

## **Reactor Oversight Process Program Area Evaluations**

The staff of the U.S. Nuclear Regulatory Commission (NRC) performed program evaluations in each of the four key program areas of the Reactor Oversight Process (ROP) including performance indicators (PI), inspection, Significance Determination Process (SDP), and assessment. The staff used self-assessment metrics, internal and external stakeholder feedback, and other information to gain insights into the effectiveness of the ROP in meeting its goals and intended outcomes. Based on the metric results, stakeholder insights, and other lessons learned through ongoing program monitoring; the staff identified certain issues and actions in each of the four key program areas as described below. The annual ROP performance metric report provides the data and staff analysis for each of the program area metrics (ADAMS Accession No. ML090690616).

### **Performance Indicator Program**

The staff continued to improve the PI program in calendar year (CY) 2008 to ensure the PIs provide useful insights and contribute to the identification of performance outliers. The staff also continued to look for leading indicators of declining performance as well as look for ways to modify or improve the existing PIs to ensure their effectiveness. As noted in several previous self-assessments, the number of greater than green PIs has declined significantly since initial ROP implementation in April 2000. The number of greater than green PIs had temporarily increased upon implementation of the Mitigating Systems Performance Index (MSPI) in April 2006 but has steadily declined since April 2007. The MSPI was effective at identifying outliers and brought attention to licensees with long-standing equipment problems. Since then, the number of MSPI performance issues has diminished, and the MSPI is now following this downward trend as well. The staff believes that the improved industry performance shown in the MSPI is, in part, the result of changes made to plant probabilistic risk assessments (PRA) and equipment modifications that reduced the risk significance of failures.

The staff committed in the CY 2007 ROP self-assessment to complete its lessons-learned review of the MSPI and, based on its recommendations and discussion with industry, to make any necessary changes to improve the PI. Due to the complexity of the review, the staff's lessons-learned review has taken nearly 2 years to date and is anticipated to extend into CY 2009 before it is complete. Although not fully complete, the review has yielded important insights into the performance of MSPI and areas for improvement have been identified. Several white papers presented and discussed with industry at the monthly ROP public meetings have described these opportunities for improvement. The white papers discuss proper characterization of component failures and planned and unplanned unavailability, appropriate mathematical protocols for adding and multiplying values within the MSPI algorithm, and general guidance expectations for determining when and under what conditions licensees can revise their planned unavailability baselines. The staff anticipates that it will have fully resolved these issues by the end of calendar year 2009. The staff also plans to further assess the effectiveness of the MSPI through periodic review of industry experience and resulting frequently asked questions (FAQ) on the MSPI.

The staff also made guidance improvements to the Unplanned Power Changes per 7000 Critical Hours PI and the Emergency Response Organization Drill Participation PIs. The staff is also reviewing the effectiveness of the Safety System Functional Failure (SSFF) PI, which had been an excellent indicator of poor and declining performance before the ROP was implemented, but

its effectiveness has since declined because this indicator provides less trending information and rarely crosses the green-white threshold. As noted in last year's self-assessment, the staff has discovered that differences among licensee interpretation of the guidance documents contribute to inconsistencies in licensee reporting of SSFFs. The staff is assessing additional training needs for inspectors to help ensure a clear understanding and consistent implementation of the reporting guidance for this indicator. The staff will also continue its efforts to improve the Emergency Preparedness PIs (specifically the Alert and Notification System PI) and the other PIs depending on available resources. On June 5, 2008, the staff issued Temporary Instruction (TI) 2515/175, "Emergency Response Organization, Drill/Exercise Performance Indicator, Program Review." The objective of this TI is to gather information during CY 2008 and CY 2009 to support the program office assessment of the drill/exercise performance PI data.

On February 28, 2008, the NRC issued Regulatory Issues Summary (RIS) 2008-04, "Discontinuation of Two Performance Indicators Associated with the Security Reactor Oversight Process," to inform licensees that the Personnel Screening Program and the Fitness-for-Duty/Personnel Reliability PIs will be discontinued. The agency discontinued these indicators because they provided minimal input and because reasonable confidence exists through the security baseline inspection program. The staff plans to interact with the industry to explore other PIs in the Security cornerstone that might provide more meaningful insights into licensee performance. In addition, the staff will continue to refine existing PIs and explore options for introducing new PIs to ensure that the PI program remains an effective input into the ROP assessment process.

Staff Requirements Memorandum (SRM) M080604, "Briefing on Results of the Agency Action Review Meeting," dated June 30, 2008, directed the staff to look for ways to clarify to industry and the public the meaning and use of "green" PIs within the ROP. In response to this concern, the staff revised the sample boilerplate public assessment meeting slides that are available for the regions to use when holding public meetings. The staff revised these slides to emphasize that green PI performance represents performance in which cornerstone objectives are fully met and additional NRC oversight is not required. In addition, NUREG-1649, "Reactor Oversight Process," is being updated to reflect this same message and to note that the baseline inspection program can be focused, if desired, on a PI trending toward the green/white threshold. The staff also changed the NRC ROP Web site to better explain how inputs into the ROP assessment process are considered and to better define how the ROP uses green inspection findings and PIs. The staff worked to clarify for all stakeholders the actual meaning of a green PI, and the staff continues to reinforce the role of PIs in assessment and to communicate that PIs provide useful trending information and are only one component of licensee performance assessment.

Based on the Commission's direction in SRM M080604, the staff also evaluated the self-assessment metrics for the PI program for potential improvements. As a result, the staff revised two of the PI metrics. The specific metrics related to stakeholder perception as to whether the PI program provides useful insights (PI-4) and whether the PI program identifies performance outliers (PI-8). The staff revised the wording of these metrics and the survey questions associated with them to emphasize that the PI program is "used in conjunction with the inspection program" to provide useful insights and that the PI program is only "a contributor to" the identification of performance outliers. The results of the 2008 survey, which was limited to internal stakeholders, did not appear to demonstrate a significant change in the level of satisfaction in these areas when compared to the previous internal survey in 2006 although the

percentage of positive responses did increase slightly. The staff will reevaluate the effectiveness of these changes to the metrics based on the results of the upcoming external survey in 2009.

The staff met all eight of the PI metrics for CY 2008. The internal survey of stakeholders generally found the PI program to be meeting the ROP goals of providing useful information on risk-significant areas. Most survey respondents found the PIs to be clearly defined and understandable and to provide an appropriate overlap with the inspection program. They also stated that the PIs provide an objective indication of declining safety performance and can be effectively used to identify outliers. Of the stakeholders who provided written comments, most wrote that the PI program has not worked in accordance with the ROP goals of being understandable (e.g., MSPI) and well defined or useful. Many internal stakeholder comments indicated concern about the industry's ability to manage the PIs – possibly a contributing cause of the decrease in the number of greater-than-green PIs.

Another area of concern is that some PI guidance is confusing, complex, and difficult to interpret. The PI guidance document, Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," is revised periodically by NEI to better define and clarify the guidance primarily using approved FAQs. FAQs are discussed during the monthly ROP public meetings and need consensus from meeting participants prior to approval. Approved FAQs are considered active but are not directly incorporated into the NEI guidance document until the next revision, thus adding to the confusion. Some internal stakeholders believe this could be better performed and maintained if the NRC assumed control of the document.

In spite of efforts to clarify for stakeholders the actual meaning of a green PI, the staff continued to receive some comments that were critical of the usefulness of the PI in distinguishing between levels of performance. Many commented that with so few PIs crossing the green to white threshold, the PI program does not provide meaningful insights. Others felt that the PI program is not predictive of declining plant performance. The staff will continue to reinforce the message that a green PI represents performance that does not require additional NRC oversight, that PIs provide useful trending information, and that PIs are only one contributor to the identification of performance outliers. In addition, the staff will continue to refine existing PIs and explore options for introducing new PIs to ensure that the PI program provides useful insights and contributes to the identification of declining performance.

### **Inspection Program**

The inspection program verified that plants were operated safely in CY 2008 and ensured that performance issues were identified and corrected in a timely manner by the licensees. All four regions completed their baseline inspections in CY 2008 in accordance with Inspection Manual Chapter (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 2008 completion of the baseline inspection program in a memorandum available in ADAMS (Accession No. ML090410750 for Region I, ML090440127 for Region II, ML090440495 for Region III, and ML090400078 for Region IV). Additionally, all security baseline inspections in CY 2008 were completed as required, as documented in a memorandum from the Office of Nuclear Security and Incident Response (NSIR) (ADAMS Accession No. ML090570469), but this memorandum is not publicly available.

During CY 2008, the staff improved key inspection program documents and issued revised inspection procedures (IP) to implement the changes resulting from the CY 2007 ROP realignment. The staff also performed its annual evaluation of the IPs in fiscal year (FY) 2008 to determine whether any additional improvements to the baseline inspections were warranted based on inspection findings identified during FY 2008. The purpose of this review was to help ensure consistent implementation of the procedure and to identify potential improvements in effectiveness and efficiency. The staff made some recommendations to address the possible additional inspection resource needs and to improve the effectiveness of the health physics inspections. The staff will review these and other recommendations during the biennial ROP realignment effort in CY 2009 as discussed below. Any changes to the inspection program will become effective during CY 2010.

The staff will perform a more in-depth effectiveness review, known as ROP realignment, for all baseline IPs in all ROP cornerstone areas (Initiating Events, Mitigating Systems, Barrier Integrity, Occupational Radiation Safety, Public Radiation Safety, Emergency Preparedness, and Security) in CY 2009. Appendix B to IMC 0307, "Reactor Oversight Process Self-Assessment Program," describes the ROP realignment process. The review will consider inspection results over a 3-year time period from FY 2006 through FY 2008. The purpose of this review will be to ensure that the baseline inspection program applies the appropriate level of inspections in selected areas based on risk, licensee deficiencies identified in the past, and feedback from the regions. During the last ROP realignment review performed in CY 2007, the staff made changes affecting the inspection scope and frequency of 12 baseline IPs.

On January 15, 2009, the staff issued a revision to IP 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or One Red Input," which incorporated lessons-learned items from the initial implementation of the ROP safety culture enhancements including an evaluation of the conduct of the IP 95003 at Palo Verde. The staff also considered feedback from external stakeholders on the potential safety culture changes. The changes to IP 95003 provide guidance on how the NRC will perform a graded safety culture assessment. Depending on the circumstances, the scope of the graded safety culture assessment may range from focusing on functional groups or specific safety culture components, which the licensee's third-party assessment identified as having problems or being insufficiently evaluated, to conducting an NRC independent safety culture assessment. Additional changes in response to recommendations resulting from the Palo Verde 95003 inspection included clarifying the flexibility of inspection timing, adding consideration of an outage inspection component, and adding consideration of the additional inspection guidance contained in the emergency preparedness attachment for each IP 95003 inspection. The staff made several additional changes to the assessment program guidance (IMC 0305, "Operating Reactor Assessment Program") as described under the assessment program evaluation below.

The staff continued to implement the Operating Experience Smart Sample (OpESS) Program to provide inspectors with concise information related to selected industry operating events that have generic applicability and potential risk significance and can be readily inspected through the baseline inspection program. The staff issued three OpESS documents during CY 2008 regarding (1) the negative trend in recurring events involving feedwater systems; (2) inspection of electrical connections for motor control center, circuit breakers and interfaces; and (3) a revision to a prior OpESS dealing with crane and heavy lift inspection. Inspectors are

encouraged to review and use OpESS information for planning future inspection activities. However, the staff also recognizes the need to (1) better communicate the way the ROP currently considers operating experience and (2) augment program documents to more systematically integrate operating experience into the inspection program. The staff plans to revise program guidance to better integrate operating experience into the ROP inspection and assessment processes in CY 2009. The staff also plans to develop a more formal program to manage security-related operating experience.

Although the resident and senior resident inspector turnover rates decreased during CY 2008 when compared to the turnover rates in CY 2007, attraction and retention of resident and senior resident inspectors remained a challenge for the inspection program. Enclosure 5 of this SECY paper offers additional discussion and analysis of resident inspector demographics and issues.

The staff continued to improve the initial and continuing inspector training programs to produce and maintain well-qualified competent inspectors. Recommendations by the staff were reviewed in accordance with the ROP feedback process, and the improvements were incorporated into inspection qualification standards as appropriate. The internal survey results show that inspectors were generally satisfied with training to implement the ROP but slightly less satisfied than during the previous survey. In the survey, inspectors requested more training on the SDP, safety culture, and the computer system used to track inspection reports and findings (Reactor Program System). Another message from the survey was that inspectors asked for more opportunities for continuing training after completion of qualification requirements.

The staff continued development or completed a number of training initiatives over the last year, which will respond to and improve each of the issues raised in the survey. Specifically, the staff received approval to develop a prequalification 1-week training course to improve inspectors' understanding of the SDP and ROP. The staff updated the guidance for writing inspection reports and performed training at the regional counterpart meetings including instruction in how inspectors should assign and document cross-cutting aspects for their inspection findings, and the staff is continuing efforts to develop additional safety culture training. In response to regional feedback, the staff conducted classroom training and developed Web-based training on the Reactor Program System to improve inspection scheduling and the reporting of inspection issues. To give inspectors more continuing training options, the staff completed development of post-qualification training for inservice inspection and fire protection inspectors and continued development of similar training in the electrical and mechanical areas. Additionally, the NSIR staff completed development of a comprehensive agency security training curriculum which will enhance security inspector competencies.

All inspection program metrics met their established criteria during CY 2008. The internal survey resulted in favorable feedback regarding whether information contained in inspection reports was relevant, useful, and written in plain English. However, the inspectors also provided feedback that the documentation of inspection scope in inspection reports could be improved to make these reports easier to read. Additionally, the internal survey produced favorable feedback regarding whether the inspection program adequately covers areas important to safety and security. However, feedback also suggested that increased flexibility in the ROP requirements, reduction in the number of inspection samples for selected IPs, and an increase in maintenance observation activities may be warranted to improve the effectiveness of the

baseline inspection program. The staff will consider these issues during the ROP realignment effort in CY 2009.

### **Significance Determination Process**

The SDP continues to mature and remains an effective tool for determining the safety and security significance of identified performance issues. Oversight of the process has continued to focus on the timeliness of SDP reviews and on improvements to the process based on feedback from internal and external stakeholders. Most notably, the SDP met the timeliness goal of 90 days for a third consecutive year as well as meeting all other IMC 0307 SDP metrics. The NRC received no appeals for findings evaluated with a significance greater than green.

In early 2008, the staff issued revisions to several SDP guidance documents, contained in attachments and appendices to IMC 0609, "Significance Determination Process." These revisions included the revamped Phase 1, "Initial Screening and Characterization of Findings," portion of the SDP (Attachment 4 to IMC 0609); clarification of IMC 0609 guidance for SDP timeliness; and updates to the guidance for conducting Significance and Enforcement Review Panels (Attachment 1 to IMC 0609). The staff also revised the SDP appendices "Public Radiation Safety" and "Occupational Radiation Safety" (Appendices C and D to IMC 0609) to make them more objective and improve their effectiveness and efficiency. The staff worked with the Office of Enforcement (OE) to realign the SDP guidance with the Enforcement Policy and the revised Enforcement Manual. This included developing common templates for preliminary and final determination letters and streamlining the SDP program with IMC 0612, "Power Reactor Inspection Reports."

The staff developed a special SDP to evaluate findings identified during the performance of TI 2515/171, "Verification of Site Specific Implementation of B.5.b Phase 2 & 3 Mitigating Strategies." This qualitative SDP, developed using expert judgment and inspection experience, was successful in assisting inspectors to characterize the significance of inspection findings. The SDP provided valuable insights while evaluating a variety of findings, especially assessing the recoverability of a mitigating strategy. All findings were evaluated to be of low safety significance (green). Although the SDP was adequate to characterize the risk significance of inspection findings and the TI required no revisions during implementation, the inspectors identified areas for improvement within the SDP and inspection process that will be incorporated into the ROP baseline inspection program.

In response to Commission direction, NSIR added the materials control and accountability (MC&A) attribute to the security baseline inspection program, which is governed by IMC 0320, "Operating Reactor Security Oversight Process," and IMC 2201, "Security and Safeguards Inspection Program for Commercial Power Reactors." At the same time, NSIR developed the MC&A SDP and added it to the Physical Protection SDP, which was revised and renamed the Baseline Security SDP. The staff used enforcement history, inspection experience, and expert judgment (which included the input of industry representatives) to develop the MC&A portion of the Baseline Security SDP. Additionally, the staff is currently evaluating the security SDP with stakeholder involvement and plans to develop enhancements as needed.

In early 2008, the staff made the three-volume "Risk Assessment of Operating Events" Handbook (hereafter referred to as the RASP Handbook) publicly available on the NRC public Web site and in ADAMS. The purpose of this initiative was to openly communicate with the

public because the information in the RASP Handbook has been beneficial to the risk analyst staff and is referenced in the SDP program guidance. To enhance the development of analytical tools for SDP and other staff risk applications, the Office of Nuclear Reactor Regulation (NRR) opened a new user need request with the Office of Nuclear Regulatory Research (RES). This new request, which superseded the user need request of 2004, identified a need for continued development and enhancements in standardized plant analysis risk (SPAR) models; it includes developing two new generic low-power/shutdown (LPSD) SPAR models per year to support development of future full-scope LPSD SPAR models and enhancing "internal" and "external" events. This request also identified the need for modeling alternative mitigating strategies performed by licensees. The "internal events" SPAR models need to reflect recent plant modifications, development and integration of "external events" (e.g., internal fire), and low-power and shutdown operational events. The goal of this user need request is to use the expertise in RES to continue the development and enhancement of SPAR models to reflect the as-built, as-operated, plant configuration and provide more consistent risk assessment results.

Based on the Commission's direction in SRM M080604, the staff evaluated the self-assessment metrics for the SDP for potential improvements. As a result, the staff eliminated the alternative metric for SDP timeliness (SDP-6b) and the metric for accurately communicating SDP results to the public (SDP-7) because of the high performance in this area since 2004. The staff also revised the wording for the metric regarding stakeholder perception (SDP-4) and corresponding survey questions to emphasize that the SDP should result in an "appropriate" regulatory response as opposed to an objective and understandable regulatory approach across all cornerstones. The results of the 2008 survey, which was limited to internal stakeholders, did not appear to demonstrate a significant change in the level of satisfaction in these areas when compared to the previous internal survey in 2006. The staff plans to improve and administer additional SDP training in 2009 as described below and will reevaluate the effectiveness of the changes to this metric based on the results of the upcoming external survey in 2009.

The staff currently maintains six performance metrics to monitor the effectiveness of the SDP. Overall, the metrics indicated that the implementation of the SDP has remained consistent with that of the previous assessment period. The responses to the internal survey were generally favorable for the SDP. The staff appears confident that the SDP (1) provides consistent results that are an appropriate regulatory response to performance issues; (2) meets important program objectives such as being scrutable, accurate, repeatable, timely and based on clear standards; and (3) is effective in communicating results to the licensee and public. A majority of the respondents believe that the SDPs are easy to use and that program guidance documents are clear. However, several respondents noted that SDP training could be improved and additional refresher training would be helpful. Although specific training for the fire protection SDP (P-108) was established several years ago, some respondents stated that the SDP remains complex. The staff has initiated efforts to improve basic SDP training for new employees and inspectors as well as refresher training for experienced inspectors and plans to conduct the training in CY 2009.

The staff will continue to monitor SDP timeliness, develop additional enhancements to streamline the SDP program, and implement effective training for SDP users in 2009. Further improvements in the SDP will contribute to staff efficiency and effectiveness in determining the safety and security significance of identified performance issues. The SDP continues to serve as an essential component of the ROP.

## **Assessment Program**

Staff implementation of the assessment program ensured that staff and licensees took necessary actions to address and focus on performance issues. SECY-09-002, "Revision to the Reactor Oversight Process Implementation Guidance," dated January 2, 2009, discusses the most significant change in the assessment program in CY 2008. In this paper, the staff described the changes to IMC 0305, which was revised and reissued on January 8, 2009. The revision included routine guidance improvements and incorporated lessons learned from the ROP safety culture evaluation. Of particular note are the revised entry conditions for the "repetitive degraded cornerstone." This change clarifies licensee performance criteria that would result in a licensee entering the Multiple/Repetitive Degraded Cornerstone column (Column 4) of the Action Matrix.

Both internal and external stakeholders had expressed concerns that two PIs that linger in the Action Matrix for more than four quarters could drive a licensee to Column 4 of the Action Matrix. Most notably, since MSPi inputs are based on 12 quarters of data, MSPi indicators may stay greater than green for a prolonged period of time. The staff addressed the stakeholder concerns by changing the entry requirements for Column 4 to make them more transparent and user friendly. This revised Column 4 definition continues to require five consecutive quarters of degraded cornerstone performance; however, at least one of the five quarters must have at least three white inputs (or one yellow and one white input) to the Action Matrix. This new definition clarifies the criteria for entering Column 4 of the Action Matrix and incorporates the treatment of PIs and the handling of inspection findings more consistently.

The recent IMC 0305 revision also includes other changes resulting from staff evaluations. Some of the more significant program improvements included (1) adding flexibility for scheduling and conducting the annual public meeting, (2) clarifying guidance concerning double-counting inputs to the Action Matrix and closing out greater-than-green findings, and (3) requiring greater-than-green PIs to remain as an input into the Action Matrix until the supplemental inspection is successfully completed (even though the PIs might have returned to green). The staff also made several changes as a result of lessons learned from the ROP safety culture program enhancements as discussed below.

As requested by the Commission and incorporated into the self-assessment program, the staff reviewed the causes of one Action Matrix deviation issued during CY 2008 and evaluated it for potential improvements to the program. In summary, on October 28, 2005, and renewed on December 11, 2006, December 19, 2007, and December 18, 2008, the Executive Director for Operations approved deviation memoranda to provide heightened NRC oversight at the Indian Point Energy Center. The staff will continue to closely monitor the licensee's actions in CY 2009 to characterize and mitigate onsite ground-water contamination. The actions for the Indian Point Energy Center represent a customized approach that considers factors beyond each unit's Action Matrix categorization. This approach is consistent with underlying concepts of IMC 0305, and no additional changes to IMC 0305 are planned as a result.

Safety Culture – The staff implemented several ROP safety culture enhancements in July 2006 in response to Commission direction and ongoing ROP improvement initiatives. The staff monitored and evaluated these enhancements during their initial 18-month implementation period to identify additional changes needed in ROP guidance documents to improve their

effectiveness and efficiency. The staff also interacted with internal and external stakeholders to obtain and consider their feedback on the ROP safety culture enhancements. As a result of the feedback and lessons learned, the staff concluded that the enhanced guidance improved the NRC's ability and provided an effective means to monitor safety culture although additional improvements were still warranted.

Lessons learned from the ROP safety culture evaluation resulted in the program changes that were incorporated in the January 2009 revision to IMC 0305. The staff also revised IP 95003 as discussed in the inspection program section of this paper and is currently revising IP 71152, "Identification and Resolution of Problems," to incorporate additional lessons learned. Some of the more significant changes related to safety culture in the January 2009 revision to IMC 0305 include (1) lengthening the time period for considering safety conscious work environment (SCWE) items in the substantive cross-cutting issue (SCCI) process; (2) using a graded approach to NRC independent safety culture assessments to align with the corresponding changes made to IP 95003 that was issued on January 15, 2009; (3) clarifying that for plants in Column 4 and in the "Unacceptable Performance" column (Column 5) the licensee is expected to perform a third-party safety culture assessment; and (4) clarifying that the generic SCCI closure criteria applies when the closure criteria are not specified in the assessment letter.

In addition, to assess the consistency of regional implementation of the SCCI process, a task group consisting of staff from the regional offices recently completed an evaluation of the process. Overall, the task group found that the regions are properly implementing the guidance of IMC 0305 for opening SCCIs and evaluating open SCCIs for closure. However, the review identified some differences among the regions in making SCCI decisions, establishing exit criteria, and documenting SCCI decisions. As a result, the task group recommended enhancing documentation of the decision-making bases for opening and closing SCCIs in the assessment letters to licensees and modifying ROP guidance to clarify expectations regarding SCCI closure criteria. This will be followed up by a systematic approach to utilizing cross-regional experience to further improve the implementation of the SCCI guidance. In parallel with the staff's safety culture activities, the industry has initiated an effort to develop standardized guidance for licensees on how to conduct their periodic self-initiated as well as NRC-requested safety culture assessments. The staff will engage with industry during CY 2009 and will consider endorsing the industry guidance after careful review and stakeholder interactions.

The industry continues to express concerns with the staff's approach to the oversight of safety culture. The industry has initiated a working group effort to develop an alternative approach to safety culture assessment in which licensee site leadership teams would evaluate site information to ascertain whether a safety culture problem exists. The staff plans to meet with industry to better understand their approach.

The staff is also preparing a separate Commission paper to provide a draft safety culture policy statement that will apply to all NRC licensees and certificate holders and that will incorporate security culture elements into the overall safety culture policy. The staff will revise IMC 0305 guidance in CY 2009 or CY 2010, as necessary, to incorporate additional lessons learned, refine the cross-cutting aspect descriptions to be more objective, and to better align with the Commission's approved policy statement on safety culture as it applies to operating reactors.

Traditional Enforcement – In the CY 2007 self-assessment, the staff noted its intent to explore how certain traditional enforcement items related to all seven cornerstones could be used as a

more integrated input into the assessment program. An NRC working group, comprised of representatives from each Region, NRR, and OE, met with the industry in June 2008 and again in January 2009 to gather perspectives for achieving a more integrated enforcement process with the ROP. The two specific changes to the assessment process described below characterize the approach to using traditional enforcement in the assessment process proposed by the working group. The staff is incorporating the implementation details into ROP guidance documents and will monitor the implementation of the revised guidance to determine its effectiveness.

- (1) For cases involving potential willfulness, process the performance deficiency separately from the investigation.

Separating the two aspects of a performance deficiency allows the technical aspect to become a timely input into the Action Matrix since the finding and its potential affect on the assessment process will not be delayed pending completion of the investigation into willfulness by the NRC's Office of Investigation (OI). Separation ensures that the risk significant findings used in the assessment process and the agency activities dictated by the Action Matrix are reflective of, and responsive to, current performance. Any associated violations are held and issued only when the investigation into potential willfulness is complete. The investigation and subsequent violations address whether or not there are aspects of licensee performance, such as willfulness, that are the basis for traditional enforcement actions.

Implementing this change would institutionalize the lessons learned from dealing with the inattentive security officers at Peach Bottom and with the Davis-Besse degraded reactor head issues, both of which involved lengthy investigations. IMC 0612 and IMC 0305 do not specifically discuss the ability to separate the performance deficiency from the subsequent enforcement, but they do not preclude it. Incorporating this change will clarify that separation of the two is allowed and will ensure appropriate coordination with the OI to avoid the compromise of an ongoing investigation by inspection program activities.

- (2) Perform followup inspection on all traditional enforcement outcomes.

The ROP does not currently require routine followup of enforcement actions. The assessment program currently only considers escalated enforcement, but it is not a direct input to the ROP Action Matrix. Performing followup inspection on each traditional enforcement outcome will place a focus on the regulatory significance associated with licensee actions that are willful, impede the regulatory process, or have actual consequences. The staff will examine traditional enforcement outcomes over the preceding 12 months during the mid-cycle and end-of-cycle performance reviews. Using an escalating approach similar to that in the Action Matrix, the number, severity level, and similarities among the violations will trigger one of three levels of inspection response. However, the inspection response to the traditional enforcement outcomes would not be a direct input into the Action Matrix since the SDP would have already captured any associated risk significance by processing the performance deficiency separately.

In last year's ROP self-assessment, the staff noted a possible declining trend in industry performance as evidenced by an increase in the number of sites in Columns 3 and 4 of the ROP Action Matrix. The staff assessed ROP data further and engaged with internal and external stakeholders to better understand the apparent inconsistency with the Industry Trends Program (ITP) results of FY 2007. As noted in the PI discussion above, the staff observed that the number of greater-than-green PIs had temporarily increased upon implementation of MSPI in April 2006 but has steadily declined since April 2007. This trend was a significant contributor to the temporary increase in the number of sites in Columns 3 and 4 of the ROP Action Matrix in CY 2007. ROP results for CY 2008 indicate that the number of plants in Columns 3 and 4 has returned to previous levels and that the industry's safety performance evidenced by the ROP is consistent with the ITP results. The staff will continue to monitor the number of plants in Columns 3 and 4 but plans no additional action at this time.

In response to lessons learned from the handling of allegations in March 2007 and September 2007 of inattentive security officers at Peach Bottom, the staff issued an allegation guidance memorandum to provide interim guidance to the NRC staff responsible for handling allegations. The lessons-learned reviews included an assessment by the Agency Allegation Advisor, a Region I review team analysis, and a Senior Executive Review Panel evaluation of the events related to the Peach Bottom allegations. The Commission approved recommendations for enhancing the allegation program resulting from these reviews and provided additional direction. The staff plans to revise the agency allegations policy based on the lessons learned and feedback from internal and external stakeholders and plans to provide the policy to the Commission for approval.

The staff met all of the assessment metrics for CY 2008. In the 2008 internal survey, the perception of the assessment program was generally positive although some stakeholders noted that safety culture guidance (i.e., cross-cutting aspects and issues) was too complex, subjective, and not always worth the effort expended. Internal stakeholders expressed diverse opinions as to the value of the program changes made as a result of the safety culture initiative. Notwithstanding the written comments, more than half of the internal respondents continue to indicate that the changes to the ROP will help to identify weaknesses in licensee safety culture and to focus both licensee and NRC resources accordingly. Responses to related questions about the adequacy of the supporting ROP infrastructure (process, procedures, and training) again indicate that more than half of the respondents continue to believe that the current infrastructure is adequate. The inspection and assessment guidance related to safety culture was modified in January 2009 to provide additional guidance, and the staff plans to continue to evaluate the effectiveness of the safety culture initiative including inspector training in CY 2009.