

### REACTOR OVERSIGHT PROCESS SELF-ASSESSMENT PROGRAM

#### 0307-01 PURPOSE

The Reactor Oversight Process (ROP) is a regulatory framework that includes licensee performance indicator (PI) data, NRC inspection activity and determination of inspection finding significance, and licensee performance assessment. The ROP self-assessment program evaluates the overall effectiveness of the ROP through its success in meeting its preestablished goals and intended outcomes.

#### 0307-02 OBJECTIVES

02.01 To establish the processes for collecting information and data to support the ROP self-assessment program.

02.02 To establish a process for objectively evaluating the effectiveness of the ROP in achieving the goals of being objective, risk-informed, understandable, and predictable as well as the applicable agency performance goals listed in the NRC's Strategic Plan.

02.03 To develop recommended improvements to the ROP.

02.04 To inform the Commission, NRC senior management, and the public of the results of the ROP self-assessment program, including any conclusions and resultant improvement actions.

#### 0307-03 DEFINITIONS

03.01 Audit. A periodic examination and checking of selected records or activities to verify their correctness or compliance with predetermined standards.

03.02 Effectiveness. The ability to achieve the desired outcomes of an activity, program, or process. A program is considered effective if it is meeting its goals and achieving the intended outcomes. Ensuring that NRC actions are effective, efficient, realistic, and timely is one of the five NRC goals in its Strategic Plan and is used to evaluate the overall success of the ROP. Overall ROP effectiveness is measured each year through its self-assessment program using predefined metrics and performance evaluations of key

program areas in accordance with this manual chapter.

03.03 Objective. A desired program attribute in which decisions are based on factual information and uninfluenced by emotion, surmise, or personal prejudice. Being objective is one of the four program goals of the ROP used to evaluate its overall success and effectiveness.

03.04 Openness. The ability to perform in a manner that is accessible and unobstructed in order to maintain public confidence. The goal to ensure openness explicitly recognizes that the public must be informed about, and have a reasonable opportunity to participate meaningfully in, the NRC's regulatory processes. Ensuring openness in our regulatory process is one of the five NRC goals in its Strategic Plan and is used to evaluate the overall success and effectiveness of the ROP.

03.05 Operating Plan. A management tool used to ensure that planning, budgeting, and performance management are performed in an integrated and balanced manner. It includes a summary of NRR programs, projects, activities, and other items to be measured throughout the year and the metrics which will be used to monitor them. Programs and activities are aligned under the five agency Strategic Goals.

03.06 Predictable. A desired program attribute in which more than one individual can follow the same defined process and arrive at the same conclusion in a consistent manner (i.e., repeatable). Being predictable is one of the four program goals of the ROP used to evaluate its overall success and effectiveness.

03.07 ROP Inspectable Area Lead. Person assigned responsibility to oversee and manage the use of individual baseline inspection procedures or attachments to those procedures.

03.08 ROP Program Area Lead. Person assigned responsibility to oversee and manage the associated programs for the major elements of the Reactor Oversight Process. The ROP elements are the performance indicator (PI) program, the inspection program, the significance determination process (SDP), and the assessment process.

03.09 Risk-Informed. An approach to decision-making in which risk insights are considered along with other factors (such as engineering judgment, safety limits, redundancy, and diversity) to better focus licensee and regulatory attention on issues commensurate with their importance to health and safety. Being risk-informed is one of the four program goals of the ROP used to evaluate its overall success and effectiveness.

03.10 Safety. The condition of being secure from danger, risk, or injury. The NRC's primary goal is to regulate the uses of radioactive materials for civilian purposes to ensure protection of public health and safety and the environment. The strategic outcomes of this goal include no nuclear reactor accidents, no inadvertent criticality events, no acute radiation exposures resulting in fatalities, and no releases of radioactive materials that result in significant radiation exposures or cause significant adverse environmental impacts. Ensuring protection of public health and safety and the environment is one of the five NRC goals in its Strategic Plan and is used to evaluate the overall success and effectiveness of the ROP.

03.11 Survey. The analysis of information gathered through questionnaires.

03.12 Understandable. A desired program attribute in which the process and its results are clear and written in plain English. Being understandable is one of the four program goals of the ROP used to evaluate its overall success and effectiveness.

#### 0307-04 RESPONSIBILITIES AND AUTHORITIES

04.01 Director, Office of Nuclear Reactor Regulation (NRR). Oversees and manages the Reactor Oversight Process.

04.02 Director, Office of Research (RES). Provides support and data as requested by the Director, NRR.

04.03 Regional Administrators. Provide data to support the ROP self-assessment program as requested by the Director, NRR.

04.04 Director, Division of Risk Assessment (DRA). Provides data to support the ROP self-assessment program as directed by the Director, NRR.

04.05 Director, Division of Inspection and Regional Support (DIRS)

- a. Oversees the implementation of the ROP self-assessment program.
- b. Develops policies for the ROP self-assessment program.
- c. Issues the annual ROP self-assessment report.
- d. Issues status reports to the Deputy Regional Administrators.
- e. Assures the assignment of ROP program area leads and inspectable area leads.

04.06 Chief, Performance Assessment Branch

- a. Develops program guidance and procedures for the ROP self-assessment program.
- b. Ensures data from all sources are collected and consolidated to facilitate analysis.
- c. Recommends and implements improvements to the ROP self-assessment program.
- d. Monitors the effectiveness of corrective actions and improvements to the ROP that are developed in response to self-assessment findings.
- e. Develops the annual ROP self-assessment report.

#### 04.07 ROP Program Area Leads

- a. Collect self-assessment data each calendar quarter for assigned program area (e.g., PI, inspection, SDP, and assessment).
- b. Collect and analyze self-assessment data for the previous year, and develop the annual program evaluation for assigned program area.

#### 04.08 ROP Inspectable Area Leads

- a. Collect data and user experience for assigned inspectable areas and summarize the information for the annual self-assessment report.
- b. Annually review and evaluate the implementation of assigned inspection procedures.

NOTE: A complete listing of current ROP Program Area Leads and Inspectable Area Leads is available through the “points of contact” link from the ROP Digital City Web page.

### 0307-05 DISCUSSION

The ROP is the NRC's primary means of assuring that commercial nuclear power plants are operated safely and in accordance with applicable regulations. The ROP consists of inspections, performance indicators, significance determination processes, assessment, and enforcement. It is important that the ROP be periodically evaluated and improved when necessary to ensure continued achievement of its specified goals and intended outcomes.

The ROP's seven goals include the four specific program goals of being objective, risk-informed, understandable, and predictable as well as the three applicable performance goals listed in the NRC's Strategic Plan (ensuring safety, openness, and effectiveness) as discussed below.

The five performance goals as stipulated in the NRC's Strategic Plan are:

- Safety: to ensure protection of public health and safety and the environment,
- Security: to ensure the secure use and management of radioactive materials,
- Openness: to ensure openness in our regulatory process,
- Effectiveness: to ensure that NRC actions are effective, efficient, realistic, and timely,
- Management: to ensure excellence in agency management to carry out the NRC's strategic objective.

The NRC utilizes a planning, budgeting, and performance management (PBPM) process and program-level operating plans, which include performance measures and targets, to directly ensure that the performance goals of the Strategic Plan are properly assessed and that key program outputs and outcomes are met. Two of these goals, security and management, are not specifically measured as part of the ROP self-assessment program. The other three strategic performance goals (ensuring safety, openness, and

effectiveness) are measured along with the four program goals (being objective, risk-informed, understandable, and predictable) as part of the ROP self-assessment program. The PBPM process and associated operating plans are the primary means of determining whether the strategic performance goals are being met. The ROP self-assessment program is not meant to replicate or replace this activity; however, many of the ROP self-assessment program metrics are the same as or similar to measures and criteria of the PBPM.

The ROP self-assessment process utilizes program evaluations and performance metrics to determine its success in meeting the goals and intended outcomes of the ROP. The level of effectiveness of the ROP is determined by considering whether the program goals are met and the intended outcomes are achieved. The intended outcomes of the ROP, which help form its basis and are incorporated into the various ROP processes, include to successfully:

- Monitor and assess licensee performance
- Identify performance issues through NRC inspection and licensee PIs
- Determine the safety significance of identified performance issues
- Adjust resources to focus on significant performance issues
- Evaluate the adequacy of corrective actions for performance issues
- Take necessary regulatory actions for significant performance issues
- Communicate inspection and assessment results to stakeholders
- Make program improvements based on stakeholder feedback and lessons learned

Periodically, the ROP self-assessment program collects information from various sources, including the Reactor Program System (RPS), the inspection program, the PI program, other industry-level indicators, periodic independent audits, stakeholder surveys, public comments, and other stakeholder interactions. Based on this information, the success of the ROP's major program areas (PIs, inspection program, significance determination process, and assessment) is assessed. In addition, the ROP's overall effectiveness is assessed and recommendations for improvement are made.

**05.01 Performance Metrics.** A set of performance metrics associated with each of the program areas of the ROP was developed to assess performance with respect to the seven goals of the ROP mentioned above. A detailed description of these performance metrics is contained in Appendix A. The four primary ROP program areas include the PI program, the inspection program, the significance determination process, and the assessment program. These program specific metrics are designated as the PI, IP, SDP, and AS metrics respectively.

Metrics of a more general nature are also monitored and analyzed, primarily using stakeholder feedback, to gauge overall performance of the ROP. In addition, general metrics were developed to provide the basis for the annual evaluations of the ROP resource expenditures, resident inspector demographics and staffing, the training and qualifications program, and the regulatory impact analysis. These more general metrics are designated as the O (overall) metrics.

Each metric in Appendix A includes its definition, the criteria to determine whether it is met,

the lead organization responsible for gathering the data, and a cross-reference to those goals each metric is intended to support. Each lead organization outside of NRR/DIRS has been provided with instructions summarizing the data elements and metrics they are requested to support, the periodicity the data is needed, and any specific instructions necessary to clarify the scope of the data. For example, the regional counterparts have been provided with a detailed data collection and submittal form detailing the specific data elements needed to support each performance metric for which the regions have lead responsibility for data collection. The performance metrics will be reviewed as part of the annual ROP self-assessment process to evaluate their efficiency and effectiveness in providing a useful assessment of the ROP. Metrics may be added, deleted, or modified as necessary to provide a meaningful management tool.

**05.02 Data Collection.** NRR/DIRS has the overall responsibility for data collection. A variety of methods are used to collect data regarding the performance of the ROP. These methods include data from the RPS, internal and external stakeholder surveys, independent audits, responses to *Federal Register* notices, and information collected via program document reviews. In addition, RES, the regional offices, and other NRR branches are tasked to provide data. To the extent possible, data collection is from agency databases and the need for ad hoc, manually developed data is minimized. Since the self-assessment program is relying heavily on the quality of the data contained in the RPS database, it is imperative that the regions ensure the accuracy and timeliness of the RPS data. As part of the annual metric review, NRR/DIRS will evaluate the need to modify or add permanent automated systems to obtain needed metric information to minimize the burden on the staff.

With the exception of stakeholder surveys and responses to *Federal Register* notices, data is collected quarterly. Data reporting is completed within 45 calendar days of the end of the quarter under review. Internal and external stakeholder surveys or *Federal Register* notices to collect stakeholder feedback are issued at least biennially. Also, periodic equipment trending reports issued by RES are reviewed to identify additional insights into ROP performance.

- a. ROP inspectable area leads remain cognizant of the implementation of their assigned procedures. Throughout the year, they collect feedback forms written against their assigned areas, they participate in industry meetings to gain insights into the industry's perceptions of their areas, and they visit regions and sites to perform or observe their inspections in the field and to discuss their areas with the inspectors and regional managers. The purpose for the ROP inspectable area leads to perform or observe inspections is (1) to assess the adequacy of the inspection procedure for possible improvements to its scope, focus, and guidance, (2) to assess the adequacy of the ROP program guidance, and (3) to collect comments on the ROP from inspectors and licensees. This programmatic self-assessment is not intended to audit the performance of the regions in implementing the ROP.

Each year, the inspectable area leads summarize the insights gained, significant issues with, and major changes to their assigned areas. The summary is given to the ROP program area lead responsible for the inspection program in time to support the inspection program evaluation for the annual self-assessment report.

- b. ROP program area leads remain cognizant of the implementation of their assigned programs. Throughout the year, they collect feedback forms written against their assigned areas, they visit regions and sites to discuss their areas with the inspectors and regional managers, and they participate in industry meetings to gain insights into the industry's perceptions of their areas. The program area leads collect self-assessment metric data for their areas each calendar quarter.

At the end of each year, the ROP program area leads collect metric data and other insights into their areas and analyze the data for the previous year. The analyses form the basis for the program evaluations and are included in the annual self-assessment report on the ROP.

**05.03 Data Analysis and Recommendation Development.** NRR/DIRS has the overall responsibility for analyzing program data and developing recommended improvements to the ROP. Data analysis consists of comparing performance metric data with preestablished criteria and writing a determination of its meaning or programmatic impact. For example, criteria for acceptable ROP performance have been identified for each performance metric as detailed in Appendix A. Thus a favorable comparison of data to criteria would indicate the ROP met the process goals and objectives, and likely, no programmatic changes would be recommended. However, for an unfavorable comparison more analysis is required to determine causal factors and develop recommended process improvements.

The analysis of data also includes evaluating the feedback forms, the results of audits conducted on various aspects of the ROP, comments collected from internal and external stakeholders, and any other insights gained by ROP inspectable area leads and ROP program area leads.

Due to their direct experience with the inspection and oversight programs gained through their implementation of the procedures, the regions should be consulted during the data analysis and recommendation development process to ensure the regional insights are incorporated into the change process.

**05.04 ROP Self-Assessment Reports.** There are several types of periodic ROP self-assessment reports that serve different purposes as described below:

- a. Periodic Reports. As noted above, metric data are collected and analyzed on a quarterly basis, as applicable. Periodic reports may be issued as deemed necessary to address particular issues of concern resulting from the quarterly data and analysis.
- b. Annual Performance Metric Report. NRR/DIRS develops an annual ROP performance metric report after the conclusion of each calendar year. The overall summary report must discuss any metrics that did not meet their preestablished criteria, the staff's analysis of the reasons for not meeting the criteria, and any actions taken or planned to change the program or improve its implementation. The report may briefly discuss any other significant lessons from the analyses of the metrics, even if the lesson is related to a metric that did meet its criteria. The report will also identify any metrics not counted during the previous year and the

reasons for that. The analysis may be included in a separate report or may be incorporated into the annual Commission paper discussed in 05.04.c.

- c. Annual Commission Paper. As directed by the Commission, the staff presents the results of its annual self-assessment of the ROP in a Commission paper. The Commission paper is written to support the Agency Action Review Meeting (AARM) and the Commission briefing on AARM results that follows the review meeting. This paper typically addresses any lessons learned from the previous year, effectiveness evaluations of any major changes made to the ROP, the status of issues discussed in the Commission paper from the previous year, and any other significant issues affecting the ROP.

The annual Commission paper includes evaluations of the four key program areas of the ROP: the PI program, the inspection program, the SDP, and the assessment program. In addition, the staff typically includes discussions and assessments of ROP communication and inspector training activities, ROP self-assessment and independent evaluations (including regulatory impact), ROP resources, and other topic areas, as warranted. The self-assessment focuses on the effectiveness of recent significant program changes, the strengths and weaknesses of the program, and additional planned actions to improve program effectiveness. The paper also presents the staff's overall conclusions as to whether the ROP has been successful in meeting the goals and intended outcomes of the ROP. The staff also highlights those areas of the ROP that warrant focus in the upcoming year based on the self-assessment results and lessons learned. The paper typically includes several attachments with additional detail to support the staff's assessment and conclusions.

- d. Consolidated Response to External Survey. To address a prior concern that the staff had been unresponsive to the external stakeholder survey comments, NRR/DIRS prepares a consolidated response to the external survey. This response consolidates all comments received in response to the survey by question and provides a comprehensive response to each question. The annual ROP self-assessment Commission paper, the annual ROP performance metric report, and the consolidated response to the external survey are posted to the ROP Web page and sent along with an acknowledgment letter to each survey respondent.

05.05 Customized Audits of the ROP. After each annual ROP cycle, NRR/DIRS may use the insights gained from the self-assessment to develop topics for audits that delve more deeply into those aspects of the ROP that show indications of weaknesses or areas for future development. The topics may be suggested by an analysis of the metrics, an analysis of the feedback forms, audits of inspection reports, survey responses, or information gathered at counterpart meetings. NRR/DIRS develops an audit plan that tailors the audit to each region and identifies the attributes to be verified and associated standards. The audits can verify consistency of program implementation among the regions, verify an aspect of the program over all four regions, or focus on specific areas within one or two regions. The audits are generally conducted by NRR/DIRS staff, who may ask for assistance from other branches or the regions if a particular expertise is needed.

END

Appendix A, Reactor Oversight Process Self-Assessment Metrics

Attachment 1, Revision History for IMC 0307

APPENDIX A  
Reactor Oversight Process Self-Assessment Metrics

I. PERFORMANCE INDICATOR PROGRAM METRICS

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

**Definition:** Independently verify PIs using Inspection Procedure (IP) 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 IP 71150, “Discrepant or Unreported Performance Indicator Data.”

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

**Lead:** Regions, NRR/DIRS

**Goals Supported:** Objective, Predictable, Ensure Safety

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

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

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

**Lead:** NRR/DIRS

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

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

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

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

**Lead:** NRR/DIRS

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

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

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

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

**Lead:** NRR/DIRS

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

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Effectiveness, Ensure Openness, Predictable

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Effectiveness, Ensure Safety, Ensure Openness

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Understandable, Ensure Openness, Objective

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

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

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

**Lead:** NRR/DIRS

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

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 green findings, greater-than-green findings, and violations. Report the percentage of findings that meet the program requirements.

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

**Lead:** NRR/DIRS

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

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

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

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

**Lead:** NRR/DIRS

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

| **IP-3      Completion of Baseline Inspection Program**

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

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

**Lead:**      NRR/DIRS, Regions

**Goals Supported:** Ensure Safety, Predictable, Ensure Effectiveness

| **IP-4      Inspection Reports Are Timely**

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

**Criteria:** Expect 90 percent of inspection reports to be issued within 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 resident inspector and integrated inspection reports, inspection completion is normally defined as the last day covered by the inspection report.

**Lead:**      NRR/DIRS, Regions

**Goals Supported:** Ensure Effectiveness, Ensure Openness, Predictable

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

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

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

**Lead:**      NRR/DIRS

**Goals Supported:** Ensure Effectiveness, Ensure Safety, Predictable

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

**Definition:** NRR/DIRS posts inspection reports to the NRC's external (public) Web site within ROP timeliness goals using the electronic version of inspection reports entered into the Agency Document Access and Management System (ADAMS) by the regions. NRR/DIRS also posts entries from the Plant Issues

Matrix (PIM) to the NRC's public Web site using data entered into RPS by the regions. In addition, NRR/DIRS records the number of inspection reports not available in ADAMS and the number of PIM entries not updated in RPS, as well as the number of inspection reports and PIMs that are not posted to the NRC's public Web site within the goals stipulated in IMC 0306, "Information Technology Support for the Reactor Oversight Process."

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Openness, Ensure Effectiveness. Predictable

**IP-7 Public Communication Is Accurate** |

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

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

**Lead:** NRR/DIRS, Regions

**Goals Supported:** Ensure Openness, Ensure Effectiveness, Understandable

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

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

**Criteria:** Trend average level of agreement.

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Effectiveness, Understandable, Ensure Openness

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

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

**Criteria:** Trend average level of agreement.

**Lead:** NRR/DIRS

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

**IP-10 Analysis of Baseline Inspection Procedures**

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

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

**Lead:** NRR/DIRS with assistance from regional staff

**Goals Supported:** Ensure Effectiveness, Ensure Safety

### III. SIGNIFICANCE DETERMINATION PROCESS METRICS

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

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

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

**Lead:** RES for greater than green findings; NRR/DRA for green findings

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

#### **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.

**Lead:** Regions, NRR/DIRS

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

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Effectiveness, Understandable, Risk-Informed

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

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

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

**Lead:** NRR/DIRS

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

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Effectiveness, Predictable

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

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Effectiveness, Ensure Openness, Predictable

## **SDP-6b Final Significance Determinations Are Timely**

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

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

**Criteria:** At least 90% of all SDP results that are counted per the criteria above should be finalized within 90 days on average and 100% in 180 days. All issues greater than 180 days will be assessed to determine causal factors and to recommend process improvements.

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Effectiveness, Ensure Openness, Predictable

## **SDP-7 SDP Results Are Communicated Accurately to the Public**

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Openness, Understandable, Ensure Effectiveness

## **IV. ASSESSMENT PROGRAM METRICS**

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

**Definition:** Audit all assessment-related letters and count the number of deviations from the Action Matrix. Evaluate the causes for these deviations and identify

changes to the ROP, if any, to improve the guidance documents.

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

**Lead:** NRR/DIRS

**Goals Supported:** Objective, Predictable, Ensure Openness

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Objective, Predictable, Ensure Effectiveness

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

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

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

**Lead:** NRR/DIRS

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

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

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

**Criteria:** Expect few additional actions, with a stable or declining trend.

**Lead:** NRR/DIRS

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

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

**Definition:** Track the number of instances in which 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.

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

**Lead:** Regions, NRR/DIRS

**Goals Supported:** Ensure Effectiveness, Ensure Openness, Predictable

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Effectiveness, Ensure Openness, Predictable

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

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

**Criteria:** Expect a stable or declining trend.

**Lead:** Regions, NRR/DIRS

**Goals Supported:** Ensure Safety, Ensure Effectiveness

**AS-8 NRC Takes Appropriate Actions To Address Performance Issues**

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

**Criteria:** Expect stable or improved perception.

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Safety, Ensure Effectiveness, Understandable

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Understandable, Ensure Effectiveness, Ensure Openness

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

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

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

**Lead:** NRR/DIRS

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

**AS-11 Perceived Effectiveness of Safety Culture Enhancements to ROP**

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Effectiveness, Ensure Safety

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).

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

**Lead:** NRR/DIRS

**Goals Supported:** Objective, Predictable, Ensure Effectiveness

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

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

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

**Lead:** NRR/DIRS

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

**O-3 Stakeholders Perceive the ROP To Be Understandable**

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Understandable, Ensure Effectiveness, Ensure Openness

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Safety, Ensure Effectiveness, Ensure Openness

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Effectiveness, Ensure Openness

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Openness, Ensure Effectiveness

**O-7 Opportunities for Public Participation in the Process**

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

**Criteria:** Expect positive responses or an improving trend.

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Openness, Ensure Effectiveness

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

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

**Criteria:** Expect positive responses or an improving trend.

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Openness, Ensure Effectiveness

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Predictable, Understandable, Ensure Openness

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Safety, Ensure Effectiveness

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

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Safety, Ensure Effectiveness

**O-12 Analysis of Significant Events**

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

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

**Lead:** NRR/DIRS

**Goals Supported:** Ensure Safety, Ensure Effectiveness

**O-13 Analysis of Inspection Hours and Resource Expenditures**

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

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

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

Lead: NRR/DIRS

**Goals Supported:** Ensure Effectiveness, Predictable

#### **O-14 Analysis of Resident Inspector Demographics and Experience**

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

- (1) NRC time - the total time the individual has accumulated as an NRC employee.
- (2) Total resident time - the total time the individual has accumulated as an RI or SRI.
- (3) Current site time - the total time the individual has spent as an RI or SRI at the current site.
- (4) Relevant non-NRC experience - the total time the individual has gained relevant nuclear power experience outside of the NRC. Examples of relevant non-NRC experience are operation, engineering, maintenance, or construction experience with commercial nuclear power plants, naval shipyards, Department of Energy facilities, and/or the U.S. Navy nuclear power program.

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

NOTE: This metric is intended primarily for tracking and trending resident inspection experience. The results are used to make any necessary modifications to the RI and/or SRI programs in order to attract and retain highly qualified inspectors to the respective programs. A detailed resident demographic and staffing analysis is included in the annual ROP self-assessment Commission

paper.

**Lead:** NRR/DIRS with assistance from HQ and regional HR staff

**Goals Supported:** Ensure Safety, Ensure Effectiveness

### **O-15 Analysis of Site Staffing**

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

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

**Lead:** Regions, NRR/DIRS

**Goals Supported:** Ensure Safety, Ensure Effectiveness

### **O-16 Analysis of ROP Training and Qualifications**

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

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

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

**Lead:** NRR/DIRS with assistance from regional staff

**Goals Supported:** Ensure Effectiveness, Ensure Safety

### **O-17 Analysis of Regulatory Impact**

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

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

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

**Lead:** NRR/DIRS with assistance from regional staff

**Goals Supported:** Ensure Effectiveness, Ensure Safety

ATTACHMENT 1

Revision History For IMC 0307

| Commitment Tracking Number | Issue Date | Description of Change   | Training Needed | Training Completion Date | Comment Resolution Accession Number |
|----------------------------|------------|---|-----------------|--------------------------|-------------------------------------|
| N/A                        | 12/12/02   | Revised significantly to include a more detailed discussion of the role of inspectable and program area leads, the annual review of the baseline inspection program, and other aspects of the self-assessment program. The specific metrics for these roles were added to Appendix A. | None            | N/A                      | N/A                                 |
| N/A                        | 12/12/03   | Revised to provide greater detail for documenting the results of the annual inspection procedures reviews, and some metrics in Attachment A were modified to better align with the operating plan metrics and other program commitments.  | None            | N/A                      | N/A                                 |
| N/A                        | 01/14/04   | Based on a decision at the DRP/DRS counterpart meeting held on December 17-18, 2003, metric IP-5 was revised to change the inspection report timeliness to 45 calendar days for all inspection reports, with exception of reactive inspection reports, which will stay at 30 days.    | None            | N/A                      | N/A                                 |
| N/A                        | 02/20/06   | Revised to support the new safety performance measures of the NRC's Strategic Plan, to better define the ROP goals and intended outcomes, and to consolidate and clarify several of the performance metrics. Completed 4 year historical CN search.                                   | None            | N/A                      | ML060110235                         |

|     |          |  |      |     |  |
|-----|----------|--|------|-----|--|
| N/A | 11/28/06 | Revised to measure the effectiveness of the safety culture enhancements to the ROP, to clarify expectations regarding the resident demographics and staffing metrics, and to include a discussion of the consolidated response to external survey questions. | None | N/A |  |
|-----|----------|--|------|-----|--|