

April 5, 2010

MEMORANDUM TO: Frederick D. Brown, Director  
Division of Inspection and Regional Support  
Office of Nuclear Reactor Regulation

FROM: Rani L. Franovich, Chief **/RA/**  
Program Assessment Branch  
Division of Inspection and Regional Support  
Office of Nuclear Reactor Regulation

SUBJECT: REACTOR OVERSIGHT PROCESS ANNUAL PERFORMANCE  
METRIC REPORT FOR CALENDAR YEAR 2009

The Reactor Oversight Process (ROP) self-assessment program evaluates the effectiveness of the ROP through its success in meeting pre-established goals and intended outcomes. The staff evaluates performance metrics to determine the success of the ROP in meeting these goals and outcomes. The staff performed the calendar year (CY) 2009 performance metric analysis in accordance with Inspection Manual Chapter (IMC) 0307, "Reactor Oversight Process Self-Assessment Program."

IMC 0307 describes performance metrics associated with each of the four ROP program areas, which are the performance indicator (PI) program, inspection program (IP), significance determination process (SDP), and assessment (AS) program. The staff designates the program-specific metrics as the PI, IP, SDP, and AS metrics, respectively. The staff also monitors and analyzes metrics of a more general nature, which are designated as the O metrics, to assess the overall performance of the ROP. The staff used the metric analyses as input to the annual ROP self-assessment Commission paper.

The staff relies on information from various sources, including public comments and surveys of stakeholders, to evaluate the performance metrics. The staff solicited comments on ROP implementation from external stakeholders in a *Federal Register* notice (74 FR 49043) published on September 25, 2009. All five survey respondents were from the nuclear power industry and its representatives. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307. The staff will conduct the next survey to internal stakeholders in CY 2010.

The staff's CY 2009 metric analyses are enclosed. All but one of the 45 metrics met the established criteria in IMC 0307. Metric AS-8, "Perceived Effectiveness of Safety Culture Enhancements to ROP," was not met as a result of negative external stakeholder feedback provided in the responses to the ROP survey. The staff is aware of the industry's concern with

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the process for identifying substantive cross-cutting issues and will continue to consider industry proposals. The staff will directly address the survey respondents' comments, including comments on safety culture, in its consolidated response to external ROP survey comments.

Enclosure:  
As stated

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Concurrence by email\*

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**ENCLOSURE**

**Calendar Year 2009 Analysis of the  
Reactor Oversight Process Self-Assessment Metrics**

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**I. PERFORMANCE INDICATOR PROGRAM METRICS**

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

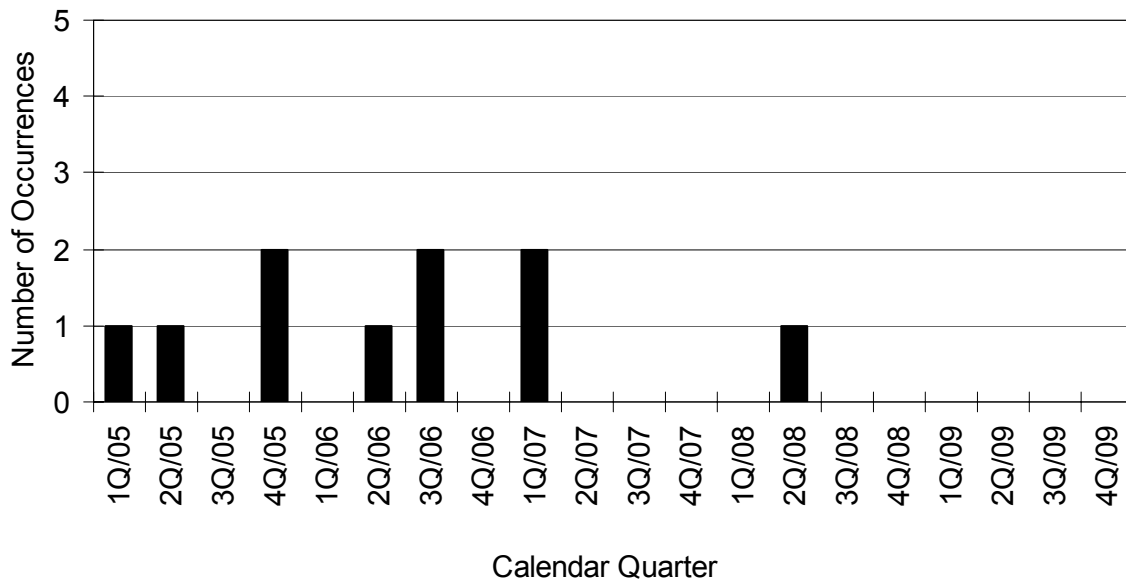
**Definition:** Independently verify performance indicators (PIs) using Inspection Procedure 71151, "PI Verification." Count all PIs that either (a) result in a crossed threshold based on a data correction by the licensee (as noted in the resultant inspection report) or (b) have been determined to be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

**Criterion:** Expect few occurrences, with a stable or declining (i.e., improving) trend.

**Goals Supported:** Objective, Predictable

**Analysis:** The following chart presents the number of PI discrepancies, as described in the metric definition, per quarter. During this assessment period, no PIs crossed a threshold based on data correction identified by the U.S. Nuclear Regulatory Commission (NRC) staff. The chart data shows an improving trend since calendar year (CY) 2006. Because no PI discrepancies existed in CY 2009 with an improving trend, the metric criterion is met.

**Performance Indicator Discrepancies**



**Metric Criterion Met:** Yes

**PI-2 Questions Regarding Interpretation of PI Guidance**

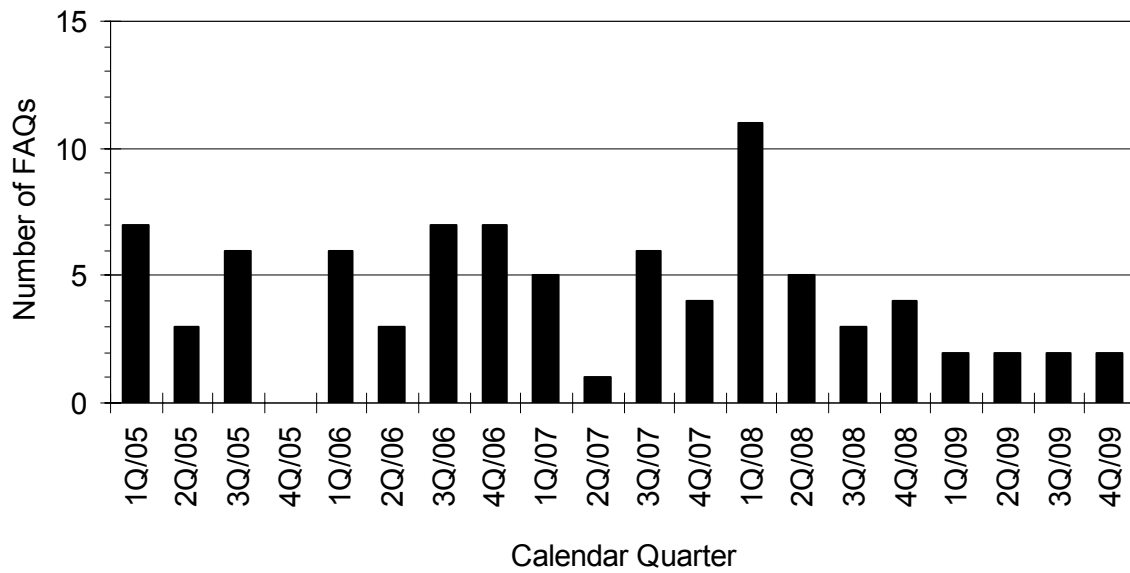
**Definition:** Quarterly, count the number of frequently asked questions (FAQs).

**Criterion:** Expect low numbers, with a stable or declining (i.e., improving) trend.

**Goals Supported:** Understandable, Risk-Informed, Predictable

**Analysis:** The chart below presents the total number of new FAQs introduced during the ROP monthly public meetings held during the respective quarter. The number of FAQs in CY 2009 is at its lowest value over the past five years with an improving trend. Therefore, the metric criterion is met.

**Frequently Asked Questions**



**Metric Criterion Met:** Yes

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

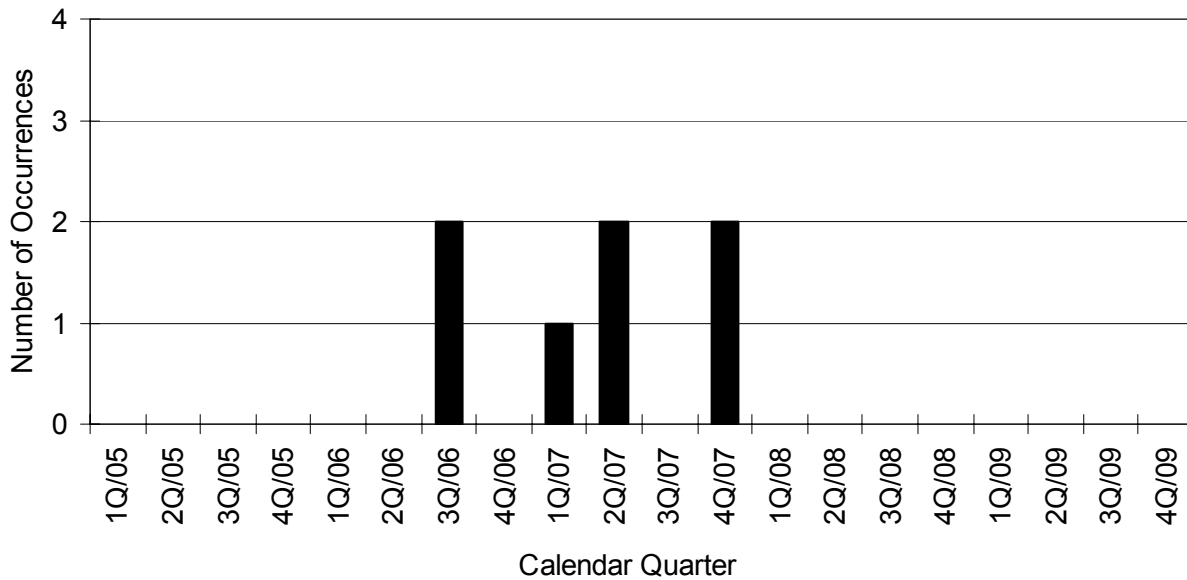
**Definition:** Quarterly, track PIs that cross multiple thresholds (e.g., green to yellow or white to red). Evaluate and characterize these results to allow timely indication of declining performance.

**Criterion:** Expect few occurrences, with a stable or declining (i.e., improving) trend.

**Goals Supported:** Risk-Informed, Effective

**Analysis:** The chart below presents the number of PIs that crossed multiple thresholds per calendar quarter. No PIs crossed multiple thresholds during CY 2009. The chart below shows an improving trend since CY 2007. Therefore, the metric criterion is met.

**PIs that Cross Multiple Thresholds**



**Metric Criterion Met:** Yes



**PI-4            PI Program Provides Insights to Help Ensure Plant Safety and/or Security**

**Definition:**    Survey external and internal stakeholders asking whether the PI Program provides useful insights, particularly when combined with the inspection program, to help ensure plant safety and/or security.

**Criterion:**     Expect stable or increasingly positive perception over time.

**Goals Supported:**    Effective, Risk-Informed, Open

**Note:**            The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:**        The external ROP survey respondents generally indicated that the PI program in conjunction with the inspection program provides useful insights to ensure plant safety and security. The responses were positive compared to the previous ROP survey to external stakeholders. Therefore, the metric criterion is met.

Several survey respondents provided comments on and recommended changes to the PI program. One respondent stated that the thresholds for the PIs should be re-evaluated given the amount of time the ROP has been in place. Several respondents asserted that the mitigating system performance index is too complex, labor intensive, and difficult to understand. The respondents generally supported changes to the PI program that would result in a fundamental improvement to the manner in which safety performance is monitored. The staff will address these comments in the consolidated response to the ROP external survey comments.

**Metric Criterion Met:** Yes

**PI-5 Timely PI Data Reporting and Dissemination**

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

**Criterion:** Expect few occurrences, with a stable or declining (i.e., improving) trend.

**Goals Supported:** Effective, Open, Predictable

**Analysis:** There have been no late PI data postings on the NRC's external Web site since the inception of the ROP. Therefore, the metric criterion is met. There were three late PI data submittals in CY 2009 (two in the second quarter and one in the third quarter). Each submittal was only one day late and did significantly impact the NRC's ability to properly process the PI data.

**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.

**Criterion:** Expect stable or increasingly positive perception over time.

**Goals Supported:** Effective, Open

**Note:** The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:** The survey respondents generally indicated there is an appropriate overlap between the PI and inspection programs to provide a comprehensive indication of licensee performance. The staff noted a positive perception compared to responses to previous external surveys. Therefore, the metric criterion is met.

Several respondents indicated that the overlap can be extensive, particularly in the initiating events and mitigating systems cornerstones. Some respondents stated that the PI program implementation at times has unnecessarily been linked with performance deficiencies. These respondents commented that the PI program guidance has occasionally been misapplied to licensee performance deficiencies concerning individual events and mitigating systems performance index failures. One respondent asserted that a significant amount of effort is expended on evaluating events and issues reported under the PI program during problem identification and resolution and component design basis inspections. The staff will address these comments in the consolidated response to the ROP external survey comments.

**Metric Criterion Met:** Yes

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

**Definition:**     Survey external and internal stakeholders asking if Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," provides clear guidance regarding PIs.

**Criterion:**        Expect stable or increasingly positive perception over time.

**Goals Supported:**    Understandable, Open, Objective

**Note:**             The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:**        The respondents generally agreed that NEI 99-02 provides clear guidance regarding the PI program. The majority of the respondents commented that the FAQ process has proven to be effective and should be maintained. The staff noted a stable trend in perception compared to comments to previous surveys. Therefore, the metric criterion is met.

One respondent recommended accounting for unique plant designs when considering PIs to ensure that the specific plant's mitigating capabilities are accurately credited. Another respondent suggested integrating risk insights into the initiating events indicators. Several respondents commented that any future modifications to the guidance should not add complexity. The staff will address these comments in the consolidated response to the ROP external survey comments.

**Metric Criterion Met:** Yes

**PI-8            PI Program Contributes to the Identification of Performance Outliers in an Objective and Predictable Manner**

**Definition:**    Survey external and internal stakeholders asking if the PI program effectively contributes to the identification of performance outliers based on risk-informed, objective, and predictable indicators.

**Criterion:**     Expect stable or increasingly positive perception over time.

**Goals Supported:**    Risk-Informed, Objective, Predictable, Open

**Note:**            The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:**        The respondents generally indicated that the PI program effectively contributes to the identification of performance outliers based on risk-informed, objective, and predictable measures. The staff noted a stable trend in perception compared to comments from previous surveys. Therefore, the metric criterion is met.

The majority of the respondents commented that an increasing number of green PIs should be construed as an overall improvement in industry performance. One respondent noted that some PIs are more predictable and indicate performance trends compared to other PIs and there is a disparity in the degree to which each PI is risk-informed. One respondent also stated that the safety system functional failure indicator is not risk-informed. The staff will address these comments in the consolidated response to the ROP external survey comments.

**Metric Criterion Met:** Yes

## II. INSPECTION PROGRAM METRICS

### IP-1 Inspection Findings Documented in Accordance with Requirements

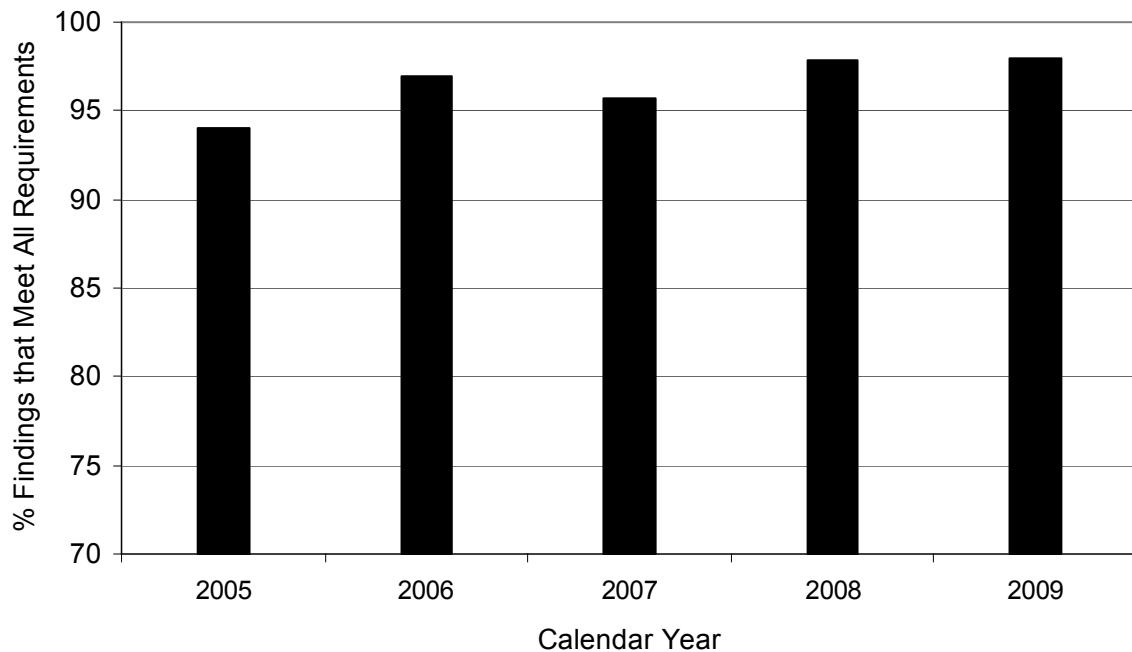
**Definition:** Audit inspection reports in relation to program requirements (IMC 0612, "Power Reactor Inspection Reports") for documenting findings and violations. Report the percentage of findings that meet the program requirements.

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

**Goals Supported:** Objective, Risk-Informed, Predictable

**Analysis:** The chart below presents the percentage of audited inspection findings that were documented in accordance with IMC 0612 requirements. In CY 2009, the staff audited 41 non-security related inspection reports issued by the regional offices. The staff found that 98% of sampled findings were documented in accordance with IMC 0612 requirements. The data confirm that a stable trend has been maintained since CY 2005. Therefore, the metric criterion is met.

**Findings Documented in accordance with Requirements**



**Metric Criterion Met:** Yes

**IP-2            Completion of Baseline Inspection Program**

**Definition:**    Annual completion of baseline inspection program.

**Criterion:**     Defined in IMC 2515, "Light-Water Reactor Inspection Program - Operations Phase."

**Goals Supported:**    Predictable, Effective

**Analysis:**        The inspection program independently verified that licensees operated plants safely and securely in CY 2009 and identified and corrected performance issues in a timely manner in accordance with IMC 2515, "Light-Water Reactor Inspection Program—Operations Phase," and IMC 2201, "Security and Safeguards Inspection Program for Commercial Nuclear Power Reactors." Each region documented its CY 2009 completion of the baseline inspection program in a memorandum available in the Agencywide Documents Access and Management System (ADAMS) at Accession Nos. ML100390084 for Region I, ML100550802 for Region II, ML100560313 for Region III, and ML100601032 for Region IV. Additionally, the Office of Nuclear Security and Incident Response (NSIR) completed all security baseline inspections in CY 2009, as documented in a non-publicly available memorandum (ADAMS Accession No. ML100640428). All regions completed their baseline inspections in CY 2009 within the allocated resources.

**Metric Criterion Met:** Yes

**IP-3 Inspection Reports are Timely**

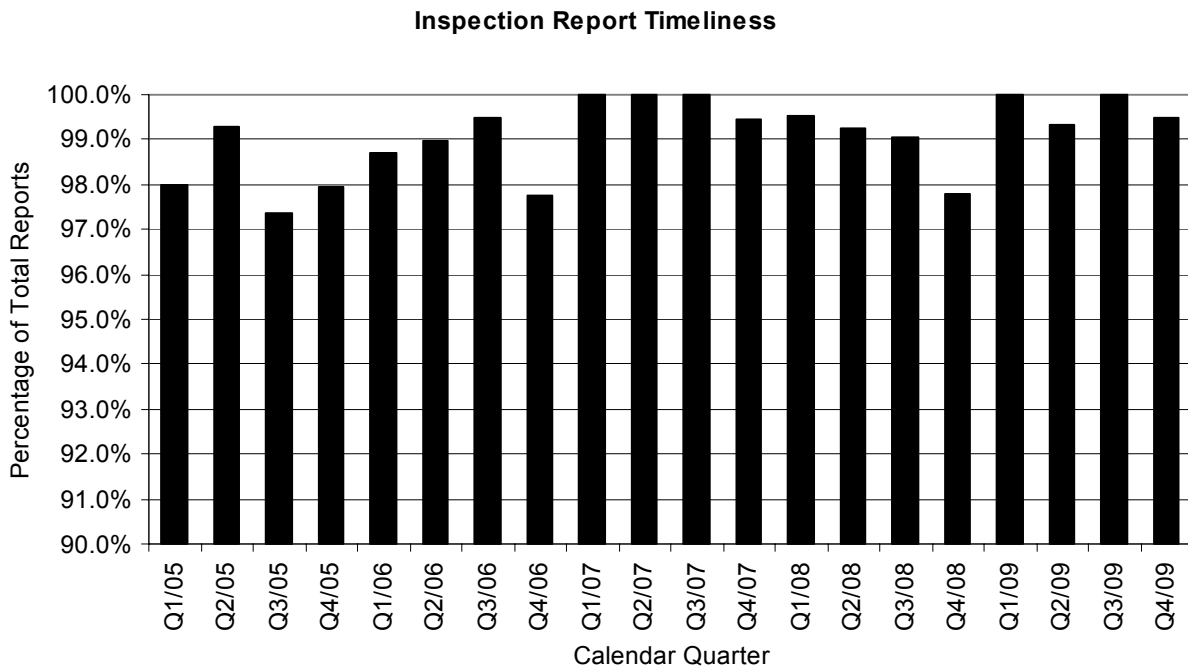
**Definition:** Obtain Reactor Program System data on the total number of reports issued and the number of reports issued within the timeliness goals stipulated in IMC 0612, "Power Reactor Inspection Reports."

**Criterion:** Expect 90% of inspection reports to be issued within the program's timeliness goals.

Note: For inspections not conducted by a resident inspector, inspection completion is normally defined as the day of the exit meeting. For integrated inspection reports, inspection completion is normally defined as the last day covered by the inspection report.

**Goals Supported:** Effective, Open, Predictable

**Analysis:** The chart below presents the percentage of inspection reports that were issued on time. During CY 2009, the NRC issued 621 inspection reports. The regions met or exceeded the inspection report timeliness goal of 90% in each quarter throughout the year. In CY 2009, 619 out of 621 (99.7%) inspection reports met the timeliness requirements in IMC 0612. Therefore, the metric criterion is met.



**Metric Criterion Met:** Yes



**IP-4            Temporary Instructions (TIs) are Completed Timely**

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

**Criterion:**     Expect all TIs to be completed within TI requirements.

**Goals Supported:**    Effective, Predictable

**Analysis:**        In CY 2009, the staff completed TI 2515/150, "RPV Head and VHP Nozzle," and TI 2515/174, "Hydrogen Igniter Back-up Power." The staff completed these TIs within established deadlines; therefore, the metric criterion is met.

**Metric Criterion Met:** Yes

**IP-5            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.

**Criterion:**     Expect stable or increasingly positive perception over time.

**Goals Supported:**    Effective, Understandable, Open

**Note:**            The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:**        All five external stakeholder responses contained favorable comments regarding this metric. The respondents commented that the reports are useful and clearly written. The staff noted a stable trend compared to the previous external ROP survey. Therefore, the metric criterion is met.

One respondent commented that the NRC staff should consider the licensee's views and positions when revising or refining an inspection finding after the initial inspection exit meeting with the licensee. The staff will address this comment in the consolidated response to the ROP external survey comments.

**Metric Criterion Met:** Yes

**IP-6            Inspection Program Effectiveness and Adequacy in Covering Areas Important to Plant Safety and/or Security**

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

**Criterion:**     Expect stable or increasingly positive perception over time.

**Goals Supported:**    Effective, Risk-Informed, Open

**Note:**            The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:**        The responses to the external ROP survey were generally positive. The respondents commented that the inspection program was generally effective in ensuring areas important to safety are appropriately addressed. The staff noted a stable trend compared to the previous ROP external survey. Therefore, the metric criterion is met.

Some respondents commented on the need to improve the component design bases inspection to ensure that the same systems are not re-inspected. Respondents also suggested improving the resident inspector's timely review of safety system functional failures and the types of mitigating systems performance index failures before the licensee submits the information to the NRC. One respondent also expressed a concern that the inspection threshold used for identifying performance deficiencies is low and subjective. The staff will address these comments in the consolidated response to the ROP external survey comments.

**Metric Criterion Met:** Yes

## **IP-7            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 in accordance with IMC 0307, Appendix B, "ROP Realignment Process." 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.

**Criterion:**     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:**    Effective, Risk-Informed

**Analysis:**     An NRC working group completed its third biennial ROP realignment review during CY 2009. This review assesses the effectiveness of each ROP baseline inspection procedure by determining whether appropriate inspection resources were applied in each of the inspectable areas. The working group consisted of staff from the Office of Nuclear Reactor Regulation (NRR), NSIR, and each of the four regions. The staff made modifications and adjustments to the inspection effort across the baseline inspection program, but overall inspection resources for CY 2010 remain at CY 2009 levels. The CY 2009 ROP realignment also added new inspection activities and resources to verify compliance with the new requirements of Title 10 of the *Code of Federal Regulations*, Part 26 (10 CFR 26), "Fitness-for-Duty Programs," 10 CFR 73.55, "Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage," 10 CFR 50.54(hh), "Conditions of Licenses," and lessons learned from Peach Bottom regarding inattentive security officers. Additionally, the staff adjusted some procedures in the reactor safety area to better align budgeted and expended inspection resources. The staff revised all radiation safety inspection procedures to provide a more performance-based inspection for each of the functional areas of a radiation safety program. It also made inspection resource adjustments to all security-related procedures, based on regional feedback and past inspection resources expended for each procedure. Additional details on the results of the CY 2009 ROP realignment process can be found at ADAMS Accession No. ML092090312.

**Metric Criterion Met:** Yes

### III. SIGNIFICANCE DETERMINATION PROCESS METRICS

#### SDP-1 Significance Determination Process (SDP) Results are Predictable, 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 an SDP/enforcement review panel. Findings should contain adequate detail to enable an independent auditor to trace through the available documentation and reach the same significance color characterization.

**Criteria:** At least 90% of greater-than-green significance determinations 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:** Risk-Informed, Predictable

**Analysis:** Eleven findings had greater-than-green significance in CY 2009. The staff audited two findings from each region for a representative sample of eight findings having greater-than-green significance. The final risk significance of each finding was evaluated using the risk-informed process detailed in IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." The documentation of the final risk characterization of each finding included adequate detail to support the final risk significance determination; therefore, the final risk significance of each finding was predictable and repeatable. The staff determined that 100% of samples chosen for review were predictable and repeatable since CY 2005. Therefore, the metric criteria are met.

**Metric Criteria 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:** The staff received only one appeal letter, which was rejected because it failed to meet the criteria for invoking the appeal process. The metric criteria are met because there were no successful appeals of significance determinations.

**Metric Criteria Met:** Yes

**SDP-3      Inspection Staff is Proficient and Finds Value in Using the SDP**

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

**Criterion:**      Expect stable or increasingly positive perception over time.

**Goals Supported:**      Effective, Understandable, Risk-Informed

**Analysis:**      The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307. However, this metric was met in CY 2008 based on the results of the CY 2008 internal ROP survey, which are documented in the CY 2008 ROP metric report (ADAMS Accession No. ML090550522).

**Metric Criterion Met:** Yes

**SDP-4      The SDP Results in an Appropriate Regulatory Response to Performance Issues**

**Definition:**      Survey external and internal stakeholders asking if the SDP results in an appropriate regulatory response to performance issues.

**Criterion:**      Expect stable or increasingly positive perception over time.

**Goals Supported:**      Understandable, Objective, Predictable, Open

**Note:**      The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:**      The CY 2009 external survey asked stakeholders if they thought SDP results fostered an appropriate regulatory response to performance issues. A majority of respondents indicated that the SDP for the most part resulted in the appropriate regulatory response, which is an improved response compared to the previous external ROP survey responses. Therefore, the metric criterion is met.

The survey respondents encouraged continued dialogue between NRC senior reactor analyst and licensee probabilistic risk assessment (PRA) staff. Respondents also provided observations and suggestions related to improving SDP consistency, clarifying NRC assumptions, using licensees' PRA models, and improving SDP tools in the areas of fire protection, common cause failures, and human error probability. The staff will address these comments in the consolidated response to the ROP external survey comments.

**Metric Criterion Met:** Yes



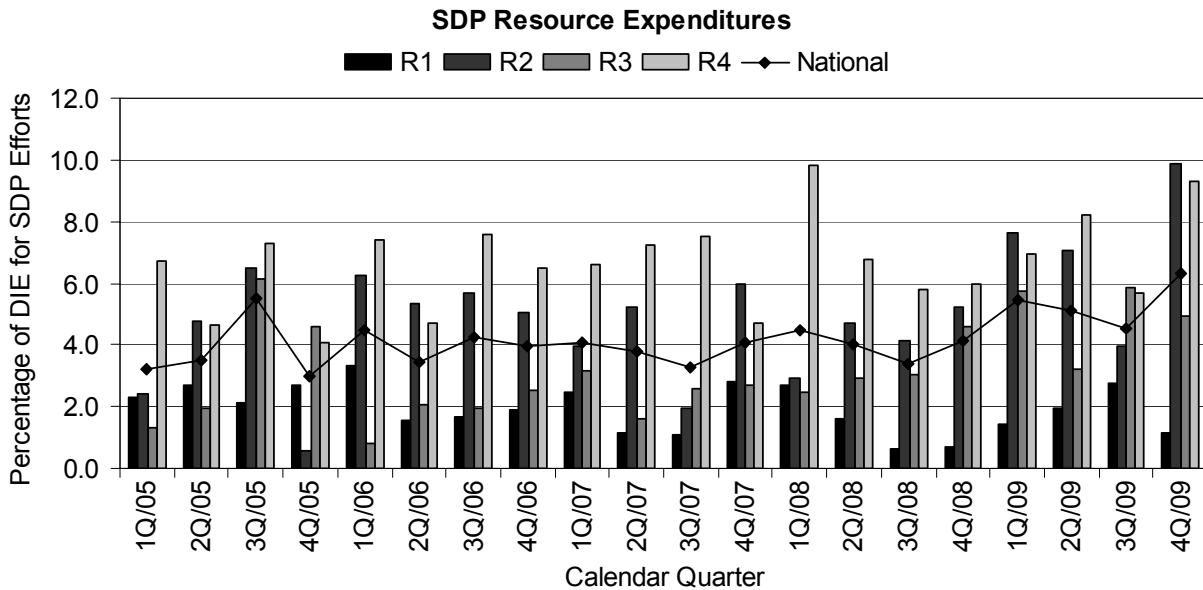
**SDP-5 Resources Expended (Direct Charges and Support Activities) are Appropriate**

**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 (DIE).

**Criterion:** Total SDP expenditures should not exceed 10% of the total regional DIE with a stable or declining (i.e., improving) trend.

**Goals Supported:** Effective, Predictable

**Analysis:** The chart below presents the percentage of SDP resource expenditures to total DIE per region. Regional expenditures associated with SDP evaluations remain below the target goal of 10% of the total DIE. The national average also has remained stable over the past five years. Therefore, the metric criterion is met.



**Metric Criterion Met:** Yes

**SDP-6 Final Significance Determinations are Timely**

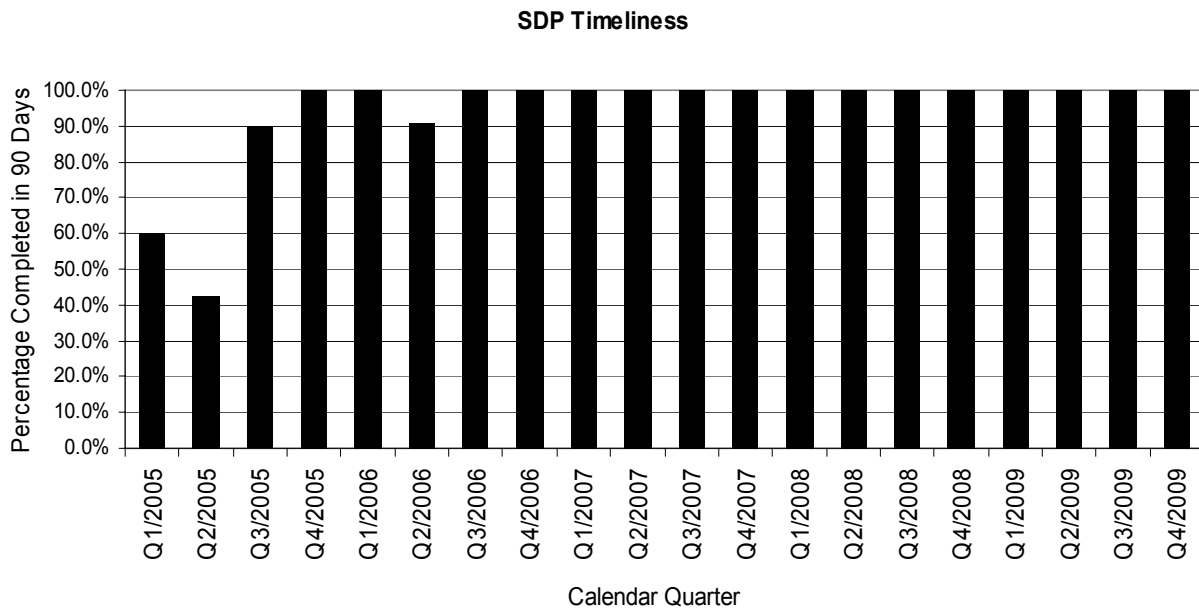
**Definition:** Conduct a quarterly audit of Reactor Program System data to identify the total number of inspection items finalized as having greater-than-green significance that were reviewed for more than 90 days since:

- (1) the date of initial licensee notification of the preliminary significance in an inspection report, or
- (2) the item was documented in an inspection report as an apparent violation pending completion of a significance determination and not counted in the above category.

**Criteria:** At least 90% of all SDP results that are counted in accordance with the definition 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:** Effective, Open, Predictable

**Analysis:** The chart below presents the percentage of SDP results that were completed within 90 days. The completion of final significance determinations has been consistently timely for the past four years. Because more than 90% of all SDP results were finalized within 90 days in CY 2009, the metric criteria are met.



**Metric Criteria Met:** Yes

**IV. ASSESSMENT PROGRAM METRICS**

**AS-1 Actions are Determined by Quantifiable Assessment Inputs (i.e., PIs and SDP Results) and are Commensurate with the Risk of the Issue and Overall Plant Risk**

**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.

**Criterion:** Expect few deviations, with a stable or declining (i.e., improving) trend.

**Goals Supported:** Objective, Risk-Informed, Open

**Analysis:** There have been a total of 16 deviations from the Action Matrix since the beginning of the ROP in CY 2000. No new deviations occurred in CY 2009. The only active deviation in CY 2009 involved the Indian Point Energy Center, for which the Executive Director for Operations approved heightened NRC oversight via a memorandum dated December 16, 2008. The staff subsequently determined that the objectives listed in the deviation memorandum were satisfied and therefore closed the deviation, as documented in Inspection Report 05000247(286)/2009008. Because no new deviations were issued in CY 2009 and the one existing deviation was closed, the metric criterion is met.

**Metric Criterion Met:** Yes

**AS-2            Number and Scope of Additional Actions Recommended as a Result of the Agency Action Review Meeting Beyond Those Actions Already Taken are Limited**

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

**Criterion:**     Expect few additional actions, with a stable or declining (i.e., improving) trend.

**Goals Supported:**    Understandable, Predictable, Objective

**Analysis:**        The AARM was held on April 22, 2009, in Bethesda, Maryland. The Palo Verde Nuclear Generating Station was the only reactor facility that met the criteria for discussion at this AARM. NRC senior managers reviewed the agency's completed and planned actions, confirmed the appropriateness and effectiveness of the actions taken, and determined that current regulatory tools are sufficient to address the issues. The staff determined that no actions beyond those already planned for this facility were necessary as a result of the AARM discussions. Therefore, the metric criterion is met.

The next AARM is scheduled for April 27, 2010.

**Metric Criterion Met:** Yes

**AS-3 Assessment Program Results (Assessment Reviews, Assessment Letters and Public Meetings) are Completed in a Timely Manner**

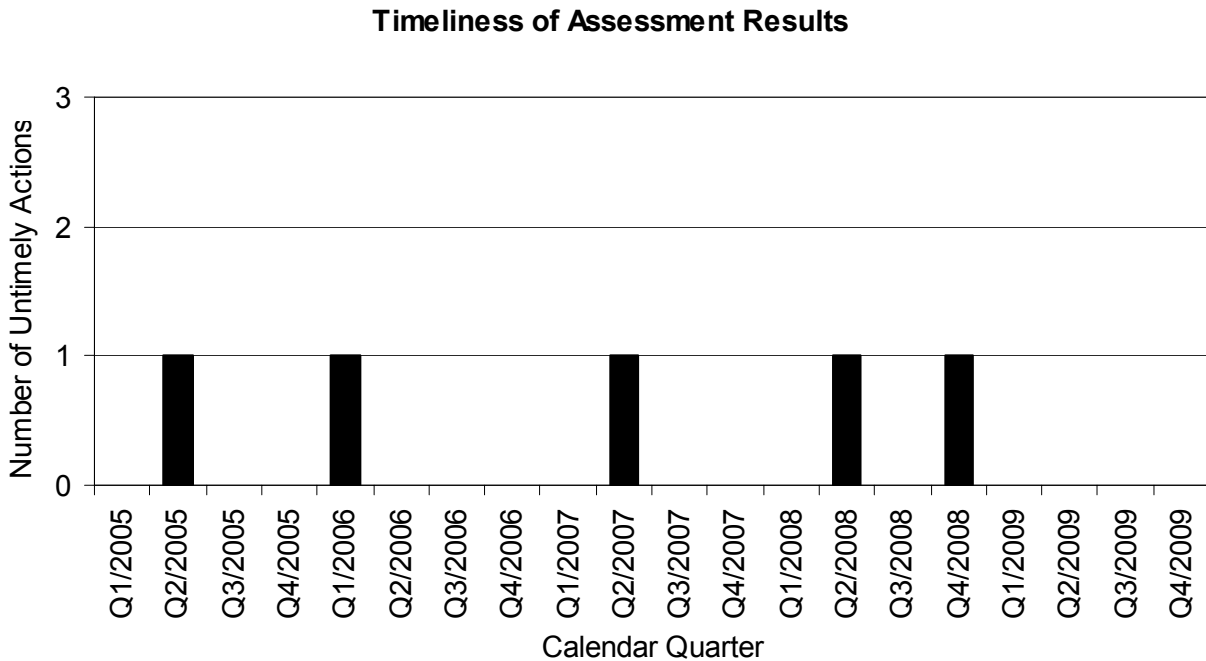
**Definition:** Track the number of instances in which the timeliness goals stipulated in IMC 0305, "Operating Reactor Assessment Program," were not met for: (1) the conduct of quarterly, mid-cycle, and end-of-cycle reviews; (2) the issuance of assessment letters; and (3) the conduct of public meetings.

**Criterion:** Expect few instances in which timeliness goals were not met, with a stable or declining (i.e., improving) trend.

**Goals Supported:** Effective, Open, Predictable

**Analysis:** Timeliness goals for the following activities are: (1) quarterly reviews - within five weeks of the end of quarter; (2) mid-cycle reviews - within seven weeks of the end of the 2<sup>nd</sup> quarter; (3) end-of-cycle reviews - within seven weeks of the last quarter; (4) issuance of assessment letters - within two weeks of the quarterly review, within nine weeks of the mid-cycle review, and within nine weeks of the end-of-cycle review; and (5) public meetings - within 16 weeks of the end of the assessment period.

The chart below presents the number of untimely actions per calendar quarter. All timeliness goals were met in CY 2009 with an improving trend compared to CY 2008; therefore, the metric criterion is met.



**Metric Criterion Met:** Yes

**AS-4 NRC's Response to Performance Issues is Timely**

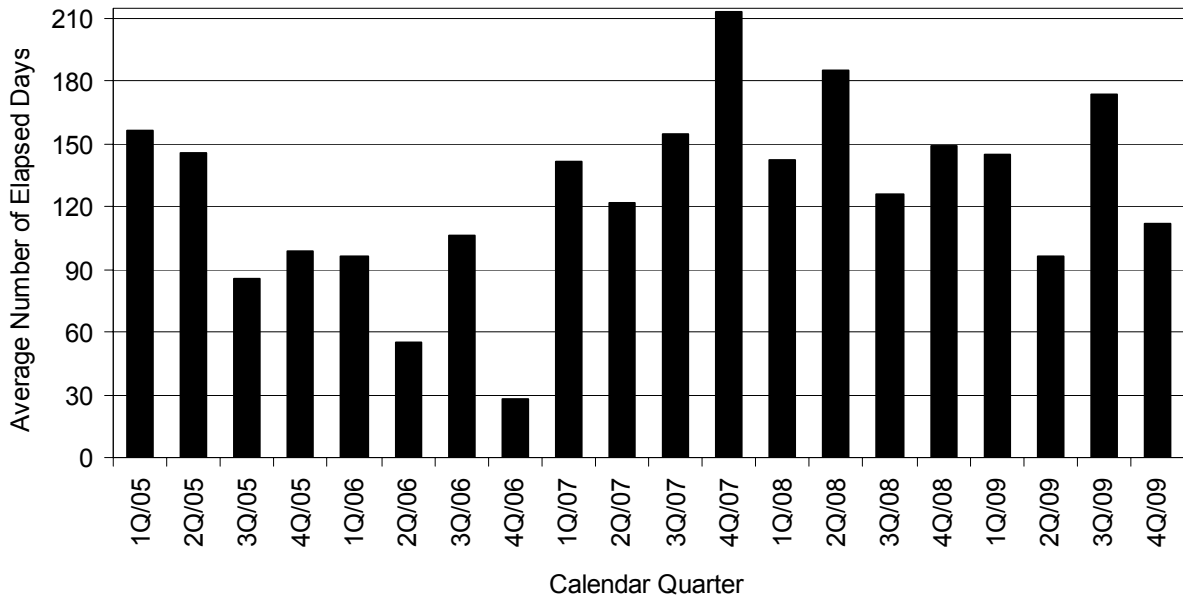
**Definition:** Count the number of days between issuance of an assessment letter discussing an issue having more than very low safety significance and completion of the supplemental inspection (by exit meeting date, not issuance of the inspection report).

**Criterion:** Expect a stable or declining (i.e., improving) trend.

**Goals Supported:** Effective, Predictable

**Analysis:** The chart below presents the average number of days between the issuance of the assessment letter and the completion date of the supplemental inspection for greater-than-green findings. Data collected in CY 2009 indicate a slightly improving trend since CY 2007 regarding the elapsed time between the issuance of an assessment letter and the completion of the corresponding supplemental inspection. The yearly average improved by 18 days from CY 2008; therefore, the metric criterion is met.

**Timeliness of NRC Response to Performance Issues**



**Metric Criterion Met:** Yes

**AS-5            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.

**Criterion:**     Expect stable or increasingly positive perception over time.

**Goals Supported:**    Effective, Understandable, Open

**Note:**            The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:**        The survey respondents indicated that the actions taken by the NRC to address performance issues at plants outside the Licensee Response Column of the Action Matrix have been appropriate and more predictable. Two respondents expressed concern with staff comments occasionally made at public meetings that deviations from the Action Matrix are permitted on a case-by-case basis and should be considered an option. However, there were no new deviations in CY 2009, and the staff continues to recognize that the use of deviations is intended for rare instances in which the regulatory actions dictated by the Action Matrix may not be appropriate, consistent with IMC 0305. The staff will address these comments in the consolidated response to the ROP external survey comments. Because of the positive response from survey respondents and a stable positive perception over time, the metric criterion is met.

**Metric Criterion Met:** Yes

**AS-6            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.

**Criterion:**     Expect stable or increasingly positive perception over time.

**Goals Supported:**    Understandable, Effective, Open

**Note:**            The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:**        The survey respondents indicated that the information contained in assessment letters is, for the most part, relevant, useful, and well written. They also indicated that receiving inspection schedules as a part of the assessment letters is a useful practice.

Respondents expressed concern with the discussion of substantive cross-cutting issues (SCCIs) in assessment letters. Two respondents requested greater consistency in the language and the detailed discussion used across regions. The respondents also stated that the criteria for opening and closing SCCIs are not clearly defined. The staff will address these comments in the consolidated response to the ROP external survey comments.

Prior to receiving these comments, the staff committed, in the CY 2008 ROP self-assessment, to explore ways to use cross-regional experience to further improve the implementation of guidance on SCCIs. In response to this commitment, the staff leveraged ongoing efforts initiated by the Deputy Regional Administrators to improve the reliability of ROP implementation, including the SCCI process. The regions are continuing to implement the reliability initiatives, with NRR support.

Because of the positive response from survey respondents and efforts previously underway to improve regional reliability and consistency, the metric criterion is met with a stable positive perception over time.

**Metric Criterion Met:** Yes



**AS-7            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 (i.e., improving) trend.

**Goals Supported:**    Risk-Informed, Predictable

**Analysis:**        There were no instances in CY 2009 in which plants moved more than one column to the right in the Action Matrix. Because there were also no instances in CY 2008, the trend is stable. Therefore, the metric criteria are met.

**Metric Criteria Met:** Yes

**AS-8 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.

**Criterion:** Expect stable or increasingly positive perception over time.

**Goals Supported:** Effective, Open

**Note:** The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:** The survey respondents indicated that the ROP safety culture enhancements are not effective at identifying weakness or appropriately focusing licensee and NRC attention. The respondents generally commented that the ROP safety culture enhancements are broad, vague, and have thresholds that lack appropriate bases. Several respondents encouraged the use of a new industry-owned safety culture oversight process developed by the NEI and proposed as an alternative to the process for identifying substantive cross-cutting issues (SCCIs). The staff is aware of the industry's concerns with the SCCI process and is observing aspects of the NEI proposal at the request of the NEI. The staff will continue to consider industry initiatives in this area and opportunities to leverage demonstrated results from those initiatives to gain efficiencies in the ROP. The staff also recognizes that there was a significant decrease in the number and cross-section of external survey respondents and notes that it would be prudent to obtain a broader perspective from other stakeholders before drawing specific conclusions on the ROP safety culture enhancements.

Because of the nature of these responses, the metric criterion is not met. The staff will address these comments in the consolidated response to the ROP external survey comments.

**Metric Criterion Met:** No

**V. OVERALL ROP METRICS**

**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).

**Criterion:** Expect a stable or increasing positive perception over time.

**Goals Supported:** Objective, Predictable, Effective, Open

**Note:** The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:** Survey respondents indicated that the ROP is predictable and reasonably objective, but some opportunities exist for further improvement. Some respondents indicated that the SDP (particularly for fire protection issues), the NRC's approach to safety culture, and the definition of availability in the PI program are unpredictable, subjective, and need improvement. The staff will address these comments in the consolidated response to the ROP external survey comments. Stakeholder feedback was similar to previous years. As a result of the positive perception, the metric criterion is met.

**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.

**Criterion:** Expect stable or increasingly positive perception over time.

**Goals Supported:** Risk-Informed, Effective, Open

**Note:** The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:** The survey respondents indicated that the ROP provides appropriate graduation of actions and outcomes on the basis of increased risk. Some respondents expressed concerns with the integration of the NRC's safety culture assessments and traditional enforcement with the ROP as potentially eroding the risk-informed nature of the ROP. The staff will address these comments in the consolidated response to the ROP external survey comments. The metric criterion is met with a stable positive perception over time.

**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.

**Criterion:** Expect stable or increasingly positive perception over time.

**Goals Supported:** Understandable, Effective, Open

**Note:** The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:** The survey respondents indicated that ROP procedures and products are generally clear and understandable. Respondents noted prior improvements made to the assessment guidance regarding the definition of Multiple/Repetitive Cornerstone Column and prevention of double-counting an inspection finding and PI with the same underlying cause. Some respondents indicated that the process for characterizing performance deficiencies could be clarified to ensure consistent implementation across the regions. The staff will address these comments in the consolidated response to the ROP external survey comments. The metric criterion is met with a stable positive perception over time.

**Metric Criterion Met:** Yes

**O-4 Stakeholders Perceive that the ROP Provides Adequate Regulatory Assurance that Plants are Operated and Maintained Safely and Securely**

**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 and securely.

**Criterion:** Expect stable or increasingly positive perception over time.

**Goals Supported:** Effective, Open

**Note:** The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:** Survey respondents indicated that the ROP, when combined with other regulatory processes, ensures plants are operated and maintained safely and securely. Some respondents noted that ROP implementation has contributed to plant performance improvements across the industry. The staff will address these comments in the consolidated response to the ROP external survey comments. The metric criterion is met with a stable positive perception over time.

**Metric Criterion Met:** Yes

**O-5 Stakeholders Perceive the ROP to be Effective (e.g., High Quality, Efficient, Realistic, and Timely)**

**Definition:** Survey external and internal stakeholders asking whether NRC actions related to the ROP are high quality, efficient, realistic, and timely.

**Criterion:** Expect stable or increasingly positive perception over time.

**Goals Supported:** Effective, Open

**Note:** The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:** The survey respondents generally indicated that the ROP is effective, efficient, realistic, and timely. Some respondents noted that the NRC should further improve the timeliness and objectivity of the SDP and that the extensive resources being expended to further improve the mitigating systems performance index are not warranted. One respondent noted that realism is lacking in the new, inexperienced residents being sent to the field. The staff will address these comments in the consolidated response to the ROP external survey comments. The metric criterion is met with a stable and generally positive perception over time.

**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.

**Criterion:** Expect stable or increasingly positive perception over time.

**Goals Supported:** Open, Effective

**Note:** The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:** The survey respondents noted that the ROP is generally a very open process. Some respondents noted that the security oversight process and the review of draft documents should be more open and allow for greater stakeholder input. The staff will address these comments in the consolidated response to the ROP external survey comments. The metric criterion is met with a stable positive perception over time.

**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.

**Criterion:** Expect stable or increasingly positive perception over time.

**Goals Supported:** Open, Effective

**Note:** The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:** The survey respondents acknowledged the ample opportunities for public participation, such as the ROP monthly public meetings at NRC headquarters, annual public meetings conducted in the reactor communities, annual assessment meetings at each site, and ROP surveys. Some respondents noted that the oversight of security is not very open to the public, which is appropriate in most cases. The staff will address these comments in the consolidated response to the ROP external survey comments. The metric criterion is met with a stable positive perception over time.

**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.

**Criterion:** Expect stable or increasingly positive perception over time.

**Goals Supported:** Open, Effective

**Note:** The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:** The survey respondents indicated that the NRC is responsive to inputs and comments and noted the published response to the CY 2007 ROP survey as a positive example. Respondents encouraged continued responses for future surveys. However, some respondents noted a particular example where the NRC response to the CY 2007 survey was disappointing. The response involved the interpretation of performance indicator guidance for a plant that had been shut down for years and was returning to service. The staff will address these comments in the consolidated response to the ROP external survey comments.

Overall, the respondents' feedback was generally favorable. The NRC will continue to publish its consolidated response to the external surveys and encourage public input and feedback. The metric criterion is met with a stable positive perception over time.

**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.

**Criterion:** Expect stable or increasingly positive perception over time.

**Goals Supported:** Predictable, Understandable, Open

**Note:** The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:** The survey respondents generally indicated that the ROP is being implemented as defined by program documents. However, some respondents noted concerns with inconsistencies in the number of findings, violations, and cross-cutting aspects issued across the four regions. Prior to receiving these comments, the regions had commenced initiatives to improve the reliability of ROP implementation as discussed in Enclosure 1 to the ROP self-assessment SECY paper. The staff will address these comments in the consolidated response to the ROP external survey comments. The metric criterion is met with mostly positive comments and a stable positive perception over time.

**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.

**Criterion:** Expect stable or increasingly positive perception over time.

**Goals Supported:** Effective, Open

**Note:** The five responses to the CY 2009 external ROP survey were all from nuclear power industry stakeholders. Therefore, the metric analyses do not necessarily reflect the views of other stakeholders, including state and local agencies, public interest groups, and members of the public. The staff did not conduct an internal survey in CY 2009, consistent with its biennial frequency defined by IMC 0307.

**Analysis:** The survey respondents indicated that the ROP generally does not result in unintended consequences. One respondent provided several areas for improvement that should be discussed in detail at upcoming ROP monthly public meetings. Examples included the way corrections are made to the safety system functional failure PI, the amount of attention that licensees apply to incomplete data regarding safety culture, and diverted resources from important findings to findings with minimal risk significance. The staff will address these comments in the consolidated response to the ROP external survey comments. The metric criterion is met with a stable positive perception over time.

**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.

**Criterion:**     Expect no major programmatic voids.

**Goals Supported:**    Effective, Predictable

**Analysis:**        No AIT or IIT inspections were performed in CY 2009; therefore, no programmatic voids occurred, and the metric criterion was met.

**Metric Criterion Met:** Yes

## **O-12 Analysis of Inspection Hours and Resource Expenditures**

**Definition:** Annually, collect and analyze resource data (e.g., direct inspection effort, preparation, documentation, and 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 baseline, supplemental, and plant-specific inspections. Analyze causes for any significant departures from established trends. (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:** Effective, Predictable

**Analysis:** The staff implements the ROP on a CY basis; however, it obtains and reports resource data on a fiscal year (FY) basis. Overall staff effort in FY 2009 increased by 1.4 percent, compared with FY 2008, but decreased by 3% compared with FY 2007. Total ROP effort during the past three years has remained relatively stable at approximately 6,300 hours per site and is consistent with budgeted resources.

Baseline inspection hours increased in 2009 primarily as a result of increased effort in performing Inspection Procedure 71152, "Identification and Resolution of Problems," and Inspection Procedure 71130.03, "Contingency Response - Force-on-Force Testing." Although more of these inspections were performed in FY 2009 than in FY 2008, the staff will consider this apparent increase in inspection hours during the next ROP realignment of inspection resources. The hours charged to other baseline procedures remained relatively unchanged.

Plant-specific (i.e., supplemental, reactive, and infrequently performed) inspection effort decreased in FY 2009, compared with FY 2008, because of a decrease in event response and supplemental inspections with a corresponding decrease in preparation and documentation effort for these inspections. The decrease in supplemental inspection hours reflects the decrease in the number of plants in the Degraded Cornerstone and Multiple/Repetitive Degraded Cornerstone Columns of the ROP Action Matrix in FY 2009, compared with FY 2008.

Generic safety issue (GSI) inspections are typically one-time inspections of specific safety and security issues, and GSI inspection effort can vary significantly from year to year. The decreased effort in GSI inspections in FY 2009 reflects reduced activity in this area in FY 2009 and the completion, in December 2008, of inspections related to the verification of site-specific implementation of B.5.b Phase 2 and 3 mitigating strategies.

The effort reported for “other activities,” including inspection-related travel, significance determination process, and routine communications (which now encompasses regional support, enforcement support, and review of generic technical documents), increased slightly in 2009. The effort for these activities typically corresponds to the baseline inspection effort but can also be impacted by inspection resources used for public outreach for issues that garner high public interest. The regional effort for licensee performance assessments has remained relatively steady during the past three FYs and suggests that the performance assessment effort has reached a steady state.

**Metric Criterion Met: Yes**

## **O-13 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 operation, engineering, maintenance, or construction experience with commercial nuclear power plants, naval shipyards, U.S Department of Energy facilities, 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. A detailed resident demographic and staffing analysis, including graphs, data, and analyses for these resident demographic metrics, is included in the annual ROP self-assessment Commission paper.

**Goals Supported:** Effective, Predictable

**Analysis:** RIs' NRC time (nationally) has steadily increased and relevant non-NRC experience has steadily decreased. Both of these trends may have resulted from the reduction in turnover rate since CY 2007. Region II has significantly greater relevant non-NRC experience than the other regions. SRI experience varies little among the regions. However, there is wide variance among regions for all types of experience except current site time. Although the RI and SRI turnover rates have declined for three consecutive years, the staff continues to closely monitor the attraction and retention of RIs and SRIs to ensure an experienced and stable RI and SRI program. An NRC senior-level management working group developed strategies and initiatives to address these retention issues and reported them to the Commission in SECY 09-0050, "Actions to Enhance Relocation and Retention for Employees," dated March 30, 2009.



The sites continue to be staffed with knowledgeable and experienced RIs and SRIs. There is an improving trend in the RI turnover rates, and regional training efforts are having a positive impact on the NRC experience level for RIs. In addition, feedback from licensees noted that the inspectors performed high quality and effective inspections that correctly characterized the licensee's performance.

Many of the RI program incentives described in SECY 09-0050 have only recently been implemented or are in the process of being implemented. Therefore, improvements in the RI demographics are expected to continue. Notwithstanding, the NRC will continue to monitor RI staffing and retention to identify any adverse trends early. The effectiveness of the enhancements to the relocation and retention initiatives described in SECY 09-0050 will be discussed in a separate paper to the Commission in CY 2011 in accordance with its associated SRM dated June 26, 2009.

**Metric Criteria Met:** Yes

**O-14 Analysis of Site Staffing**

**Definition:** Annually, 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 criterion is set at a staffing level of 90% program-wide. Any single site that falls below a staffing level of 90% will be individually evaluated. Provide reasons for any meaningful increase or decrease in the inspector staffing level at reactors sites.

Note: Inspectors assigned to the site permanently or through a rotation with a minimum duration of six weeks shall be counted. Inspectors on 6-week or longer rotational assignments will be identified as such. Inspectors assigned to the site for less than six weeks will not be counted but should be indicated as such. Additionally, the regions shall indicate sites where permanently assigned RIs or SRIs are away from the site for an extended period of time (one continuous time period which is greater than six weeks). Only inspectors, who have attained at least a basic inspector certification status, as defined by Appendix A to IMC 1245, “Qualification Program for Operating Reactor Programs,” shall be counted.

Data will indicate number of days a qualified RI and SRI are permanently assigned to the site during the year divided by the number of days in the year. Number of days spent on training, meetings away from the site, participation in team inspections, leave, or other temporary duties (e.g. acting for branch chiefs in his/her absence) will not be counted against the metric unless the absences exceed six continuous weeks.

**Goals Supported:** Effective, Predictable

**Analysis:** The regions succeeded in meeting the site staffing metric of 90% program-wide. The average site staffing for all regions was 97.55% in CY 2009. The table below presents the number of sites since 2005 that did not meet the 90% site staffing goal. As shown in this table, five sites fell below the 90% site staffing requirement in CY 2009 because temporary inspectors were at the sites for less than six continuous weeks. However, all five sites were staffed above 76%, were not recurrences from the previous year, and were supplemented by region-based inspectors to assist in completing the baseline inspection program. Meeting this metric was challenging and had a significant impact on inspectors and management, but the recent relocation and retention enhancements may improve future site staffing metric results.

**Number of Sites Below 90% Staffing Level**

	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Number of Sites</b>	3	1	9	5	5

**Metric Criteria Met:** Yes

**O-15            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:**    Effective, Predictable, Understandable

**Analysis:**        The staff continued to improve the initial and continuing inspector training programs to develop and maintain well-qualified, competent inspectors. The staff made recommendations, reviewed them in accordance with the ROP feedback process, and incorporated the improvements into inspection standards, as appropriate. The staff also developed three new inspector qualification standards, one for fire protection inspectors and two advanced-level standards for inservice inspection and fire protection inspectors. The staff conducted regional training on the integration of traditional enforcement into the assessment process, documenting issues in inspection reports, and licensee reporting requirements associated with the SSFF PI. In addition, the staff initiated periodic knowledge management seminars to improve the NRC's understanding of the concept of safety culture and its aspects. The staff also developed and implemented industrial safety training as well as a comprehensive training curriculum to support security inspections, including Force-on-Force inspections.

In the CY 2008 ROP self-assessment, the staff agreed to develop and implement additional SDP training to ensure the inspectors remain efficient and effective in determining the safety and security significance of identified performance issues. Although the staff began to develop additional SDP training, it deferred implementation to incorporate input from the partnering initiative, which provided valuable insights regarding areas where training was lacking or can be improved. These areas include fundamental and overview training for certifying inspectors, as well as risk-informed decision-making fundamentals and techniques for managers. The staff will resume its efforts to implement SDP training in CY 2010.

**Metric Criteria Met:** Yes

**O-16            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:**    Effective, Open, Understandable

**Analysis:**        During the previous fiscal year, the staff received and compiled feedback from 95 site visits to 43 reactor sites (68 units) across all four regions. These visits resulted in 178 distinct comments that fell into two main categories: formal communication with licensees and inspector performance. Of the comments compiled, 92% (163/178) were favorable, and 8% (15/178) were unfavorable. The number, distribution, and the favorable percentage of comments were similar to previous years.

The staff concludes that communication between the NRC and its licensees is effective and that the reported communication problems were isolated instances. The staff also concludes that inspectors were professional, maintained effective working relationships, and appropriately characterized licensee performance. The staff reviewed the negative feedback on inspector performance for trends and found that each concern related to an isolated incident or a difference of professional opinion.

**Metric Criteria Met:** Yes