process is predictable and objective, are more skeptical of the ROP. In comments, some utilities and their representatives indicated that the substantive cross-cutting

issues are the most unpredictable areas that need improvement. There is some agreement that the overall process is moving in the right direction.

Metric Criterion Met: Yes.

O-2 Stakeholders Perceive the ROP To Be Risk-informed

Definition: Survey external and internal stakeholders asking if the ROP is risk-informed, in that actions and outcomes are appropriately graduated on the basis of increased significance.

Criteria: Expect stable or increasingly positive perception over time.

Goals Supported: Risk-Informed, Ensure Effectiveness, Ensure Openness

Analysis: Internal Survey

Six internal survey questions addressed this metric. The questions and the resultant percentage of agreement are presented below.

Measure	2006	2004	2002	2001
ROP provides an effective risk-informed approach to oversight	79%	74%	73%	82%
The assessment process focuses resources on areas of greatest safety significance	78%	81%	80%	80%
The baseline inspection program appropriately inspects for and identifies risk-significant issues	89%	79%	73%	78%
Inspection procedures adequately sample risk significant aspects of each inspectible area	87%	80%	72%	76%
PIs provide useful information on risk-significant areas	71%	67%	70%	79%
SDP focuses NRC attention on safety-significant issues	83%	75%	71%	79%

Internal stakeholders generally agree that the ROP provides an effective risk-informed approach to oversight. The data supporting this metric indicates a stable positive perception for the measure when compared to the previous survey in 2004 and is consistent with the positive perception in all previous surveys. However, some of the comments collected regarding this aspect revealed concerns from internal stakeholders who questioned the risk-informed process, and stated that licensees mainly use the process to cut cost.

External Survey

Overall, a majority of the respondents believe the ROP is more risk informed than the previous process. Some comments from the public expressed

reservations over the direction of the risk informed process and requested that more items that are risk significant be included in the risk basis.

In summary, stakeholder satisfaction as reported in the survey responses was generally favorable and consistent.

Metric Criterion Met: Yes.

O-3 Stakeholders Perceive the ROP To Be Understandable

Definition: Survey external and internal stakeholders asking if the ROP is understandable and if the processes, procedures, and products are clear and written in plain English.

Criteria: Expect stable or increasingly positive perception over time.

Goals Supported: Understandable, Ensure Effectiveness, Ensure Openness

Analysis: Internal Survey

Three internal survey questions addressed this metric. The questions and their resultant percentage of agreement are presented below.

Measure	2006	2004	2002	2001
The ROP generally provides understandable procedures and guidance documents that are clear and written in plain English	80%	72%	74%	74%
The assessment process provides an understandable level of NRC oversight	91%	77%	76%	74%
The information provided on the ROP Web page is understandable and written in plain English	93%	89%	87%	89%

Internal stakeholders continue to generally agree that the ROP is understandable and written in plain English (with the exception of the complexity of the SDP). The data supporting this metric indicates a stable positive perception for these measures and is consistent with the positive perception when compared to the previous surveys.

External Survey

In general, most of the stakeholders stated that the ROP is understandable and that products are written in clear and plain English. Both Licensees and State agencies expressed reservations about the public's ability to understand the SDP. Utilities also stated that there is no clear guidance, established process or consistency for the closing of a substantive crosscutting issue. Similar to the previous surveys, the SDP is recognized to be the most complex portion of the ROP requiring some technical background for understanding.

Overall, the objective measure of stakeholder satisfaction as reported in the survey responses for the current ROP was favorable and consistent.

Metric Criterion Met: Yes.

O-4 **Stakeholders Perceive That the ROP Provides Adequate Regulatory Assurance That Plants Are Operated and Maintained Safely**

Definition: Survey external and internal stakeholders asking if the ROP provides adequate regulatory assurance, when combined with other NRC regulatory processes, that plants are being operated and maintained safely.

Criteria: Expect stable or increasingly positive perception over time.

Goals Supported: Ensure Safety, Ensure Effectiveness, Ensure Openness

Analysis: Internal Survey

Three internal survey questions addressed this metric. These questions and their resultant percentage of agreement are presented below.

Measure	2006	2004	2002	2001
The ROP generally provides appropriate assurance that plants are being operated safely	89%	84%	80%	88%
The ROP generally provides appropriate regulatory attention to licensees with performance problems	87%	81%	76%	74%
The ROP generally provides appropriate identification of declining safety performance before there's a significant reduction in safety margins	68%	57%	51%	53%

Internal stakeholders continue to generally agree that the ROP maintains safety. The data supporting this metric indicates a stable positive perception for this measure when compared to the previous surveys. However, stakeholder's comments also identified some areas that need improvement, and some continued to note concerns with the ROP's ability to detect declining performance in a timely manner.

External Survey

The majority of utility stakeholders believe the ROP maintains safety while some of the non-utility stakeholders (state agencies and public interest groups) feel it does not. These comments are consistent with past surveys that have had some negative comments from the public interest groups on the ROP maintaining safety.

Overall, stakeholder satisfaction as reported in the survey responses for the current ROP was generally favorable and consistent.

Metric Criterion Met: Yes.

O-5 **Stakeholders Perceive the ROP To Be Effective, Efficient, Realistic, and Timely**

Definition: Survey external and internal stakeholders asking whether the ROP is effective, efficient, realistic, and timely.

Criteria: Expect stable or increasingly positive perception over time.

Goals Supported: Ensure Effectiveness, Ensure Openness

Analysis: Internal Survey

Three internal survey questions address this metric. These questions and their resultant percentage of agreement are presented below.

Measure	2006	2004	2002	2001
The ROP generally provides a realistic approach to oversight	84%	75%	74%	79%
The ROP generally provides a timely approach to oversight	79%	67%*	64%*	78%*
The ROP generally provides appropriate efficiency and effectiveness to the oversight process	77%	71%*	70%*	75%*

* In prior years' surveys, these last two questions were worded in the context of comparing the attributes to the previous oversight process

Most of internal stakeholders agree that the ROP provides a realistic, timely, efficient and effective approach to oversight. The data supporting this metric indicates a stable perception for these four measures when compared to the previous surveys as indicated in the table above, and is consistent with the positive perception.

External Survey

In general, the respondents believe that the ROP is effective, efficient, realistic and timely in comparison to previous programs. The utility stakeholder responses asked for improvement in many areas. A common concern among most respondents is the SDP and that the process may not be clear.

Overall, stakeholder satisfaction as reported in the survey responses was generally consistent.

Metric Criterion Met: Yes.

O-6 **Stakeholders Perceive That the ROP Ensures Openness**

Definition: Survey external and internal stakeholders asking if the ROP ensures openness in the regulatory process.

Criteria: Expect stable or increasingly positive perception over time.

Goals Supported: Ensure Openness, Ensure Effectiveness

Analysis: Internal Survey

Four internal survey questions addressed this metric. These questions and their resultant percentage of agreement are presented below.

Measure	2006	2004	2002	2001
The information provided by the NRC appropriately keeps the public informed of the agency oversight activities related to the plants	89%	77%	78%	74%
The ROP generally provides appropriate inspector and licensee communication	95%	86%	82%	83%
The ROP generally provides appropriate communication effectiveness through use of plain English in official correspondence	82%	79%	74%	74%
The information provided on the ROP Web page is adequate to keep NRC internal stakeholders informed	95%	87%	74%	77%

Internal stakeholders continue to generally agree that the ROP ensures openness. The data supporting this metric indicates a stable positive perception for the measures compared to the previous survey in 2004, and is consistent with the positive perception in all previous surveys.

External Survey

External stakeholders generally acknowledged that the ROP ensures openness in the regulatory process, but both public and utility stakeholders expressed some concerns and noted that further improvements could be made. Public and State and local agencies perception was neutral to slightly negative indicating their concern that the ROP is somewhat less open than needed. One stakeholder noted specifically that plant PRAs are not available for public scrutiny. Other public stakeholder comments noted that the SDP is too complex for public involvement.

Utility stakeholders reiterated that the ROP is generally a very open process, but pointed out the security process and the SDP activities as specific areas that should be more open and allow for greater stakeholder involvement.

Metric Criterion Met: Yes.

O-7 Opportunities for Public Participation in the Process

Definition: Survey external and internal stakeholders asking if there are sufficient opportunities for the public to participate in the process.

Criteria: Expect positive responses or an improving trend.

Goals Supported: Ensure Openness, Ensure Effectiveness

Analysis: External stakeholders generally agreed that there are sufficient opportunities for the public to participate in the process. Public perception was positive to neutral, indicating their general agreement that the public has ample opportunity to participate in the process. One respondent noted that the level of participation by the public was low, although the NRC has provided opportunities. Most respondents acknowledged the ample opportunities for public participation (monthly public meetings at NRC headquarters, annual public meetings conducted in the reactor communities, annual solicitation of public comments, annual ROP Commission briefing, and the staff's consolidated response to last year's comments).

The responses from State and other agencies were very favorable and noted their participation in the process as an example.

Industry stakeholder responses were generally very positive.

Metric Criterion Met: Yes.

O-8 **Stakeholders Perceive the NRC To Be Responsive to its Inputs and Comments**

Definition: Survey external and internal stakeholders asking if the NRC is responsive to the public's inputs and comments on the ROP.

Criteria: Expect positive responses or an improving trend.

Goals Supported: Ensure Openness, Ensure Effectiveness

Analysis: Internal Survey

Four internal survey questions addressed this metric. These questions and their resultant percentage of agreement are presented below.

Measure	2006	2004	2002	2001
Responses from feedback forms sent to headquarters are responsive and address the issues raised	68%	60%	54%	55%
Responses from feedback forms sent to headquarters are accurate	79%	76%	64%	65%
Responses from feedback forms sent to headquarters are understandable and written in plain English	78%	77%	69%	67%
Responses from feedback forms sent to headquarters are timely	50%	47%	30%	66%

In general, most internal stakeholders agree that the agency is responsive to their feedback and input. About two-thirds of the respondents believe that the feedback forms are responsive and address the issues raised. Many respondents believe that the feedback forms were understandable, written in plain English, and were accurate. However, only half of the respondents agree that the responses to feedback forms sent to headquarters are timely. The internal feedback process is also directly gauged by metric IP-2, which describes an enhanced process that should further improve the timeliness of the feedback resolution.

External Survey

The majority of stakeholders believe that the NRC is responsive to inputs and comments; however, some public stakeholders feel that the NRC is responsive to input and feedback only because it is required. Non-utility stakeholders commented that there is a perception on the part of the public that the NRC does not value their input.

Overall, stakeholder satisfaction as reported in the survey responses for the ROP was generally favorable and consistent.

Metric Criterion Met: Yes.

O-9 Stakeholders Perceive That the ROP Is Implemented as Defined

Definition: Survey external and internal stakeholders asking if the ROP has been implemented as defined by program documents.

Criteria: Expect stable or increasingly positive perception over time.

Goals Supported: Predictable, Understandable, Ensure Openness

Analysis: In general, most external stakeholders including utilities, state and other agencies, and the public believe the ROP is being implemented as defined. Overall stakeholder comments are satisfied with this aspect of the process. Stakeholder satisfaction as reported in the external survey responses for the ROP was generally favorable and consistent.

This aspect of the ROP was not specifically addressed in the internal survey. Relevant questions will be added to future internal surveys.

Metric Criterion Met: Yes.

O-10 **Stakeholders Perceive That the ROP Does Not Result in Unintended Consequences**

Definition: Survey external and internal stakeholders asking if the ROP results in unintended consequences.

Criteria: Expect stable or increasingly positive perception over time.

Goals Supported: Ensure Safety, Ensure Effectiveness

Analysis: In a change from previous external surveys, the majority of stakeholders responding indicate that they believe the ROP does not result in unintended consequences, although one state agency stakeholder commented that it may still be premature to conclude that the ROP minimizes unintended consequences. Further indication of improvement from the previous external surveys, the overall stakeholder satisfaction as reported in the survey responses for the ROP was generally favorable or neutral.

This aspect of the ROP was not specifically addressed in the internal survey. Relevant questions will be added to future internal surveys.

Metric Criterion Met: Yes.

O-11 Analysis of NRC's Responses to Significant Events

Definition: Review reports from incident investigation teams (IITs) and augmented inspection teams (AITs) to collect lessons learned regarding ROP programmatic deficiencies (i.e., did the baseline inspection program inspect this area? did the SDP accurately characterize resultant findings?). IITs already have the provision to determine NRC program deficiencies. AITs will be reviewed by NRR/DIRS to identify any weaknesses.

Criteria: Expect no major programmatic voids.

Goals Supported: Ensure Safety, Ensure Effectiveness

Analysis: No IITs were conducted during the 2006 ROP cycle. One AIT was conducted in CY 2006. Staff review of the AIT did not identify any program weaknesses or voids. No feedback forms were received for IP 93800.

Metric Criterion Met: Yes.

O-12 Analysis of Significant Events

Definition: Annually review all accident sequence precursor (ASP) events that have a risk significance of more than 10^{-6} to identify any ROP programmatic voids (i.e., did the baseline inspection program inspect this area? did the SDP accurately characterize resultant findings?).

Criteria: Expect no major programmatic voids.

Goals Supported: Ensure Safety, Ensure Effectiveness

Analysis: The Office of Nuclear Regulatory Research (RES) had in the past performed a comparison of SDP analysis approaches and results with Accident Sequence Precursor (ASP) analysis. This comparison is no longer performed because under the recently revised ASP process, SDP analyses are used in lieu of separate ASP analyses. As a result, the staff no longer plans to monitor this metric and plans to delete it from IMC 0307 in CY 2007.

Metric Criterion Met: Not applicable.

O-13 Analysis of Inspection Hours and Resource Expenditures

Definition: Annually, collect and analyze resource data (e.g., direct inspection effort, preparation/documentation, plant status hours) for Baseline, Supplemental/Plant-Specific, and Safety Issues Inspections, and other ROP activities.

Criteria: (1) Significant deviations are not expected on an annual basis. Explore reasons for any deviations that may be evident.
(2) Track and trend resource usage for the baseline inspection program and supplemental/plant-specific inspections. Analyze causes for any significant departure from established trend.
(3) Track and trend resource usage for preparation, documentation, and other ROP activities, and assess the effects on budgeted resources.

NOTE: This metric is intended primarily for tracking and trending resource usage for the ROP. The results are used to improve the efficiency and effectiveness of the ROP and to make management and budget decisions. A detailed ROP resource analysis is included in the annual ROP self-assessment Commission paper.

Goals Supported: Ensure Effectiveness, Predictable

Analysis: Overall, staff effort in 2006 was essentially unchanged compared with 2005 with a decrease of 0.4%, although there was significant variation in the distribution of effort among the various elements of the ROP.

Baseline inspection effort in 2006 was comparable with 2005. The reduction in "plant status" effort is the result of accounting changes in mid-2006 for effort related to daily reviews of licensee corrective action activities. This effort is now charged to Inspection Procedure (IP) 71152 instead of "plant status."

Plant-specific inspections include: supplemental inspections conducted in response to inspection findings and degraded performance indicators; reactive inspections such as Augmented Inspection Teams (AITs) and Special Inspections (SIs) performed in response to events; and infrequently performed inspections that are not part of the baseline or supplemental inspection program.

The effort for supplemental inspections (IP 95001, IP 95002, and IP 95003) decreased in 2006 compared with 2005 due to a reduced number of "greater-than-green" inspection findings in 2006. However, this decrease was offset by increases in the other plant-specific inspections resulting in an overall increase in the 2006 inspection effort for plant-specific inspections. A noticeable increase was reported in SIs in response to events and in infrequently performed inspections. This increase reflects the effort in this area at several Region I sites with approved deviations for additional inspection, and in increased inspection activity at Browns Ferry.

Also noteworthy are: (1) a decrease of 17.1% from 2005 to 2006 in inspection effort related to Generic Safety Inspections (these are typically one time inspections of specific safety issues with significant variability in effort possible from year to year) and, (2) an increase in the hours reported for the "other activities." The increase in the "other activities" was in the aggregate of Routine

Communication/Regional Support/Enforcement Support/Review of technical Documents. Hours charged for inspection-related travel and Significance Determination Process remained similar to 2005 hours.

Metric Criterion Met: Yes.

O-14 Analysis of Resident Inspector Demographics and Experience

Definition: Annually, collect and analyze data in order to determine the relevant inspection experience of the resident inspector (RI) and senior resident inspector (SRI) population. The following four parameters will be measured and analyzed for both RIs and SRIs to ensure that the NRC maintains a highly qualified resident inspection staff:

(1) NRC time - the total time the individual has accumulated as an NRC employee.

(2) Total resident time - the total time the individual has accumulated as an RI or SRI.

(3) Current site time - the total time the individual has spent as an RI or SRI at the current site.

(4) Relevant non-NRC experience - the total time the individual has gained relevant nuclear power experience outside of the NRC. Examples of relevant non-NRC experience are operations, engineering, maintenance, or construction experience with commercial nuclear power plants, naval shipyards, Department of Energy facilities, and/or the U.S. Navy nuclear power program.

Criteria: None; trend only. Provide reasons for any meaningful increase or decrease in these resident demographic metrics.

NOTE: This metric is intended primarily for tracking and trending resident inspection experience. The results are used to make any necessary modifications to the RI and/or SRI programs in order to attract and retain highly qualified inspectors to the respective programs.

Goals Supported: Ensure Safety, Ensure Effectiveness

TABLE 1
SUMMARY OF RI GROUP EXPERIENCE LEVELS (IN YEARS)

		Nov. 2002	Nov. 2003	Nov. 2004	Nov. 2005	Nov. 2006
NRC time	average	6.39	5.34	5.60	5.80	5.89
	median	5.61	4.13	3.42	3.36	4.04
Total resident time	average	3.90	3.28	3.20	3.52	3.41
	median	3.77	1.99	2.00	2.31	2.39
Current site time	average	2.86	1.64	2.18	2.38	2.36
	median	2.30	1.00	1.85	2.25	2.23
Relevant non-NRC experience	average	9.68	10.26	11.01	12.55	12.14
	median	9.29	10.00	10.00	10.63	10.75

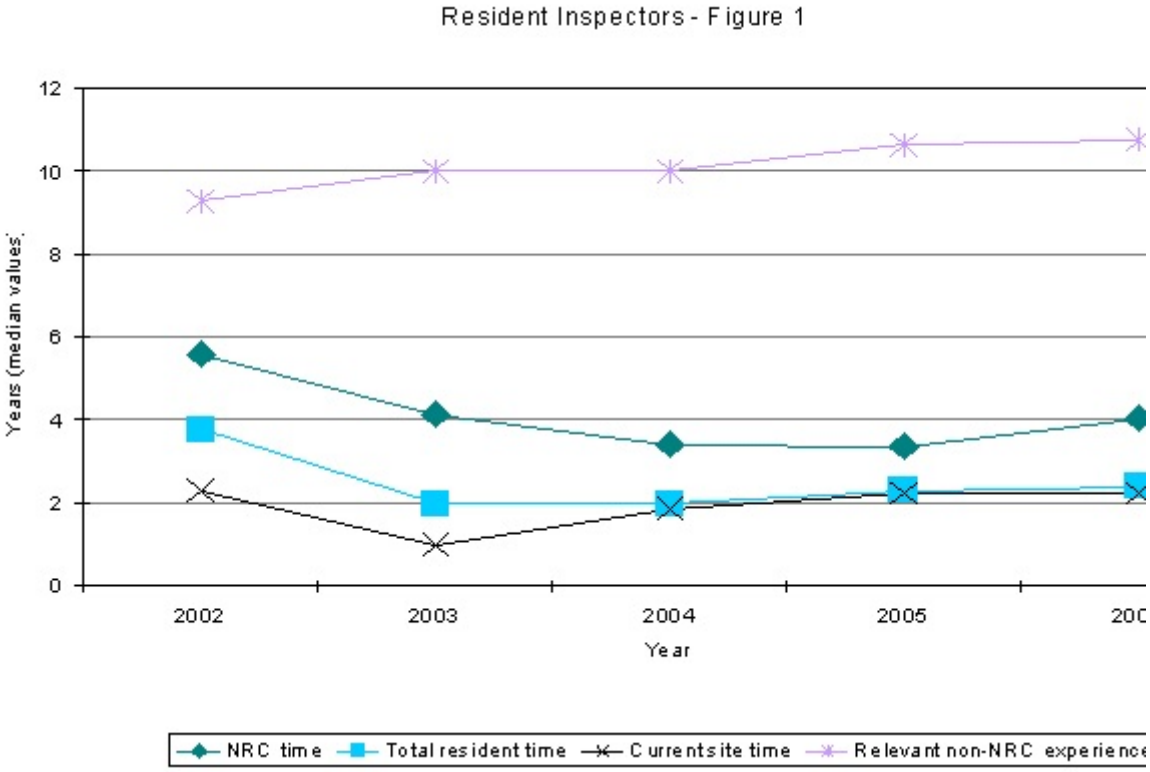
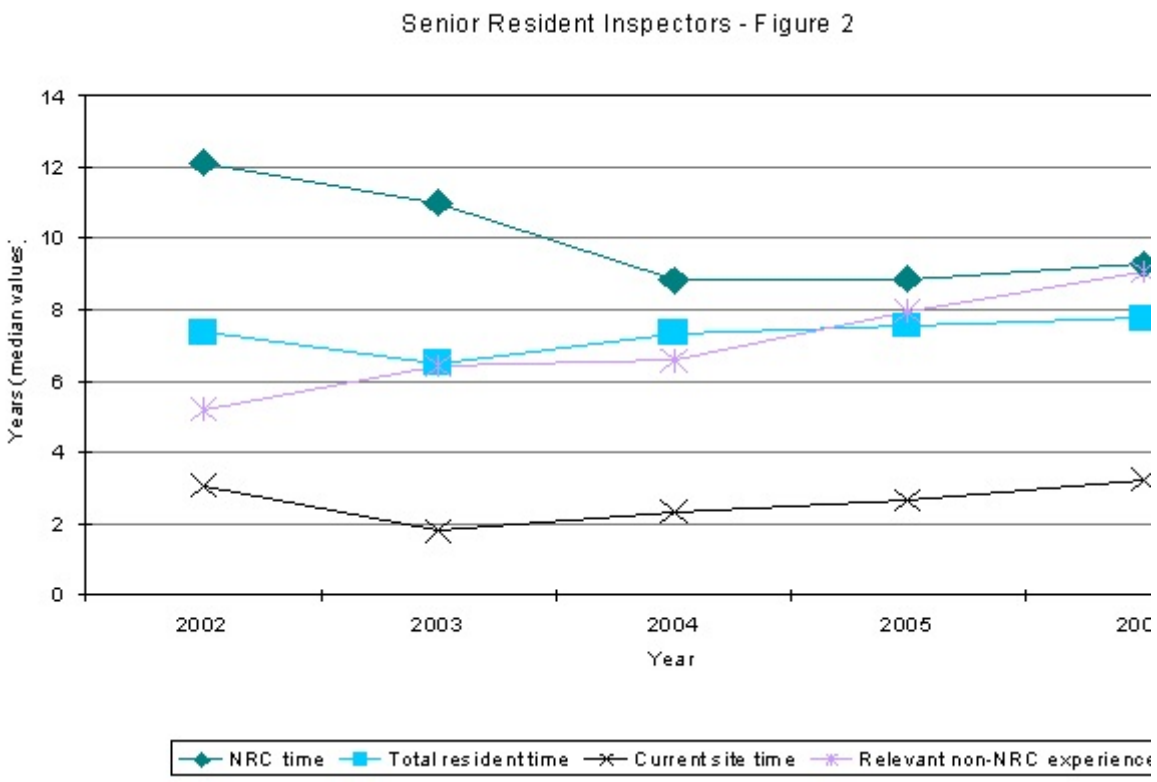


TABLE 2
SUMMARY OF SRI GROUP EXPERIENCE LEVELS (IN YEARS)

		Nov. 2002	Nov. 2003	Nov. 2004	Nov. 2005	Nov. 2006
NRC time	average	11.85	11.30	11.57	11.30	10.22
	median	12.11	11.00	8.80	8.84	9.28
Total resident time	average	8.17	8.22	8.22	8.16	8.20
	median	7.36	6.82	7.32	7.54	7.77
Current site time	average	2.90	2.44	2.68	2.79	2.92
	median	3.06	1.76	2.31	2.63	3.21
Relevant non-NRC experience	average	7.26	8.37	8.51	8.98	10.44
	median	5.17	6.42	6.55	7.96	9.08



Analysis: RI Demographic Data—The NRC staff review of the demographics included analysis of the overall program data for the RI and SRI groups (see Tables 1 and 2, as well as Figures 1 and 2).

Analysis of 2006 RI Group—RI demographic data for 2006 (see Table 1 and Figure 1) reflect a stable population with no change or small increases in all areas.

During 2006, 14 RIs left the RI program. Of the 14 RIs, 11 were promoted to SRIs, 2 were either promoted or laterally reassigned to a region or to headquarters, and 1 retired or resigned from the NRC.

Data indicate that experienced engineers entered the program as RIs. On average, the new RIs had about 13 years of relevant non-NRC experience, compared to an average of 14 years in 2005. As noted in Table 3, all but one of the 16 new RIs in 2006 had at least 3 years of relevant non-NRC experience. The percentages in this table represent the ratio of those RIs that entered the RI program in that particular year who had fewer than 3 years of relevant non-NRC experience to the total number of RIs that entered the program.

TABLE 3
PERCENTAGE OF NEW RIs WITH LESS THAN 3 YEARS OF RELEVANT NON-NRC EXPERIENCE

1998	1999	2000	2001	2002	2003	2004	2005	2006
12% (1/17)	0% (0/5)	31% (4/13)	6% (1/16)	20% (3/15)	30% (8/27)	21% (3/14)	0% (0/16)	6% (1/16)

Analysis of 2006 SRI Group—SRI demographic data for 2006 (see Table 2 and Figure 2) reflect a stable population with small increases in all areas.

In 2006, 11 SRI positions were filled, which is the same as 2005. In 2006, 16 SRIs left the program; of those 16, 7 were promoted within the NRC, 7 were laterally reassigned to headquarters or a region, and 2 retired or resigned from the NRC.

Conclusions—In summary, the staff concluded the following:

- The experience levels of both RIs and SRIs are relatively high.
- The RI and SRI staffing levels are generally good.
- The staffing turnover rate for calendar year 2006 was not excessive.

In conclusion, the program continues to attract and retain quality staff. Therefore, no changes to the RI program are warranted at this time. However, the staff plans to closely monitor resident demographics and site staffing in 2007 due to anticipated influences on the program as a result of the projected expansion of the nuclear industry.

Metric Criterion Met: Yes.

O-15 Analysis of Site Staffing

Definition: Semiannually, collect and analyze data in order to measure the permanent inspector staffing levels at each of the reactor sites for both RIs and SRIs in order to evaluate the agency's ability to provide continuity of regulatory oversight.

Criteria: The criteria is set at 90% program-wide. Any single site that falls below 90% will be individually evaluated. Provide reasons for any meaningful increase or decrease in the inspector staffing level at reactors sites.

Goals Supported: Ensure Safety, Ensure Effectiveness

Analysis: The metric counts (1) RIs and SRIs who are permanently assigned to the site and (2) inspectors who are on rotational assignments to the site for 6 weeks or longer. Only inspectors who have attained at least a basic inspector certification status, as defined by IMC 1245, are counted. The metric does not count permanently assigned RIs and SRIs who are away from their sites for longer than 6 weeks. Inspectors who are assigned to sites for less than 6 weeks are not counted towards satisfying the metric.

The success criteria for the metric is 90 percent program-wide. This year, the average site coverage for the regions was 98.8 percent, with all regions exceeding 97.1 percent. However, one site did not meet the success criteria of 90 percent (the score was 88.2 percent), primarily because of the assignment of the RI to special work. The staff's evaluation determined that oversight continuity was maintained and that this site was adequately covered for one or more of the following reasons: (1) the permanent SRI was present, (2) the site was covered with qualified inspectors on assignments for less then 6 weeks. At no time did these sites remain without qualified inspectors.

Metric Criterion Met: Yes.

O-16 Analysis of ROP Training and Qualifications

Definition: Annually, evaluate the implementation of IMC 1245, "Qualification Program for the Office of Nuclear Reactor Regulation Programs," particularly as it pertains to ROP implementation.

Criteria: None; trend only. Summarize and evaluate the training accomplished over the previous year and propose program improvements as necessary to address noted concerns.

NOTE: This metric is intended primarily for tracking and trending the effectiveness of the ROP training and qualifications programs. A discussion of training effectiveness is included in the annual ROP self-assessment Commission paper.

Goals Supported: Ensure Effectiveness, Ensure Safety

Analysis: The staff continued its efforts to improve the inspector training programs and techniques in accordance with IMC 1245. Improvement actions identified by the staff were reviewed in accordance with the ROP feedback process and the improvements incorporated into inspection standards, as appropriate. The staff evaluated the results of inspector training questions contained in the biennial internal survey and concluded that respondents generally agreed that training was effective. The staff conducted safety culture training and the annual ROP refresher training on the SDP during the regional counterpart meetings. The staff developed and implemented Web-based read-and-sign training on safety culture, outage training, and post-accident training. Additional discussion of training effectiveness is included in the CY 2006 ROP Self-Assessment Commission paper.

Metric Criterion Met: Yes.

O-17 Analysis of Regulatory Impact

Definition: Annually, collect and analyze licensee feedback and develop a summary of regulatory impact forms that are critical of the ROP.

Criteria: None; trend only. Summarize and evaluate the feedback received and propose program improvements as necessary to address common concerns.

NOTE: This metric is intended primarily for tracking and trending regulatory impact. A detailed regulatory impact summary is included in the annual ROP self-assessment Commission paper.

Goals Supported: Ensure Effectiveness, Ensure Safety

Analysis: The staff receives and evaluates feedback from licensees on an annual basis as part of the regulatory impact process. The regulatory impact process was established in 1991 based on Commission direction to develop a process for obtaining feedback from licensees and reporting the feedback to the Commission. Over the past year, the staff received feedback from 68 reactor licensees on 191 issues. The comments fell into three main categories: formal communication with licensees, inspector performance, and security and safeguards activities. Of the comments received, 84 percent were favorable and 16 percent were unfavorable. A summary of the feedback received, the staff's evaluation, and the proposed improvement actions are provided in Enclosure 4 of the CY 2006 ROP Self-Assessment Commission paper.

Metric Criterion Met: Yes.